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Facultad de Contaduría Administración e Informática

HEURÍSTICA PARA RESOLVER EL PROBLEMA DE ATENCIÓN A CLIENTES EN UNA SUCURSAL BANCARIA

T E S I S

QUE PARA OBTENER EL GRADO DE MAESTRO EN OPTIMIZACIÓN Y CÓMPUTO APLICADO

PRESENTA:

EMANUEL SALINAS CARRASCO

ASESOR:

DR. NODARI VAKHANIA

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Resumen

Los problemas de optimización aparecen en diversas áreas como la industria y servicios, qué especialmente en los problemas de calendarización, juegan un papel crucial en áreas como la planificación y la optimización de recursos. Dichos problemas se clasifican de acuerdo a su complejidad.

Específicamente los problemas de calendarización se basan en el modelo máquinas-tareas, donde las máquinas son los recursos y las tareas o trabajos son las solicitudes que se ejecutan en las máquinas. Este modelo logra adaptar gran cantidad de problemas de la vida real.

Nuestro problema consiste en la atención a clientes en una sucursal bancaria, que cuenta con dos tipos de recursos: ejecutivos y ventanillas. Estos recursos corresponden a dos tipos de máquinas, y los clientes de la sucursal bancaria corresponden a las tareas o solicitudes que cada máquina procesará. Nuestro interés fue construir un modelo matemático para resolverlo desde la perspectiva como un problema de optimización en el área de calendarización.

El modelo consiste en máquinas paralelas idénticas de dos tipos, tareas con tiempos de liberación, dos tiempos de procesamiento posibles y fechas límite; y el objetivo es minimizar la tardanza máxima. Se diseñó e implementó una heurística H_1 de naturaleza voraz que brinda soluciones factibles en tiempo razonable para la versión original, basada en la Heurística de Jackson. Además, se definió una variante de nuestro problema en su versión fraccionaria *preemtions*; qué permite interrumpir una tarea para procesarse en otro momento y colocar otra con mayor prioridad. Para dar solución a esta versión, de igual manera diseñamos e implementamos la heurística H_2, que es una extensión de la heurística H_1.

Los experimentos computacionales se llevaron a cabo con instancias generadas aleatoriamente, los valores generados para los tiempos de procesamiento con lo siguientes intervalos: [1,10], [1,20], [1,50], [1,100], [100,120], [100,200], [1000,1100] y [1,1000] tomados de la literatura. En términos generales el 20.62 % de nuestras instancias de prueba tuvieron rendimientos muy malos que principalmente son casos con 2 y 4 máquinas, el 36.25 % se resolvieron obteniendo un rendimiento medio considerándose aceptables; y el 43.12 % de las instancias de prueba se lograron rendimientos muy buenos, con soluciones en algunos casos similares entre ambas heurísticas H_1 y H_2.

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Capítulo 1

Introducción

En la actualidad en áreas como en la industria y en los servicios surgen problemas, como por ejemplo, la planificación y optimización de recursos. Para dar solución a estos problemas se utilizan metodologías, modelos matemáticos, algoritmos, entre otros; para resolverlos en tiempos razonables. Es de importancia evaluar la calidad, la aceptación y el tiempo de la solución obtenida.

En este estudio se modela un problema de la vida real como un problema de calendarización, que consiste en un problema en una sucursal bancaria, donde las máquinas representan al personal que atiende y los clientes son las tareas o trabajos. Formulamos las siguientes preguntas ¿Es posible reducir el tiempo de espera de los clientes?, ¿Qué secuencia pueden tener los clientes para ser atendidos?, y ¿Cuáles son los criterios para atenderlos?, al responderlas permitirán resolver nuestro problema. Diseñamos e implementamos una heurística que brinda soluciones factibles en tiempos razonables, además se define la variante del problema en la versión con interrupciones por lo que de igual manera se propone una segunda heurística para dar solución a esta versión.

Nuestro problema original comprende máquinas paralelas idénticas de dos tipos, tareas con tiempos de liberación, dos tiempos de procesamiento posibles, fechas límite; y su objetivo es minimizar la tardanza máxima. La notación convencional de tres campos que describe un problema de calendarización propuesta por (Graham et. al, 1979) $\alpha|\beta\ |\gamma$, donde α representa el ambiente de las máquinas, β las características y los parámetros del problema y γ representa el criterio objetivo. En la literatura encontramos la versión base de nuestro problema: con una máquina, tareas con tiempos de liberación, fechas límite, y el objetivo de minimizar la tardanza máxima, abreviado como $1|r_j|L_{max}$ por (Jackson, 1955). Para una entrada pequeña de n tareas y considerando un orden no decreciente respecto a sus fechas límite $d_1 \leq d_2 ... \leq d_n$, la tardanza

máxima es minimizada y es posible completar todas las tareas antes de su fecha límite (Smith, 1956). Además si las tareas tienen una pérdida después del plazo establecido, se incurre en una penalización de u unidades de tiempo por cada tiempo después de d_i (McNaughton,1959). La versión del problema en donde la interrupción de tareas es permitida, *preemtions*, consiste en que una tarea que comienza su procesamiento en un procesador, pueda ser interrumpida tantas veces como sea necesario, y continuar en otro momento (McNaughton,1959) y (Horn, 1974) se representa como $1|r_j, prmp|L_{max}$.

La heurística de Jackson (JHE), es usada ampliamente en problemas con fechas límite y tiempos de entrega (Jackson, 1955) y (L. Schrage, 1971). Se demostró que los problemas $1|r_j|L_{max}$ y $1|r_j, q_j|C_{max}$ son equivalentes (Bratley et. al., 1973) y son de tipo NP-Hard (Lensatra et. al., 1977) y (Potts, 1980). De igual manera los casos con máquinas paralelas como por ejemplo $P|r_i|L_{max}$, $R||C_{max}$ y $R||L_{max}$ se consideran problemas difíciles en sentido estricto (Graham, 1966), (Garey y Johnson, 1977) y (Ibarra y Kim, 1977). Hasta la fecha no se ha encontrado un algoritmo que resuelva polinomialmente a menos que $P = NP$ (Lenstra et al., 1990).

1.1. Planteamiento del Problema

La problemática que se aborda en este estudio corresponde a un problema de optimización, en particular, del área de calendarización. Organizaciones como instituciones gubernamentales, tiendas de retail, hospitales, instituciones bancarias, entre otras; se encuentran preocupadas por mejorar sus servicios, especialmente en la atención de clientes.

El interés de este estudio es modelar un problema de la vida real como un problema matemático, por esta razón planteamos lo siguiente. En una sucursal bancaria los clientes acuden y solicitan una o más operaciones bancarias. El personal atiende a esos clientes en ventanilla o en módulos de manera personal. La atención en ventanilla se estima un tiempo para cada operación, en cambio, para la atención en los módulos no existe una estimación del tiempo de atención. Algunas instituciones bancarias adicionalmente brindan servicios a sus clientes de manera preferente.

Cuando la sucursal bancaria inicia la atención a clientes, no se sabe la cantidad de clientes que pueden llegar y los servicios que cada uno de ellos solicitará; por lo tanto, no se conocen los datos de las solicitudes hasta que los clientes se presentan en el lugar. La diversidad y la cantidad de operaciones que demandan los clientes, ocasiona en los clientes subsecuentes el incremento del tiempo de espera para poder ser atendidos; por ello se formulan las siguientes preguntas de nuestro problema: ¿Es posible reducir el tiempo de espera?, ¿Qué secuencia pueden tener los clientes para ser atendidos?, y ¿Cuáles son los criterios para atenderlos?.

1.2. Justificación

La calendarización juega un papel importante en áreas como la industria, los servicios y la gestión de los recursos. Los factores más importantes en este rubro son el tiempo y los recursos a optimizar para lograr la eficiencia de su uso. Formular un modelo de la vida real de manera matemática permite manejar, controlar y darle solución de manera factible y eficaz a un problema.

Los motivos de nuestro estudio son modelar un problema de la vida real como un problema de optimización del área calendarización. La problemática a modelar tiene como contexto una sucursal bancaria, donde las ventanillas son las máquinas o procesadores, y los clientes son las tareas que requieren ejecutarse en las máquinas, es decir, los clientes requieren ser atendidos con un determinado orden y criterio.

Se sabe por la literatura que el modelo de nuestro problema es un modelo nuevo, pero cabe resaltar que existe una versión base en la literatura con un grado de complejidad fuerte. Esto nos motiva a diseñar e implementar un algoritmo que brinde soluciones factibles en tiempo razonablemente corto.

1.3. Objetivo General

Formular matemáticamente un nuevo problema de optimización en el área de calendarización *(Job Schedulling)*.

1.4. Objetivos Específicos

- Definir un modelo matemático del problema general sin interrupciones con dos tipos de recursos *(máquinas)*.
- Diseñar e implementar una heurística H_1 para resolver el problema planteado y valorar los resultados obtenidos.
- Definir formalmente la variante con interrupciones del problema original.
- Diseñar e implementar una heurística H_2 para resolver el problema de la versión con interrupciones.
- Realizar un comparativo del desempeño del la heurística H_1 respecto a las soluciones de la heurística H_2.

1.5. Hipótesis

H1: Si la heurística H_1 proporciona soluciones factibles en tiempo razonable del problema planteado, y si la heurística H_2 permite estimar las soluciones de la heurística H_1 de manera aceptable; entonces la heurística H_2 proporciona una cota inferior para el problema planteado.

H0: Si la heurística H_1 proporciona soluciones factibles en tiempo razonable del problema planteado, y si la heurística H_2 no permite estimar las soluciones de la heurística H_1 de manera aceptable; entonces la heurística H_2 no proporciona una cota inferior para el problema planteado.

1.6. Alcances

El alcance de este estudio es modelar matemáticamente un nuevo problema de optimización del área de calendarización adaptable a la problemática planteada. Nuestro interés es describir formalmente nuestro modelo, y diseñar e implementar la heurística H_1 para proporcionar soluciones factibles en tiempo razonable; así mismo buscamos mediante una segunda heurística H_2, resolver la variante de problema original (versión fraccionaria). Las soluciones de la heurística H_2 permitirán conocer la calidad de las soluciones de la heurística H_1 por medio de experimentos computacionales con instancias generadas aleatoriamente. Creamos grupos de 14,400 instancias de prueba, siendo estos grupos cada intervalo para los tiempos de procesamiento p_j tomados de la literatura [1,10], [1,20], [1,50], [1,100], [100, 120], [100, 200] y [1000, 1100] y [1,1000]. Es decir, un total de 115,200 instancias.

1.7. Limitaciones

La literatura proporcionó trabajos similares a nuestro problema, por ejemplo, versiones base con una máquina y con máquinas paralelas de la forma general, por lo que no se encontraron trabajos idénticos al nuestro; para realizar nuestros experimentos computacionales en la literatura no se encontraron instancias adaptadas a nuestro problema.

Capítulo 2

Marco Teórico

La optimización es una disciplina de las matemáticas aplicadas que busca dar solución a problemas de diversas áreas relacionadas directamente con la investigación operativa, la teoría de algoritmos y la teoría de la complejidad computacional. Así mismo la investigación operativa proporciona herramientas útiles para solucionar problemas en diversos campos de aplicación, específicamente donde se requiere maximizar o minimizar recursos de cualquier índole. Además los modelos matemáticos permiten formalizar una descripción concisa de la estructura del problema que facilitan su manejo y es el puente entre las técnicas matemáticas y el uso de dispositivos de cómputo. En la figura 2.1 se observa la abstracción de un modelo supuesto de la vida real a un modelo matemático.

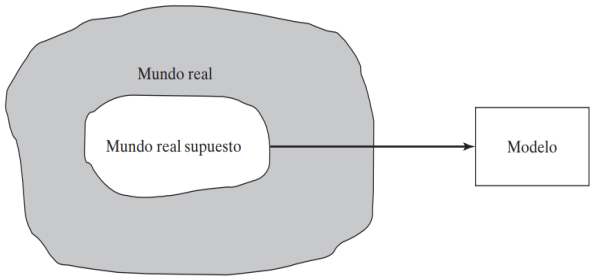

Figura 2.1: Modelo de un problema

Comienza por una observación rigurosa del problema, se recolectan los datos, y enseguida se construye un modelo matemático que abstrae el problema. Es posible que en esta etapa se plantee una hipótesis donde se especifiquen o representen las características del problema, de tal forma que permitan que las soluciones sean válidas [Hillier y Lieberman, 2010].

La programación lineal define un esquema que permite representar el modelo de un

problema como se muestra a continuación:

Maximizar o Minimizar Función Objetivo
Sujeto a:
Restricciones:

Para resolver un problema dado debe implementarse un método de solución (algoritmo) cuyo grado de complejidad dependerá del tipo de problema. Por lo general en los problemas de optimización se usan técnicas exactas para problemas pequeños y técnicas aproximadas en problemas grandes. En seguida describimos las características de un problema de optimización.

2.1. Problemas de Optimización

Un problema de optimización consiste en encontrar la solución cuyo valor óptimo puede ser el máximo o mínimo, dada una función numérica de n variables sometidas al cumplimiento de un conjunto de restricciones.

Se consideran los siguientes puntos para definir un problema de optimización:

- Objetos del problema
- Parámetros de los objetos
- Restricciones
- Función objetivo

Dado que:

$$f(x),\ \textit{donde}\ \ x\ \in S \mid S\ \textit{es el conjunto de soluciones}$$

Características de los problemas de optimización:

Objetos: proporcionan las características del problema. El número de estos es finito y cada objeto tiene un número finito de parámetros.

Instancia: Conjunto de parámetros numéricos de todos los objetos dados de cualquier problema.

Parámetros: Conjunto de objetos i que representan a cada objeto del problema, un objeto i tiene un valor numérico en particular para ese objeto, es decir que el conjunto de objetos crea una matriz de (n x m) objetos donde n es el número objetos y m es el número de parámetros de los objetos.

Restricciones: Son las condiciones a las que está sometido el problema y estas delimitan la obtención de soluciones factibles.

Función objetivo: El objetivo es encontrar una solución factible que minimice o maximice cierto criterio, es decir es un mapeo del conjunto de soluciones factibles a los números reales.

El espacio de soluciones posibles para este tipo de problemas es muy grande. Dentro de ese espacio de soluciones se encuentran las soluciones factibles, las cuales son aquellas que satisfacen las restricciones del problema; y la solución óptima, que bajo su definición es la mejor solución de todas respecto al criterio definido (maximizar o minimizar), por tanto una solución óptima además de ser factible, tiene el mejor valor (mínimo o máximo) en la función objetivo.

2.2. Clases de Problemas y Complejidad

Los problemas de optimización se abordan de manera teórica y práctica por disciplinas como: la teoría de la complejidad computacional, las matemáticas aplicadas, métodos algorítmicos y la computación; que permiten clasificar y estudiar su estructura respecto a su dificultad e implementar métodos y técnicas para poder resolverlos.

La complejidad de un problema comprende la aplicación de un método de solución (algoritmo) y la codificación (programa) de este. La complejidad computacional tiene la finalidad de crear herramientas capaces de analizar el problema, el algoritmo, y garantizar la eficiencia del algoritmo independientemente de la potencia de la máquina.

La teoría de la complejidad utiliza puntos esenciales para valorar la resolución de un problema como son: el numero de operaciones, tiempo total de ejecución y cantidad de memoria o almacenamiento.

La clase P es una clase problemas tal que, un problema p es polinomial, si existe un algoritmo que proporcione una solución óptima en un tiempo acotado por una función polinomial con respecto a la longitud de su entrada; esto es que si $p \in P$, entonces p

es un problema de tipo polinomial y P la clase.

Los problemas de clase NP son problemas que se resuelven en tiempo Polinomial No Determinista y están implícitos los problemas de decisión. Se pueden construir algoritmos que los resuelven en tiempo polinomial y proporcionen soluciones factibles para estos, es decir, si $p \in NP$, entonces el problema se resuelve en tiempo polinómico, y en algunos casos es posible asegurar la optimalidad.

Los problemas de la clase $NP - Completo$ son de mayor dificultad y no son de tipo P, esto es que $p \notin NP$. Si un problema p es $NP - Completo$, entonces es un problema más difícil de resolver y se considera como un problema de decisión. La salida de un problema de decisión es una respuesta afirmativa o negativa.

Los problemas de clase NP-Hard son un subconjunto de la clase NP y NP-Completos, considerados problemas de optimización muy difíciles debido a que el número de soluciones factibles crece exponencialmente con respecto al tamaño de la instancia. Se dice que en la actualidad no existe un algoritmo que los resuelva en tiempo polinomial; si es el caso que exista, podrán resolverse muchos problemas de esta clase por el método de reducción polinomial y es poco probable que un problema NP-Hard pueda ser resuelto en tiempo polinomial a menos que P = NP (Cook, 1971) y (Karp, 1972). No todos los problemas de esta clase son difíciles, algunos en sentido ordinario o simplemente NP-Hard para estos se pueden construir algoritmos pseudopolinomiales; en cambio los que son fuertemente difíciles se consideran NP-Hard en sentido estricto. Además, como todos los problemas NP-Hard pertenecen a la clase NP, se garantiza que cualquier solución factible es posible verificarla en tiempo polinomial.

2.3. Problemas de Calendarización

En sectores como la industria, manufactura, gestión y servicios; constantemente surgen problemáticas que manifiestan un reto para la ciencia y la tecnología. Los factores importantes en estas áreas son el tiempo y los recursos, debido a que estos deben optimizarse para lograr eficiencia y rentabilidad. Durante más de medio siglo se han estudiado este tipo de problemas con esfuerzos considerables. Gracias ello se han desarrollado modelos que permiten tratar problemas de la vida real.

La calendarización consiste en asignar las actividades que son llamados trabajos o tareas a los recursos llamados máquinas o procesadores bajo ciertas restricciones y con un objetivo definido. Los recursos pueden tomar diversas formas, como, por ejemplo,

máquinas de taller, servicios, tiendas, talleres, máquinas industriales, lugares, reservaciones, servidores, procesadores, computadoras, entre otros; y las tareas solicitadas tienen características como por ejemplo, tiempo de liberación, fecha de vencimiento, tiempo de entrega, entre otros. Los criterios objetivos pueden ser muy diversos que más adelante mencionaremos.

La calendarización en el entorno de los servicios implica generalmente la toma de decisiones apoyadas por uno o más sistemas de información y una base de datos, en interacción con el área de gestión para proporcionar información disponible sobre los clientes. Por mencionar algunas aplicaciones, por ejemplo, la asignación de puertas en aeropuertos, atención de clientes, trámites de gobierno, alquiler de habitaciones y automóviles, reservación de salas e instalaciones, entre otras.

Schedulling, en español calendarización o planificación, se refiere a asignar un conjunto de solicitudes sobre un conjunto de recursos a lo largo del tiempo con el objetivo de optimizar un criterio dado (Brucker, 2007). Por otro lado (Pinedo, 2008) menciona que es la asignación de tareas a recursos durante periodos de tiempo determinados con un criterio objetivo a optimizar.

Los trabajos o tareas *(Jobs)* corresponden a un conjunto de solicitudes. Todos los problemas de calendarización consideran que el número de tareas es finito, este conjunto se denota como J. Un trabajo $j_i \in J$ consiste de un número de n_i operaciones $O_{i_1}...O_{i,n_i}$, es decir, que si consideramos 3 operaciones (parámetros) para cada tarea j_i por ejemplo fechas límite, tiempos de liberación, y tiempo de procesamiento, entonces $n_i = 3$.

Una máquina o procesador son los recursos que ejecutan las tareas. El número de máquinas es finito para todos los problemas de calendarización. Este conjunto se denota como M y en el caso de máquina única se toma como $M = 1$.

Un *Calendario* es la asignación de uno más intervalos de tiempo (tareas) en una o más máquinas (Bruker, 2007), que indica el inicio del procesamiento de cada tarea, la finalización y en que máquina realiza su procesamiento (Sule, 1996). Un *Calendario Factible* es aquella asignación del conjunto de tareas en la o las máquinas que cumplen las restricciones del problema y se denota como S. Si ese calendario, además de ser factible produce el mejor valor en la función objetivo, se dice entonces que es un *Calendario Óptimo*. Una *Secuencia* es una permutación de las tareas, es decir un determinado orden en los n trabajos que realizan su procesamiento en la o las máquinas.

2.4. Notación General

En 1979 Graham *et. al.* propusieron la notación convencional de tres campos para la descripción de un problema de calendarización.

$$\alpha \mid \beta \mid \gamma$$

El campo α representa el ambiente de la o las máquinas, el campo β representa las características del problema o los parámetros del problema e incluyen las restricciones de procesamiento; y el campo γ representa la función objetivo (Graham et. al., 1979).

Debido a la gran diversidad de problemas, presentamos aquí algunas definiciones que son útiles para nuestro estudio:

En α la entrada es una abreviatura que indica el ambiente de las máquinas.

Máquina Única: El problema solo comprende un procesador o máquina, y proporciona el punto de partida para diseñar una heurística hacia entornos más complejos.

Máquinas Paralelas: Es un entorno importante, tanto en la teoría como en la práctica, y requiere un análisis profundo para cada problema en particular.

En el campo α se coloca la abreviatura de cualquiera de estos tres ambientes: P máquinas paralelas idénticas, en donde un trabajo j requiere una sola operación y puede asignarse a cualquiera de las m máquinas disponibles; Q máquinas uniformes que procesan a diferentes velocidades, en donde el procesamiento de la tarea j depende de la velocidad de la máquina; y R máquinas no relacionadas, las cuales no son idénticas y sus velocidades dependen de las tareas, por lo que no existe relación en ellas (Graham et. al., 1979).

El campo β utiliza notación para los parámetros de las tareas, los cuales pueden ser muy diversos.

- r_j : Tiempo de liberación de la tarea j, momento en que una tarea puede comenzar su procesamiento.
- p_j : Tiempo de procesamiento de la tarea j, tiempo que le toma una tarea en procesarse.

- d_j : Fecha límite o fecha de vencimiento de la tarea j, momento límite en que una tarea debe completar su procesamiento.
- q_j : Tiempo adicional que la tarea requiere y no exactamente en la máquina.
- $prmp$: Indica la interrupción de tareas, una tarea puede interrumpirse y reanudarse en un momento posterior incluso en otra máquina, además, una tarea puede ser interrumpida hasta completar su procesamiento (Bruker, 2007).

Los problemas en la versión con interrupciones "*prmp*", indican la restricción donde no es necesario mantener un trabajo en la máquina hasta su finalización; es decir, podemos interrumpir el procesamiento de una tarea en cualquier momento y colocar otra tarea con mayor prioridad. Tomando en cuenta que si una tarea es interrumpida no se pierde el procesamiento realizado al momento de su interrupción (Pinedo, 2008).

En los problemas de calendarización generalmente se busca obtener un criterio objetivo a optimizar; y en el campo γ se coloca dicha función. Por razones prácticas nos limitamos a mencionar solo dos criterios que están relacionados con nuestro estudio, C_{max} y L_{max}.

El objetivo más frecuente es obtener una calendario factible, tal que el tiempo finalización de todas las tareas sea mínimo, a esto se le llama en la literatura como *Makespan*, y se denota como C_{max}. (Bruker, 2007).

Otro criterio objetivo es obtener un calendario factible con la mínima tardanza posible. Los problemas de este tipo corresponden a tiempos de liberación y fechas límite o tiempos de entrega. Esta función se denota como L_{max}.

Sea $L_j(S)$, la tardanza de la tarea j en un calendario S; es positiva cuando la tarea j termina después de su fecha límite y negativa cuando se completa antes de su fecha límite, y se calcula como $L_j\ (S) = c_j\,(S) -\ d_j$.

2.5. Formalización del Problema

Construimos el modelo de nuestro problema como un problema de optimización del área de calendarización, que consiste en un conjunto de máquinas idénticas de dos tipos, y un conjunto de tareas con tiempos de liberación, fechas límite y dos tiempos de procesamiento posibles. El objetivo es encontrar un calendario factible tal que sea la mínima tardanza máxima.

1. Objetos

Sea J el conjunto de n tareas.

$$J = \{j_1, \cdots, j_n\}$$

Sea M el conjunto de m máquinas.

$$M = \{A_{k_1}, B_{k_2}\}$$

Donde A_{k_1} es el subconjunto de máquinas tipo A y B_{k_2} es el subconjunto de máquinas tipo B.

2. Parámetros

$\forall j \in J$

r_j : Tiempo de liberación de la tarea j.

p_{jA} : Tiempo de procesamiento de la tarea j en una máquina de tipo A.

p_{jB} : Tiempo de procesamiento de la tarea j en una máquina de tipo B.

d_j : Fecha límite de la tarea j.

Notación:

Sea E cualquier máquina de tipo A o B, y sea S un calendario factible.

$s_j(S)$: Tiempo de inicio de la tarea j en el calendario S.

$c_j(S)$: Tiempo de completez de la tarea j en el calendario S, se calcula como:

$$c_j(S) = s_j(S) + p_{jE}$$

3. Restricciones

$$s_j(S) \geq r_j \tag{2.1}$$

$$c_j(S) = s_j(S) + p_{jE} \tag{2.2}$$

$$Si,\ s_j(S) < s_i(S),\ entonces\ c_j(S) \leq s_i(S) \tag{2.3}$$

La ecuación 2.1 menciona que el tiempo de inicio de procesamiento de la tarea j, $s_j(S)$, debe ser mayor o igual al tiempo de liberación r_j de la tarea j.

En la ecuación 2.2, la tarea j tiene un procesamiento continuo en una máquina E y este no puede ser interrumpido, entonces el tiempo de completez de la tarea j se define como $c_j(S)$, este es igual a el tiempo de inicio $s_j(S)$ de la tarea j en el calendario S, más el tiempo de procesamiento de la tarea j en la máquina E, p_{jE}; es decir, que la tarea j es procesada por la máquina E en el intervalo de tiempo $[s_j, c_j)$.

La ecuación 2.3 nos dice que las tareas i y j, cuyos tiempos de inicio de procesamiento son $s_i(S)$ y $s_j(S)$ respectivamente, tal que $s_j(S) < s_i(S)$; entonces por la restricción anterior, el tiempo de completez de la tarea j, $c_j(S)$, debe ser menor o igual al tiempo de inicio de procesamiento de la tarea i, $s_i(S)$; es decir, que la tarea i debe iniciar su procesamiento en la máquina E una vez que el trabajo j haya concluido su procesamiento en esa máquina E.

4. Función Objetivo

La función objetivo es obtener un calendario factible con la mínima tardanza máxima en el calendario S.

$$\text{mín}[L_{\text{máx}}]$$

Donde:

$$L_{max}(S) = max\{L_j\} \quad | \quad j_i \in S$$

2.6. Estado del Arte

2.6.1. Problemas de una sola máquina

El problema de calendarización que tratamos en este estudio está relacionado directamente con el problema base encontrado en la literatura como $1|\ r_j|L_{max}$, es conocido por tratar tareas con tiempos de liberación, fechas límite, y el objetivo de minimizar la tardanza máxima. Un problema ampliamente estudiado desde la década de los 50's hasta la actualidad. A continuación, presentamos algunos trabajos relacionados con nuestro estudio.

El primer trabajo que se encuentra en la literatura corresponde a (Jackson, 1955). Aborda el problema $1|\ r_j,\ q_j\ |L_{max}$, demostró que cuando los tiempos de liberación son iguales y se asignan las tareas a la máquina en un orden no creciente respecto a los tiempos de entrega q_j el problema se resuelve en tiempo $O(n\ log\ n)$. Consideró que, si todas las tareas con sus tiempos de entrega son iguales y si se calendarizan en orden no decreciente respecto a los tiempos de liberación esto proporciona un calendario óptimo.

Un año más tarde en (Smith, 1956) considera algunos criterios de optimización, en particular para un sistema de producción. Se enfoca en encontrar una permutación de las tareas tal que sea minimizada la función objetivo. Especialmente el caso $1|\ r_j|L_{max}$ considerando un orden no decreciente respecto a sus fechas límite $d_1 \leq d_2 ... \leq d_n$ la tardanza máxima es minimizada, entonces es posible completar todas las tareas antes de su fecha límite y no existe otra permutación que proporcione una solución menor.

Realiza un estudio (McNaughton,1959) sobre $1|\ r_j|L_{max}$ e identifica dos requerimientos para este problema: el primero es que las tareas terminen lo antes posible y el segundo es que las tareas sean completadas de acuerdo a la urgencia de estas. El tema de interés en este estudio es que cuando las tareas tienen una pérdida después del plazo establecido se incurre en una penalización de u unidades por cada tiempo después de d_i de su fecha límite. Afirma que para cada problema de calendarización existe una solución óptima en la cual no se divide ninguna tarea; si las fechas límite de todas las tareas son iguales a 0 y las tareas se calendarizan en forma no decreciente respecto a su tiempo de liberación r_i el costo total es minimizado.

(L. Schrage, 1971) sigue los trabajos de Jackson y Smith, y propone la extensión de la heurística de Jackson (JHE) para resolver el problema $1|\ r_j|L_{max}$ en tiempo O($n\ log\ n$). La propuesta consiste en que JHE no crea huecos, es decir, un espacio entre

el tiempo de completez de una tarea procesada y el tiempo de inicio de la siguiente tarea para ser procesada en una máquina. Estos huecos pueden evitarse de forma que, si existen tareas por procesar que puedan ser asignadas a una máquina durante el hueco, entonces algunas de esas tareas sean asignadas iterativamente dentro del hueco, dando prioridad a aquellas que sean más urgentes o que tengan tiempos de entrega más grandes, hasta que el hueco no pueda aceptar más tareas o no existan más tareas por procesar.

(Bratley et. al., 1973) muestran que el problema $1|r_j, q_j|C_{max}$ tiene una formulación equivalente al problema $1|r_j|L_{max}$. Es posible obtener una instancia equivalente de un problema a otro y viceversa considerando el siguiente procedimiento; dada una instancia del problema $1|r_j, q_j|C_{max}$ podemos obtener una instancia del problema $1|r_j|L_{max}$. Se toma una constante k suficientemente grande, no menor que el tiempo máximo de entrega de todas las tareas de la instancia y se define una fecha límite para cada una de las tareas de la forma $d_j = K - q_j$. Siguiendo la misma lógica para obtener una instancia del problema $1|r_j|L_{max}$ para el problema $1|r_j, q_j|C_{max}$, se define una constante D lo suficientemente grande y no menor que la máxima fecha límite de todas las tareas de la instancia, de esta forma se define un tiempo de entrega para cada una de las tareas de forma $q_j = D–d_j$. Con respecto al criterio objetivo cuando el C_{max} es minimizado, la tardanza máxima L_{max} es minimizada y viceversa.

Un año después (Horn, 1974) estudia el problema $1|r_i|L_{max}$ y la versión $1|r_i, prmp|L_{max}$ donde se permite la interrupción sin penalización, para una máquina y máquinas paralelas. Propone una extensión de *Jackson Heuristic* (JH) y proporciona una solución óptima del problema con trabajos de longitud unitaria ($p_j = 1$). Algunos algoritmos simples se dan para encontrar horarios óptimos; considera que cuando los tiempos de procesamiento son arbitrarios de igual manera sigue siendo un problema difícil y es posible resolverlo en tiempo $O(n^2 \log\ n)$.

(Lensatra et. al., 1977) abordan la clasificación de algunos problemas de optimización y particularmente algunos de calendarización donde definen los límites entre los problemas que son fáciles y difíciles, demostrando su complejidad. Consideran los trabajos de Cook y Karp quienes exploran la relación entre las clases de problemas P y NP. Además, muestran que algunos problemas de calendarización pueden resolverse por el método de reducción polinomial, es decir, que si un algoritmo resuelve en tiempo polinomial un problema p, si existe otro problema p', los cuales ambos comparten características, y si p, p' pertenecen a la clase P, entonces p y p' son equivalentes, por tanto p' reduce a p. Abordan el problema $1 \mid r_j \geq 0 \mid L_{max}$ donde las tareas sean completadas antes de su fecha límite es decir, $c_j < d_j$; así mismo prueban que este problema pertenece a la clase NP-Completo.

Considera (Potts, 1980) el problema $1|r_i, q_i|C_{max}$, presenta una modificación a la heurística de Jackson, promete que no se desvía más del 50 % del óptimo. Como ya se sabe, la equivalencia con $1|r_i|L_{max}$ y que es un problema de tipo NP-Hard, es poco probable la existencia un algoritmo que esté acotado por polinomios. Realiza el análisis de algunos algoritmos en especial la heurística de Schrage comprobando que en algunos casos existe un desempeño malo.

(Kise et. al., 1978) presenta una heurística modificada basada en la idea que, si el tiempo de procesamiento de una tarea es muy grande se le llama tarea de *interferencia* y ocasionará una gran desviación en la solución; entonces, la idea principal es restringir esta tarea para procesarla después, de manera que dejará de interferir temporalmente. Su algoritmo promete un rendimiento en el peor de los casos de 3/2.

(Garey et al., 1981) Trataron el problema $1|r_i, p = 1|C_{max}$, demostraron que este problema puede resolverse de forma fácil cuando todos los tiempos de liberación son números enteros. Proponen un algoritmo en tiempo $O(n\ log\ n)$ basado en el concepto de "forbidden regions".

(Hall y Shmoys, 1989) estudian una versión del problema general $1|r_i, q_i|C_{max}$, considerando la equivalencia con $1|r_i|L_{max}$ y que es de tipo NP-Hard. Incluyen las restricciones de precedencia $1|r_i, prec|L_{max}$ y presentan un algoritmo basado en la heurística de Potts con un rendimiento de 4/3; la idea principal de este algoritmo es identificar una secuencia crítica que puede tener propiedades interesantes, ya sea en uno o más trabajos de interferencia. Si un trabajo interfiere en los demás trabajos de esa secuencia el, procedimiento(método) aplica una recalendarización con el objetivo de obtener un mejor calendario. Específicamente un esquema de aproximación propuesto tuvo un resultado negativo de la versión $1|r_i, prec|L_{max}$ debido a que es un problema fuertemente difícil incluso para un número fijo ($r_j = 1, p_j = 1, q_j = 1$) de los tiempos de liberación, tiempos de procesamiento y tiempos de entrega.

(Nowicki y Smutnicki, 1994) presentan un algoritmo para el problema $1|r_i, q_i|C_{max}$, utilizan la heurística de Jackson en combinación con la regla de Jonhson, basándose en los algoritmos anteriores como los trabajos de Potts y Calier. Su algoritmo se basa en examinar permutaciones que bajo ciertas condiciones permite mejorar las soluciones con una aproximación de 3/2 en tiempo $O(n\ log\ n)$. Se probaron instancias hasta con 1000 trabajos y un $p_{max} = 50$, casi un 90 % de soluciones con excelentes resultados. Introducen un límite inferior robusto con la versión $1|r_i, q_i, prmp|C_{max}$. En las pruebas computacionales para esta última versión, se probaron instancias con los siguientes intervalos para los tiempos de procesamiento: (a) $p_j : [1, p_{max}]$, (b) $[1, p_{max}/2]$, y p_n de $[np_{max}/8, 3np_{max}/8]$, (c) $p_j = 1, ..., n-2$ de $[1, p_{max}/3]$ y p_{n-1}, p_n de $[np_{max}/12, 3np_{max}/12]$, para cada grupo la suma del valor promedio $np_{max}/2$.

En (Vakhania, 2004) presenta un estudio para el problema $1|r_i, q_i|C_{max}$ sabiendo que es de tipo NP-Hard. La versión con los tiempos de procesamiento restringidos P (un número fijo) y 2P; construyó un algoritmo con una complejidad $O(n^2\ log\ n\ log\ P)$ que comprende dos procedimientos enumerativos para ambas versiones $1|r_i, q_i|C_{max}$ y $1|p_j\ :\ P, 2P, r_i, q_i|C_{max}$. Para resolver la segunda versión utiliza un procedimiento por balanceo descrito a continuación: se introducen algunas definiciones y propiedades que los *calendarios-C*(calendarios complementarios) presentan. Parte de una solución inicial utilizando la heurística de Jackson y después se evalúan los calendarios que proporciona esta heurística en cada etapa; posteriormente aplica un procedimiento de enumeración implícita en los *calendarios-C*. Los métodos propuestos comprenden cinco alternativas de comportamiento de un *overflow job* que es posible alterar para recalendarizar las tareas (ver definición en la sección 2.8). Específicamente el segundo procedimiento aplica un balanceo basado en búsqueda binaria sobre los *kernels* (ver definición en la sección 2.8), con intervalos de tiempo restringido para lograr obtener un calendario óptimo.

En (Gharbi y Labidi, 2012) proponen una mejora del límite inferior de la versión del problema $1|r_i, q_i, prmp|C_{max}$. Aplican una calendarización semi-preventiva que consiste en reducir el impacto de la preferencia de los trabajos restringiendo los intervalos de interrupción de forma reducida. La calendarización semi-preventiva produce un límite inferior que domina a la *versión prmp* y permite ajustes más efectivos. El estudio experimental reveló que el uso adecuado del procedimiento del algoritmo de Carlier hace posible resolver todas las instancias difíciles que no pudieron ser resueltas por su variante original. El mismo año (Croce y T'kindt, 2012) proponen un algoritmo con tiempo $O(n\ log\ n)$ mejorando en más del 80 % el promedio de la brecha entre el valor de la solución fraccionaria (*prmp*) y el valor de la solución óptima.

(Vakhania y Werner, 2013) estudian una variante del problema $1|r_i|L_{max}$, considerando el tiempo de procesamiento máximo p_{max} limitado, y tomando en cuenta que no hay un límite constante entre la diferencia de los tiempos de liberación r_j y r_i en el problema $1|p_{max} < P(n), |r_j - r_i| < R|L_{max}$, por lo que esta versión es de tipo NP-Hard. Proponen un algoritmo que arroja soluciones en tiempo polinómico debido a una relajación aplicada, quitando la restricción p_{max} con una complejidad de $O(n^2\ log\ n\ log\ p_{max})$; el método se basa en la búsqueda binaria utilizando las alternativas del análisis estructural de las soluciones que distinguen dos tipos de trabajos (críticos y no críticos) para crear calendarios que cumplan ciertos criterios de optimalidad.

Dos años más tarde (Vakhania, Pérez y Carballo, 2015) realizan un estudio sobre la calidad de las soluciones de la Heurística de Jackson relacionada directamente con el tiempo de procesamiento máximo de una instancia p_{max}. Como ya se sabe que el límite teórico es 2 veces peor que el óptimo, plantearon obtener una relación más precisa

superando en la práctica el límite teórico definido anteriormente. Se expresó a p_{max} como una fracción del valor objetivo óptimo y se derivó una relación de aproximación con un factor de $1 + 1/k$ del óptimo. Los experimentos computacionales arrojaron que la mayoría de las instancias resultaron con un factor de 1.009 del óptimo, mientras que los peores casos fueron de 1.030.

Realizan un estudio (Chinos y Vakhania, 2017) detallando algunas condiciones de optimalidad y relaciones de dominancia para el problema $1|r_i|L_{max}$. Estudian su estructura donde ciertas condiciones se cumplen y es posible resolver eficientemente debido a la dureza del problema. Se enfocan en estudiar el comportamiento de los bloques de tareas urgentes (Kernels) y tareas no urgentes (emergentes), de forma que permitan verificar conflictos que se producen en la práctica, de manera que sea posible evitarlos y reajustar la calendarización. Además, se estudian la versión $1|r^1, r^2|L_{max}$ y/o $1|r^1, r^2; q_i|C_{max}$, justifican su dureza y para resolverlo aplican reglas de dominancia que permiten reducir el espacio de soluciones.

En (Vakhania, 2019) presenta un amplio estudio del problema general $1|r_i|L_{max}$, analiza la estructura de los calendarios bajo la idea de la división del conjunto de trabajos en dos subconjuntos rígidos (urgentes) y flexibles (no urgentes). Los intervalos rígidos (trabajos urgentes) pueden contribuir potencialmente a una solución óptima. La urgencia de un trabajo está determinada por su fecha límite cercana a los trabajos liberados cercanos a ella, lo que un grupo de estos trabajos forma una secuencia rígida en un calendario factible, si las diferencias entre sus fechas límite son suficientemente pequeñas, los trabajos restantes deben ser dispersados entre las secuencias rígidas.

Lo anterior permitió introducir un método basado en búsqueda binaria que divide la calendarización en intervalos rígidos y flexibles. Sabiendo la dureza del problema, se establecen propiedades estructurales que pueden requerir tiempo exponencial. Promete una complejidad de $O(n^2\ log\ n\ log\ p_{max})$, en caso de que no se llegue a cumplir una solución óptima se introduce un procedimiento subyacente que utiliza un método adicional de enumeración implícita usando la técnica de números mutuamente divisibles, esto lleva a la versión $1|p_j : divisible, r_i|L_{max}$ con una complejidad temporal de $O(n\ log\ p_{max})$, por lo que su complejidad temporal final es de $O(n^3\ log\ n\ log\ p_{max}^2)$.

(Vakhania, 2019) presenta un modelo de máquina única adaptable a diversos problemas de la vida real; plantea un modelo de calendarización donde los trabajos son los intervalos (tiempos de transmisión) con sus respectivas características, por ello modeló el problema en la versión $1|r_i, embedded|L_{max}$. Propone propiedades útiles donde se verifican ciertas condiciones suficientes de los parámetros de cada tarea y propone un método que particiona en dos grupos una secuencia; para los trabajos críticos se restringe el conjunto de todas las secuencias posibles a solo dos tipos, y para los no

críticos se calendarizan fácilmente con la heurística de Jackson. Este enfoque permite una enumeración eficiente con un tiempo exponencial en el peor de los casos en tiempo $O(n\ log\ n)$.

Realiza un amplio estudio del problema $1|r_i, q_i|C_{max}$ (Pecina, Sigarreta y Vakhania, 2020). Proponen un algoritmo basado en enumeración implícita del conjunto de soluciones de un árbol de búsqueda, las soluciones serán descartadas si no cumplen una propiedad específica. Además, se analizan las propiedades estructurales de las soluciones en un árbol, dicho algoritmo puede detenerse si la aproximación deseada ya está garantizada en la siguiente solución factible creada. Es decir, que se puede evitar una enumeración completa cuando el factor de aproximación deseado ya se ha alcanzado en la siguiente solución factible generada. Dicho algoritmo arroja un factor de aproximación de $1 + 1/k$ donde k es el número de trabajos de la raíz hasta el nodo k de trabajos en un árbol de búsqueda. Se realiza un estudio computacional amplio para verificar el rendimiento de dicho algoritmo con instancias generadas aleatoriamente; se observa que la mayoría de las instancias se resolvieron de manera óptima por las reglas de dominancia establecidas, resulta un algoritmo con un mejor rendimiento que los anteriores conocidos.

Se presenta un caso especial en (Reynoso y Vakhania, 2020) que tiene aplicaciones en la vida real; el problema $1|r_i \in \{r^1, r^2\}; q_i \in \{q^1, q^2\}|C_{max}$, que es una variante del problema general $1|r_i, q_i|C_{max}$ sabiendo que es NP-Hard, este caso restringido es útil en la práctica, y proponen cinco heurísticas que cumplen criterios de optimalidad establecidos, con una complejidad de $O(n\ log\ n)$. El estudio computacional consistió en probar 50 millones de instancias donde al menos una de las heurísticas propuestas cumple con al menos una de las condiciones de optimalidad, por tanto, dichos resultados ofrecen soluciones óptimas, en caso de que una de las condiciones no se cumpla, se propone un algoritmo basado en Programación Dinámica (*Suma de Subconjuntos*) que obtiene calendarios en tiempo pseudo-polinomial.

2.6.2. Problemas con Máquinas Paralelas

El problema de máquinas paralelas idénticas con el objetivo minimizar el máximo tiempo de completez $P||C_{max}$ es el problema más estudiado en sus primeros años, particularmente está relacionado con problemas prácticos de la vida real. Otros problemas igualmente estudiados ampliamente son el de máquinas paralelas no relacionadas $R||C_{max}$ y maquinas uniformes $Q||C_{max}$ debido a los problemas prácticos en actividades como la manufactura, las redes de Internet y la industria.

Especificamente los problemas relacionados con nuestro estudio son: el problema $R||C_{max}$, que consiste en un conjunto de tareas independientes, donde se requiere calendarizar tareas sobre máquinas paralelas no relacionadas, con el objetivo de minimizar el tiempo de máximo de finalización; el problema $R|ri|L_{max}$ con fechas límite y tiempos de liberación con el objetivo de minimizar la tardanza máxima; y el problema $P||L_{max}$ y $P||C_{max}$ podrían compartir características con nuestro problema, es por ello que a continuación presentamos una revisión sobre algunos trabajos que la literatura presenta.

Anteriormente se mencionó que el problema de maquina única con fechas límite puede resolverse en tiempo polinómico para una entrada en n pequeña, es sencillo observar que $P||L_{max}$ con máquinas idénticas es un problema más difícil que $1||L_{max}$, aún la versión con dos máquinas; (Graham, 1966) lo considera un problema difícil de tipo NP-Hard. Intuimos por tanto, que el problema $R||L_{max}$ con m máquinas distintas es igual o quizá más complejo, en la literatura se han propuesto métodos de solución para las diversas variantes que veremos a continuación.

(McNaughton, 1959) aborda el problema $P||L_{max}$ y propone un algoritmo que proporciona una solución óptima para instancias pequeñas, se apoya en la división de tareas con la versión del problema $P|prmp|L_{max}$, la idea se basa en que, si una tarea comienza en un procesador esta puede interrumpirse y continuar en otro momento, tal que la tarea será dividida tanto como se interrumpa, esto con una complejidad temporal de O(n).

Los primeros estudios del problema $P||C_{max}$ son por (Graham, 1966) donde presenta una idea para resolver el problema general. Dada una lista de tareas con un orden de prioridad al tiempo t en que un procesador P_i esté disponible toma la primera tarea T_j de dicha lista y la ejecuta hasta agotar las tareas. Considera 4 aspectos importantes para mejorar las soluciones: (1) cambiar el orden de la lista de tareas, (2) decrecer el número de tareas, (3) relajar el orden parcial, (4) cambiar el número de procesadores; mostró que 1, 3, 4 no disminuyen el tiempo total de finalización. Propone un límite

superior $1 + n - 1/n'$ en el cual puede inferir en tiempo total de finalización y se considera el mejor, y no puede ser reemplazado por ninguna función mejor que n/n'.

Presentan (Coffman y Graham, 1972) un algoritmo eficiente que proporciona soluciones óptimas para el problema $P||C_{max}$ con dos procesadores idénticos. Modelan el problema por medio de un grafo dirigido considerando las tareas con los mismos tiempos de procesamiento con una complejidad temporal de $O(n^2)$. Adicionalmente, se tomó en cuenta la versión con interrupciones $P|prmp|C_{max}$ con tiempos de procesamiento arbitrario para las tareas, modeló el problema usando un grafo dirigido lo cual resultó una tarea más compleja ya que una tarea puede interrumpirse tantas veces como sea conveniente (intervalos de interrupción más frecuente es mejor), es por ello que la división de cada tarea representa un subgrafo en un grafo mayor para este modelo, lo cual lo hace más complejo; por tanto se obtiene un rendimiento de 14/11 =1.2.

Se presenta un estudio sobre procesadores idénticos y no relacionados en (Horowitz y Sahni, 1976). Plantean algoritmos basados en programación dinámica para el tiempo de flujo medio en procesadores m-uniformes cuyo tiempo de cálculo es $O(n\ log\ mn)$; para el tiempo de flujo medio ponderado mínimo en procesadores uniformes presentan un algoritmo que requiere en el peor de los casos un tiempo exponencial, dado que se sabe que ambos problemas son NP-Completos y es poco probable que exista algún algoritmo acotado polinomialmente para ambos. Los algoritmos de aproximación que proponen para el tiempo de finalización mínimo y el tiempo de flujo medio ponderado mínimo tienen una complejidad cuadrática para los peores casos.

Un año más tarde en (Coffman, Garey y Johnson, 1977) continúan el estudio del problema $P||C_{max}$, debido a que es NP-Completo y aparentemente intratable, diseñaron un algoritmo MULTIFIT, que encuentran calendarios casi óptimos usando la regla LPT (*el tiempo de procesamiento más grande primero*), este devuelve un calendario con rendimiento de 4/3, mejor de los publicados anteriormente. Utilizan un enfoque basado en técnicas de empaquetado en contenedores, el método satisface un límite de 1.220. Adicionalmente, obtienen límites superiores exactos y destaca la versión cuando $m \leq 7$, justificaron que el mejor límite general posible para su algoritmo es $20/17 = 1.176$.

Ese mismo año en (Garey y Johnson, 1977) estudian el problema $P|r_i|L_{max}$ con dos procesadores idénticos, presentan un algoritmo de complejidad $O(n^3)$ basado en búsqueda binaria, sabiendo que es NP-Hard y probablemente intratable. El enfoque promete buenas soluciones factibles, la idea básica del algoritmo es dada una lista de tareas en un orden de prioridad (donde se cumplen las restricciones cuando una tarea esté liberada y no se exceda su plazo) calendarizar la primera tarea en el procesador que esté inactivo

en caso de empate se toma la máquina de menor índice. Se recurre a un método para modificar las fechas límite, para que sean coherentes internamente evitando cálculos excesivos, fue posible obtener buenos resultados para ambas versiones C_{max} y L_{max}.

(Ibarra y Kim, 1977) proponen varios algoritmos heurísticos para procesadores idénticos $P||C_{max}$ y no idénticos $R||C_{max}$ sabiendo la dureza de ambos que son NP-Completos. Analizan su comportamiento en el peor de los casos con la relación $f/f*$, tal que f es el valor de la función objetivo por algún algoritmo y $f*$ es el valor óptimo en la función objetivo. El caso de $m = 2$ con procesadores idénticos, los algoritmos obtienen soluciones mejores que otros de la literatura. Destaca especialmente un algoritmo basado en la idea de calendarizar temporalmente las tareas respecto al tiempo de procesamiento menor, y si para una de las máquinas su Makespan es mayor que la otra, se reasignan las tareas para equilibrar la carga en ambas, consiguen un algoritmo con rendimiento de $(\sqrt{5+1})/2$ =1.224.

(Lawler y Labetoulle, 1978) tratan ambos problemas $R|prmp|C_{max}$ y $R|prmp|L_{max}$, usan un enfoque con Programación Lineal proponiendo límites superiores para las versiones con interrupciones, con no más de $O(m^2)$ interrupciones para n tareas en m procesadores no relacionados. Su modelo de PL fue para ambas versiones obtiene soluciones factibles, esto permite obtener un calendario óptimo basado en la misma técnica de solución que en el problema Open Show para L_{max}.

Propone la notación convencional para problemas de calendarización en (Graham et. al., 1979) que comprende de tres campos: $\alpha \mid \beta \mid \gamma$; el campo α representa el ambiente de las máquinas, el campo β representa las características de las tareas y las restricciones, el campo γ representa el criterio objetivo. Realizan un estudio amplio sobre problemas de optimización y aproximación en especial problemas de una máquina y máquinas paralelas, además, plantean una simbología para representar el valor óptimo en la función objetivo como γ^*. La solución de un algoritmo de aproximación se representa como $\gamma(A)$. Existe gran cantidad de problemas que se pueden tratar con algoritmos de aproximación de forma teórica y práctica, en la práctica un algoritmo exitoso debe explotar la estructura y las propiedades especiales que pueda tener el problema.

(Sahni, 1979) estudia el problema $P|prmp|L_{max}$ con fechas límite, en m procesadores idénticos. Propone un algoritmo que genera calendarios con un máximo de $n-2$ interrupciones, este algoritmo es aplicable en la versión con fechas límite distintas, la idea se basa en obtener un calendario factible donde todos las tareas se completan antes en su fecha límite. Uso dos procedimientos eficientes obteniendo una complejidad de $O(n\ log\ mn)$.

Se realiza un amplio estudio del problema $R||C_{max}$ para un entorno aplicativo por (Davis y Jafe, 1981), en un sistema distribuido donde el tiempo requerido de una tarea en un procesador puede depender de los costos en las comunicaciones. Presentaron algunos algoritmos para este problema; el primer algoritmo presenta como máximo $2.5\sqrt{m}$ veces peor que el óptimo en tiempo de ejecución $O(mn\ log\ n)$ y arroja casos en donde es tan malo $2\sqrt{m}$ con un factor de 1,25; un segundo algoritmo es una modificación del primero agregando la heurística LTP en al menos $(1+\sqrt{2})\ \sqrt{m}$ y para el peor caso arrojando $\sqrt{m}$; el tercer algoritmo presenta un tiempo exponencial en términos del número de procesadores, sin embargo, para un número limitado de procesadores proporciona un tiempo $1{,}5\sqrt{m}$ veces peor que el óptimo, con un tiempo $O(m^m\ + mn\ log\ n)$. Se presentaron dos algoritmos más, concretamente, de este grupo de cinco heurísticas el mejor caso fue de $O(\sqrt{m})$ para el peor de los caos y se demostró que es difícil encontrar un algoritmo con un comportamiento mejor $O(m)$.

(Friesen, 1984) continúa los estudios de Coffman, Garey y Johnson, sobre el problema $P|prmp|C_{max}$ ajusta los límites obtenidos sobre el peor de los casos con el algoritmo MULTIFIT, muestra que puede ser tan malo como 13/11 = 1,1818 y demostró que no puede ser peor que 6/5 =1.2.

(Potts, 1984) estudia el problema $R||C_{max}$, presenta un algoritmo heurístico que consiste en dos etapas: en la primera usa la PL para construir un calendario dejando máximo $m-1$ tareas sin calendarizar; la segunda consiste en calendarizar las $m-1$ tareas utilizando una técnica enumerativa que toma todas las posibles asignaciones de trabajos restantes llamados (fraccionarios) a las máquinas, y se elige una que proporcione un calendario completo con el menor tiempo máximo de completez. Esta heurística se le conoce como LPE, para el caso de $m \leq 3$ tiene un rendimiento de 2 de tiempo polinomial en n y exponencial en m, destaca el caso con $m = 2$ tiene un rendimiento de 3/2, a diferencia del anterior algoritmo la versión modificada en el caso $m \leq 2$ tiene un rendimiento $(1+\sqrt{5})/2$ y requiere un tiempo lineal.

Se sabe que el problema $P|r_i, q_i|C_{max}$ es de tipo NP-Hard en sentido estricto, ya que la versión de una máquina lo es. (Carlier, 1987) utiliza la heurística de Jackson para generar soluciones, mostrando que la desviación de un J-calendario es menor que el doble del tiempo de procesamiento más grande. Propone un esquema con técnicas de ramificación y poda, la idea es asociar a cada tarea un intervalo de tiempo, el cual debe procesarse para bifurcar el intervalo en dos más pequeños. Dicho esquema es aplicable a muchos problemas de este tipo.

Retoman el procedimiento MULTIFIT (Lee y Massey, 1988) para el problema $P||C_{max}$. Proponen un algoritmo combinado basado en las características de LPT donde dada una lista de trabajos ordenados de forma decreciente respecto a su tiempo de procesamiento se asigna al procesador menor cargado. El método está basado en el empaquetado de contenedores, la idea es buscar que los trabajos quepan en m contenedores dada una capacidad mínima. Usan otro método llamado FFD (First Fit Decreasing) para ajustar los trabajos al contenedor. Presentan un algoritmo que combina ambos métodos con un rendimiento peor tanto, como LPT y un error no peor que MULTIFIT, la complejidad temporal es $O(n\ log\ n + kn\ log\ m)$.

En (Lenstra et al., 1990) abordan el problema $R||C_{max}$ y garantizan que la solución no es más que el doble del óptimo. Proponen un método polinomial que arroja un factor 3/2 del óptimo debido a que no puede existir un algoritmo menor, a menos que, $P = NP$, dicho algoritmo esta basado en relajaciones lineales, redondeo y considerando la desventaja que las soluciones sean subóptimas o incluso imposible de redondear para $m \leq 2$. Consideran el problema $P||C_{max}$ y para resolverlo proponen un algoritmo de aproximación basado en obtener un límite superior con un algoritmo voraz, y después un límite inferior, posteriormente aplicar un método de búsqueda binaria tomando criterios con base a la versión relajada del problema. Además, se observó que si el número en los tiempos de procesamiento está limitado para $p_{ij} = 1$, este se resuelve en tiempo polinomial e incluso para $p_{ij} = \{1, \infty\}$, de igual manera cuando $p = \{1, 2\}$; otro aspecto importante es que continúa siendo un problema NP- Hard para el caso cuando $p \in \{p, q\}$ con $p < q$, $2p \neq q$.

(Martello, Soumis y Toth, 1997) plantean límites inferiores basados en relajaciones Lagrangianas y técnicas aditivas para el problema $R\,|p, 2p|\,C_{max}$. Proponen un algoritmo basado en ramificación y poda, la idea es eliminar disyunciones que no son factibles para mejorar los límites inferiores (basado en búsqueda binaria). Emplean un algoritmo de aproximación basado en un procedimiento llamado *TARGET*, que intenta obtener solo soluciones factibles menores o iguales aún valor prefijado; bajo este enfoque se obtienen diferentes soluciones aproximadas debido a que el procedimiento *TARGET* está sujeto a reglas para calcular puntajes y/o penalizaciones.

(Carlier y Pinson, 1998) estudian el problema $P|r_i, q_i|C_{max}$ y plantean una solución con un enfoque pseudo-preemptive schedule (JPPS) de Jackson, que generaliza el calendario preventivo de Jackson (JPS) $P|prmp|C_{max}$ introducido para el problema $1|r_i, q_i|C_{max}$. JPS se ejecuta en tiempo $O(n\ log\ n)$ y puede ser usado en la versión para máquinas idénticas, al igual que en problemas de tipo Jop Shop de complejidad NP-hard. Resultó que el enfoque JPPS puede calcular en tiempo $O(n\ log\ n + nm\ log\ m)$ y es un límite inferior ajustado para el problema $P|r_i, q_i|C_{max}$.

Desarrollan (Mokotoff y Chretienn, 2002) dos algoritmos; uno exacto y otro de aproximación, el estudio principal es la estructura poliédrica del problema $R||C_{max}$. Se construye un algoritmo basado en un esquema de ramificación y poda, donde el algoritmo principal presenta una fase de preprocesamiento para calcular un límite superior basado en el algoritmo de LISTAS y un límite inferior a partir de la versión fraccionaria. El algoritmo exacto devolvió soluciones óptimas en la mayoría de las pruebas, en cambio, las otras soluciones solo se consideran aceptables. Ese mismo año (Mokotoff y Jimeno, 2002) presentan algoritmos basados en enumeración parcial, donde la idea radica en construir subproblemas sin perder la integridad de los subconjuntos de variables usando un modelo lineal.

Desarrolló (Mastrolilli, 2003) un esquema de aproximación (PTAS) para el problema $P|r_i, q_i|C_{max}$, con un tiempo de ejecución que depende solo linealmente de n, este límite proporciona una mejora sustancial al algoritmo de (Hall y Shmoys, 1989), como ya se sabe la dureza del problema que es de tipo NP-Hard. El caso con $m = 1$, los algoritmos anteriores son útiles para valores moderados de n y pueden devolver en tiempos razonables una buena aproximación y para instancias grandes en algunos casos. Con $m = 2$ se considera un caso fuertemente difícil, el esquema de aproximación aquí propuesto se basa en el enfoque de (Lenstra et al., 1990) bajo la idea de agrupar un conjunto de tareas por bloques y considerar cada bloque como un problema restringido. Se obtiene un límite para el problema $1|r_i, q_i|C_{max}$ usando la JHE en su versión equivalente que resuelve el probelma $1|r_i|L_{max}$, este logra una complejidad temporal de $O(n+1/e^{0(1/e)})$.

(Vakhania, 2003) realiza un estudio amplio sobre el problema $P|p_j = p, r_i, q_i|C_{max}$. Plantea un análisis de los calendarios e incorpora definiciones básicas sobre las propiedades que los calendarios presentan. Se sabe su equivalencia con $P|p_j = p, r_i|L_{max}$, por ello utiliza el algoritmo de JHE para crear una solución inicial. Propone un algoritmo basado en ramificación y poda mejorando el tiempo de ejecución de ciertos algoritmos anteriores, el enfoque se basa en analizar alternativas de comportamiento de los calendarios complementarios, además, se evita una enumeración parcial de estos en un árbol de búsqueda que genera una secuencia única, esto con una complejidad temporal de $O(q_{max}(mn)\ log\ n + O(mkn))$, donde, q_{max} es el tiempo máximo de entrega del trabajo y n es un parámetro que se conoce solo después de la terminación del algoritmo. Complementa algunas definiciones importantes publicadas en [Vakania, 2002] sobre las propiedades de los calendarios como: *overflow job, live emerging job, bloque crítico, kernel, emerging job, complementary schedule.*

(Shchepin y Vakhania, 2005) retoman los trabajos de (Lenstra et. al., 1990), abordan el problema $R||C_{max}$ con enfoque de Programación lineal y por redondeo. El objetivo es construir un calendario aproximado en dos etapas: primero construir una distribución óptima y redondear, es decir, idea se basa en construir una calendarización equilibrada que tiene como máximo $m-1$ interrupciones; la distribución de los trabajos sin interrupción en la segunda etapa proporciona fácilmente un horario sin interrupciones con el mismo *Makespan* para cada máquina. Plantean un algoritmo en tiempo polinomial con un rendimiento en el peor de los casos de $2–1/m$, mejor que 2 conocido anteriormente.

Plantean un método por búsqueda (Ghirardi y Potts, 2005) para obtener soluciones aproximadas a problemas de optimización, Beam Search es un tipo de algoritmo truncado de branch and bound. Sin embargo, el *Recovering Beam Search* permite la posibilidad de corregir decisiones erróneas sustituyendo soluciones parciales por otras mejores. A el algoritmo le toma un tiempo polinomial con instancias de 1000 tareas para la versión del problema $R||C_{max}$.

(Ebenlendr, Krcal y Sgall, 2008) diseñan un algoritmo para el problema $R||C_{max}$, se consideran dos posibles tiempos de procesamiento; se hace una modificación para restringir a una máquina de forma $p_{ji} = \infty$. Proponen un método por balanceo de grafos (*Graph Balancing*), ya que cada tarea puede ser asignada a dos posibles máquinas como máximo. Utilizan PI e introducen nuevas restricciones, usan la búsqueda binaria y el escalonamiento de forma estándar; logran reducir el problema de optimización a una versión de decisión y proponen un algoritmo que aplica el redondeo de la solución fraccionaria con un ratio de aproximación 1.75 para el caso planteado. Notablemente este estudio se considera uno de los mejores después de 20 años.

(Christodoulou, Koutsoupias y Nanavati, 2009) presentan un estudio introduciendo un enfoque llamado, mecanismos de coordinación, para mejorar el desempeño de agentes egoístas y *non colluding*. La calidad de estos mecanismos se mide por medio del precio de la anarquía (PoA) y el peor desempeño de un equilibrio Nash; proporcionan límites inferior y superior para (PoA) del problema $P||C_{max}$. La idea es que, en m máquinas idénticas y n tareas por asignarse, las tareas eligen donde procesarse de forma egoísta, la asignación resultante puede ser subóptima y el PoA puede ser tan alta como $O(log\ m/log\ log\ m)$ lo cual pretenden mejorarla, proporcionan un mecanismo de coordinación (algoritmo) con un PoA (rendimiento) de $4/3 - 1/(3-m)$ mejor que los anteriores en la literatura, justificando que es un límite suficientemente robusto.

Un mecanismo de coordinación es esencialmente un algoritmo descentralizado que funciona de manera local, el precio de la anarquía de un modelo de coordinación es el

precio mínimo de la anarquía, sobre todos sus mecanismos de coordinación, similar al marco de análisis competitivo en algoritmos online o en algoritmos de aproximación. Los algoritmos en línea abordan la falta de información, esforzándose por reducir la proporción competitiva. Los algoritmos de aproximación abordan la falta de recursos computacionales suficientes, esforzándose por reducir la proporción de aproximación; de manera similar los mecanismos de coordinación abordan la falta de coordinación debida al comportamiento egoísta al esforzarse por reducir el precio de la anarquía, esto es: Modelo de coordinación = Problema en línea; Mecanismo de coordinación = Algoritmo en línea; Precio de anarquía = Razón competitiva.

Existen diversos enfoques para resolver problemas de calendarización, por ejemplo, en (Immorlica et al., 2009) utilizan la teoría de juegos para resolver problemas con máquinas paralelas, dicho enfoque considera a los jugadores (tareas) y cada jugador elige una estrategia (máquina) donde procesarse de acuerdo a un mecanismo de coordinación (algoritmo local). Plantean mecanismos y analizan políticas de calendarización con el objetivo de minimizar el PoA. Se consideran cuatro diferentes problemas, derivando límites inferior y superior para $P||C_{max}$, $Q||C_{max}$, $B||C_{max}$ y $R||C_{max}$, con los siguientes mecanismos de coordinación ShortestFirst, LongestFirst, Makespan, Random, destacando que todos los límites superior e inferior son válidos para equilibrios de Nash puro. El tiempo de ejecución de ShortestFirst y LongestFirst en los problemas $Q||C_{max}$ y $B||C_{max}$ es $O(log\ m)$, En $R||C_{max}$ random tiene un tiempo O(m) y ShortestFirst tiene un comportamiento exponencial para un número grande de n jugadores (tareas).

(Fanjul-Peyro y Ruiz, 2010) proponen un conjunto de metaheurísticas basadas en búsqueda local que producen soluciones interesantes para el problema $R||C_{max}$. El estudio práctico se basó en estudios anteriores de la literatura y especialmente en aplicaciones de la vida real. Se introducen una colección de 1400 instancias divididas en 7 grupos con ciertos criterios para generar los valores de p_{ij}, 5 grupos con intervalos en p_{ij} distribuidos uniformemente U (1, 100) U (10, 100), U (100, 120), U (100, 200) y U (1000, 1100); el sexto y séptimo grupo, instancias con tareas correlacionadas (Jobcorre) y máquinas correlacionadas (Machcorre), disponibles en http://soa.iti.es. Cabe señalar que en anteriores estudios no se habían publicado dichas instancias.

Se propone un método de solución llamado branch less and cut more (blesscmore), es decir, menos ramas más poda; técnica basada en el método de ramificación y poda. Gracias a un estudio amplio de (Vakhania, 2012) para resolver el problema $P|p_j = p, r_j|\sum U_j$. La idea es utilizar las propiedades estructurales de las soluciones enumerando en un árbol T de soluciones, con el objetivo de reducir el espacio de soluciones factibles a un subespacio más pequeño que contenga la solución óptima;

inicialmente se crea una solución inicial con un método heurístico, para después aplicar blesscmore modificando artificialmente las soluciones para lograr añadir o eliminar estas, mientras que las estrategias de ramificación se someten a un diagnóstico por medio de la exploración de características potenciales para ser un calendario óptimo; blesscmore no usa límites inferiores debido a que los criterios de ramificación y corte están basados en un análisis de las propiedades de los calendarios generados a partir del comportamiento (el comportamiento muestra todas las formas cruciales en las que una solución puede ser alterada con respecto a su solución-padre). El análisis de este comportamiento es la base para cortar ramas en el árbol T y confirmar si ya se creó una solución óptima. Blesscmore promete un tiempo $O(n^3 \log\ n)$.

(Caragiannis, 2013) presenta un enfoque para calendarizar n trabajos selfish (egoístas) en m máquinas no relacionadas $R||C_{max}$, para diseñar mecanismos de coordinación (algoritmos locales) y mitigar el impacto de la ineficiencia en los calendarios mediante una política de calendarización local en cada máquina (algoritmo local). Los mecanismos de coordinación aquí presentados son deterministas para la versión con interrupciones $R|prmp|C_{max}$. El primer mecanismo presenta una aproximación en tiempo $O(log\ m)$ y garantiza equilibrar la carga en las máquinas; el segundo promete una aproximación en tiempo $O(log\ m/log\ log\ m)$ sin garantizar equilibrios consistentes; el tercero establece un límite superior garantizando un equilibrio entre las máquinas en tiempo $O(log^2\ m)$ de aproximación.

Presentan (Vakhania, Hernández y Werner, 2013) la versión del problema con dos posibles tiempos de procesamiento sobre máquinas no relacionadas $R|p_{ji} \in p, 2p|C_{max}$. Proponen resolver polinomialmente con un algoritmo en dos fases aplicable, tanto para $R|p_{ji} \in p, 2p|C_{max}$, y como algoritmo de aproximación para $R|p_{ji} \in p, q|C_{max}$. En la primera fase se resuelve la versión con interrupciones, donde sólo se consideran los tiempos de procesamiento p, la solución óptima resultante se redondea; en la fase 2, la solución obtenida en la fase 1 se modifica iterativamente moviendo una tarea con su tiempo actual de procesamiento p de una máquina más cargada a una menos cargada. El procedimiento de la fase 2 continúa hasta que la carga máxima de la máquina (*el makespan*) no pueda reducirse más con la operación anterior. Finalmente, los trabajos que sólo pueden ser procesados en el tiempo $2p$ (en todas las máquinas) se añaden, el segundo procedimiento logra equilibrar las máquinas. Una ligera modificación del problema anterior es cuando $p\ y\ q$, donde $p < q$, con tiempos de procesamiento arbitrarios ocurre un error absoluto en el peor de los casos para un número grande de tareas.

El enfoque introducido por (Caragiannis, 2013), persigue el objetivo de minimizar el impacto del selfishness (egoísmo), programar tareas en diferentes máquinas, estos mecanismos definen reglas de cómo calendarizar en cada máquina los trabajos. Pre-

sentan una clase de mecanismos ($DCOORD$) de calendarización, para la versión con interrupciones $R|prmp|C_{max}$. El objetivo es acotar la ineficiencia de equilibrar las cargas en las máquinas, utilizan mecanismos de cordinación como ShortestFirst para los trabajos en cada máquina, ya que estos utilizan indexación de los trabajos a diferencia del *Makespan*, cabe señalar que los mecanismos $CCOORD$ presenta una complejidad $O(log^2 m)$ respecto a PoA, y el nuevo mecanismo aquí presentado $DCCOORD$ tiene una complejidad de $O(log\ m)$ para PoA.

(Chen y Xu, 2020) presentan un modelo llamado máquina favorita, que consiste en que cada tarea tiene un tiempo de procesamiento diferente para cada máquina del problema $R||C_{max}$, se aplica a el uso de la CPU, las GPUs, redes de Internet, servidores, etc. Se centran el diseño de nuevas reglas de coordinación (criterios locales) para obtener mejores soluciones, es decir, minimizar C_{max}. Proporcionan límites para PoA, SPoA y plantean una nueva regla llamada FF-LPT que supera a las anteriores conocidas en términos de casos medios de PoA, dicha regla garantiza una convergencia con un equilibrio Nash Puro.

El enfoque consiste en que cada tarea tiene un conjunto de máquinas favoritas donde su tiempo de procesamiento es corto y para otras es más grande. Se enfocan en lograr el equilibrio de la carga en las máquinas, tomando en cuenta que una tarea puede elegir la máquina que le convenga (descentralización). El PoA sirve para cuantificar la ineficiencia de los equilibrios entre las máquinas. Los mecanismos para lograr un equilibro (mecanismos de coordinación), son aplicar un conjunto de políticas locales, que para cada máquina define como calendarizar las tareas de manera distribuida y local. Parten del concepto de que una tarea es buena si está asignada a su máquina favorita, de lo contrario es mala. Las reglas de coordinación corresponden a crear condiciones que deben cumplir las permutaciones de las tareas asignadas con dos procesadores. La propuesta de este estudio se basa en que cada máquina, procese primero las tareas buenas con la regla LPT (orden decreciente a sus tiempos de procesamiento) y luego procesar las tareas malas con la regla LPT también, el factor de rendimiento es de 4/3.

(Ramos et al., 2021) proponen 17 medidas para caracterizar la estructura de las instancias del problema $R||C_{max}$, aplican un análisis sobre las instancias y como estas impactan en el desempeño de 11 heurísticas. Se sabe no existe un algoritmo que resuelva el problema y de igual manera no existe una base teórica para analizar o categorizar los factores del problema que conducen a que un algoritmo sea exitoso. Los resultados sugieren que la dificultad de las instancias para este problema está relacionada con el número de tareas, el número de máquinas, la dispersión de los tiempos de procesamiento, el mínimo tiempo de procesamiento de las tareas y la diferencia entre los tiempos de procesamiento de las dos máquinas más rápidas.

2.7. Metodologías para resolver problemas de Calendarización

En la literatura encontramos gran cantidad de investigación para problemas de calendarización deterministas, se han hecho esfuerzos para diseñar algoritmos eficientes y existen diversos métodos para resolver este tipo de problemas, una clasificación general que forman dos grandes grupos son los métodos exactos y los métodos aproximados.

Métodos Exactos

Básicamente se basan en enumerar todas las soluciones factibles posibles, para cada una de estas calcular su valor mínimo o máximo y posteriormente elegir la mejor (óptima), esto en la práctica no es posible para problemas muy difíciles, por ejemplo, si utilizamos una enumeración exhaustiva el análisis de todas las soluciones posibles si es el caso que tenemos un problema con $n!$, el valor n es muy grande por lo que es una tarea casi imposible, a estos problemas se les llaman de tipo NP-Completo, y a una computadora le tomará un tiempo exponencial, es poco práctico aplicar este método a menos que n sea relativamente pequeño.

Los métodos numéricos tienen dos vertientes enumeración explicita e implícita, la enumeración explicita enlista todas las soluciones posibles de un problema, la implícita solo considera soluciones parciales donde se intenta eliminar soluciones que no producen soluciones completas óptimas, los procedimientos se consideran complejos, ya que deben garantizar una solución óptima en una solución parcial, este tipo de métodos en la mayoría de las veces se adaptan al tipo de problema y pueden variar uno del otro.

Una de las técnicas muy conocidas es Ramificación y Poda donde la idea principal es enumerar inteligentemente todas las soluciones factibles de un problema de optimización, es decir, el problema se representa por medio de un árbol y cada rama representa una posible solución factible. Básicamente es construir un árbol de soluciones; el primer paso es generar una solución factible con una heurística voraz para obtener una cota inicial superior *Uper-bound*, la segunda acción es ramificar generando todos los hijos de cada nodo en expansión y detectar si una rama al expandirla devuelve o no un valor aceptable para ser podada, esto ocurre cuando una rama no promete una buena solución factible, en caso contrario si la rama tiene un valor aceptable en la función objetivo continua la búsqueda en profundidad. Mientras que el *Uper-bound* se considera como una guía y este se va actualizando, el *Lower-bound* es un límite inferior que permite generar una solución parcial para saber si podar una rama o ramificarla.

Otro de los métodos muy usados es la Programación Dinámica que consiste en dividir un problema en subproblemas más pequeños, está basado en el Principio de Optimalidad, establece que una secuencia óptima de decisiones tiene la propiedad de que cualquiera que sea el estado inicial y la decisión, las decisiones restantes deben constituir una secuencia de decisión óptima con respecto al estado resultante de la primera decisión (Horowits y Sahni, 1978). Es decir, que las decisiones que se tomen deben asegurar que en cada etapa (subproblema) devuelvan una solución óptima, así consecutivamente en cada etapa, para que finalmente la secuencia final sea una solución óptima. Este método solo es aplicable cuando se cumple el principio de optimalidad para el problema que se este tratando, una característica es que considera valores solo óptimos en cada etapa y no toman decisiones erróneas, otra de ellas es que cuando el número n de entrada es muy grande no es conveniente aplicar este método.

Métodos Aproximados

Otra opción es aplicar algoritmos de aproximación, estos producen soluciones que garantizan un acercamiento dentro de un porcentaje fijo del óptimo real para problemas donde la entrada es un número muy grande y que en la práctica se requiere una solución en tiempo razonable. Se dice que cualquier enfoque sin garantía de rendimiento puede considerarse una heurística. Estos enfoques son útiles en situaciones prácticas si no se cuenta con técnicas con mejores rendimientos. Un procedimiento heurístico puede obtener una solución exacta para un problema de la clase P y una solución aproximada para un problema de la clase NP-Hard.

Estos métodos pueden crear una solución óptima para problemas de clase P, pero no cualquier problema es resuelto de forma óptima por un método heurístico o voraz, lo anterior no ocurre para problemas de la clase NP-Hard. (Cook, 1971) Justifica que no existe un algoritmo heurístico que resuelva un problema NP-Hard de manera óptima a menos que P = NP, lo cual es un problema abierto en la actualidad.

Ahora bien, los métodos heurísticos o voraces crean soluciones factibles para problemas de optimización, en algunos casos son muy eficientes en tiempo polinomial, su funcionamiento se basa en dada una entrada de n objetos de un problema, tal que el número de iteraciones es polinomial con respecto a su tamaño, crea una solución factible completa, en cada iteración extiende la solución parcial que añade un objeto nuevo no considerado antes, los criterios heurísticos no consideran todas las soluciones posibles y es probable que pueda existir una solución mejor. Una desventaja de estos métodos es que no garantiza una aproximación que sea la mejor solución posible, en cambio la ventaja es que devuelve soluciones en tiempo razonables.

Las medidas de la calidad de aproximación de un algoritmo son; el error absoluto que es la diferencia entre el valor de la función objetivo de un algoritmo A y el valor de la solución óptima, otra medida es el radio de aproximación de un algoritmo que mide la calidad de este, un algoritmo k-aproximado es un algoritmo tal que en el peor caso tiene un radio de aproximación k del óptimo.

Otras técnicas heurísticas de mejora iterativa son las que comienzan con una solución inicial eligiendo una permutación de forma aleatoria, para después obtener una solución mejor alterando la solución actual(vecindarios). Estas heurísticas se les conoce como de búsqueda local y se sabe que no garantizan una solución óptima, utilizan la evaluación de soluciones vecinas con un criterio de aceptación o rechazo de soluciones. Otra área importante y de gran desarrollo son las metaheurísticas que son métodos basados en la naturaleza o procedimientos sofisticados con criterios aleatorios.

Reglas Heurísticas

Son procedimientos heurísticos que basados en un enfoque específico, usados ampliamente en el área de calendarización. La idea básica es calendarizar una tarea tan pronto como se posible, es decir, que una tarea puede tener mayor prioridad que otra para ser procesada en la o las máquinas. Existen diversas reglas y cada una de ellas tienen criterios específicos distintos, pueden utilizarse de manera individual o en combinación con otras, algunas de ellas brindan soluciones óptimas bajo ciertas condiciones y en entornos específicos. Tienen la ventaja de ser muy rápidas, pero su desventaja es que la calidad de la solución no es muy buena.

Por mencionar algunos procedimientos heurísticos; la regla SPT selecciona una tarea con el tiempo de procesamiento más corto, LPT selecciona una tarea con el tiempo de procesamiento más largo, en al caso de máquinas paralelas esta regla equilibra la carga en las máquinas, ya que es ventajoso mantener tareas con tiempos de procesamiento cortos al final para equilibrar la carga en la máquinas, ERD selecciona una tarea respecto al principio de tomar la fecha de liberación más temprana, EDD selecciona una tarea tomando la fecha de limite más pequeña, LDT selecciona un tarea respecto al tiempo de entrega mas grande.

2.8. Heurística de Jackson

Es un algoritmo voraz propuesto por (Jackson, 1955) para problemas de calendarización con fechas límite o tiempos de entrega, crea soluciones factibles para problemas de una o más máquinas, la estimación teórica es de aproximación-2 es decir dos veces peor que la solución óptima. Desde el punto de vista práctico la soluciones que proporciona JH (*Jackson's Heuristic*) no son útiles debido a que se requieren mejores resultados, además la calidad de las soluciones está relacionada con el tiempo de procesamiento máximo p_{max} de una instancia dada.

Esta funciona de la siguiente manera, dado un tiempo de calendarización t, de las tareas que se liberan en tiempo t se calendariza aquella con el tiempo de entrega más grande o en su equivalente a la fecha límite más pequeña (los empates se rompen seleccionando la tarea con tiempo de procesamiento más grande). La complejidad temporal es que para cada tiempo t se necesitan n operaciones esto es $O(n)$, y cada operación se requiere buscar un valor mínimo o máximo dentro de un conjunto ordenado ($log\ n$), entonces la complejidad es $O(n\ log\ n)$.

Más tarde (Schrage, 1971) propone una extensión JEH (*Jackson's Extended Heuristic.*) que funciona de la siguiente manera, dado un tiempo de calendarización t, de las tareas que se liberan en tiempo t se calendariza aquella con el tiempo de entrega más grande o fecha límite más pequeña, el siguiente tiempo de calendarización es el máximo entre el tiempo de completez del último trabajo asignado en la máquina o el mínimo tiempo de liberación de los trabajos aún no asignados. Observamos que JHE no crea huecos (*gaps*), porque una tarea que es liberada está lista para procesarse una vez que la máquina llega a estar disponible, y mientras que existan tareas liberadas en cada tiempo t aún no asignadas, da prioridad a la tarea más urgente o a la tarea con el tiempo de entrega más grande.

El método de solución implementado en nuestro estudio está basado en el principio de JEH, debido a que esta heurística resuelve la versión base $1||L_{max}$ para tareas con tiempos de liberación y fechas límite y por su construcción permite obtener soluciones factibles. Ahora introducimos algunas propiedades que los calendarios tienen al aplicar la heurística de Jackson tomadas de (Vakhania, 2003). Un *calendario-J* es aquel que es construido por dicha heurística este puede contener un *gap* (hueco) que es el intervalo donde la máquina permanece inactiva. Se asume que un *gap* de longitud cero es (c_j, t_i) cuando la tarea i comienza inmediatamente justo cuando la tarea j ha terminado de ejecutarse.

Un bloque en S de un *calendario-J*, es una secuencia de tareas calendarizadas sin un solo hueco, dicho bloque es precedido o seguido de un hueco. (Vakhania 2003) y (Vakhania, 2004) define lo siguiente, sea S un *calendario-J*, i la tarea con la máxima tardanza en S, esto es $L_i(S) = \ maxL_j(S)$, y B el bloque en S donde se encuentra la tarea i de las tareas en B. Entre todas las tareas en S la última calendarizada sé le conoce como *overflow job* en S (no necesariamente es la última del bloque B) y se denota como $o(S)$. El bloque crítico en S se denota como $B(S)$, y es el bloque que contiene al $o(S)$. Sea e una tarea emergente en S, si $e \in B(S)$ y $qe < qo(S)$. La última tarea calendarizada antes del overflow job $o(S)$ es llamada tarea activa y se denota como l.

Ahora bien, sea $K(S)$ un kernel en S es una secuencia máxima de tareas que finalizan con un *overflow job* denotado como o tal que ninguna otra tarea de esta secuencia tiene una fecha límite mayor que la del *overflow job*, se define como $r(K) = min_{i \in k}\{r_i\}$. Cualquier kernel está contenido dentro algún bloque en S, y el número de kernels es igual al número de *overflow jobs* este no contiene huecos. Finalmente, $E(S)$ es el conjunto de tareas emergentes en el calendario S calendarizadas antes de $K(S)$. A continuación en el cuadro 2.1 mostramos una instancia de ejemplo para mostrar las propiedades y características aquí mencionadas. La instancia es resuelta con la heurística H_1 con 6 tareas sobre una máquina.

Job	r_i	p_i	d_i	s_i	c_i	L_i
1	3	7	26	9	16	-10
2	0	9	30	0	9	-11
3	5	2	10	16	18	8
4	19	3	23	24	27	4
5	20	11	20	27	37	17
6	19	5	15	19	24	9

Cuadro 2.1: Ejemplo I. Instancia con 6 tareas sobre una máquina.

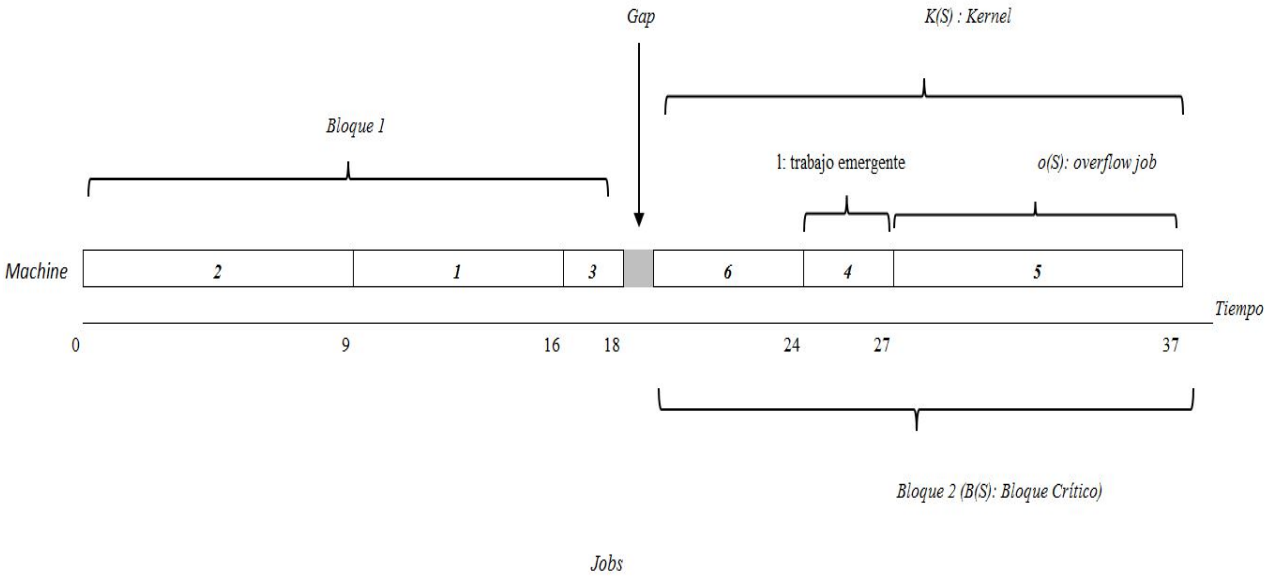

Figura 2.2: Propiedades de un *calendario-J*

En la figura 2.2 observamos que un gap o hueco se encuentra entre la tarea 3 y 6 debido a que por la construcción del algoritmo este es inevitable por las características de la instancia; por la definición de bloque se observa que el Bloque 1 son la tarea 2, 1 y 3 y el Bloque 2 son la tarea 6, 4 y 5. El *overflow job* corresponde a la tarea 5 y el trabajo emergente es la tarea 4. Como el bloque crítico es aquel que contiene al *overflow job* está constituido por las tareas 6, 4 y 5. Por definición el kernel representa la secuencia máxima de tareas 6, 4 5 porque este contiene al *overflow job*.

La JHE se ha usado ampliamente para construir soluciones factibles para problemas en ambas versiones $1|r_i|L_{max}$ y $1|r_i, q_i|C_{max}$, de igual manera para máquinas paralelas. Se considera un algoritmo que proporciona soluciones eficientes para problemas de diversas áreas, otro de los usos ha sido para estimar cotas inferiores en algoritmos de enumeración implícita, de igual manera a problemas *job-shop* con multiprocesadores con máquinas idénticas y en máquinas no relacionadas.

Capítulo 3

Metodología

3.1. Planteamiento Matemático del problema

Sea el conjunto de tareas $J = \{j_1, ..., j_n\}$, el conjunto de máquinas idénticas de dos tipos $M = \{A_{k_1}, B_{k_2}\}$, donde A_{k_1} es el subconjunto de máquinas tipo A y B_{k_2} es el subconjunto de máquinas tipo B. Los parámetros de las tareas con tiempos de liberación r_j, fechas límite d_j, y dos tiempos de procesamiento posibles p_{jA} y p_{jB}, el objetivo es minimizar la tardanza máxima $Min[L_{max}]$. Sea S un calendario factible que cumple las restricciones del problema, sea E cualquier máquina de tipo A o B, $s_j(S)$ el tiempo de inicio del procesamiento la tarea j en el calendario S, $c_j(S)$ el tiempo de completez de la tarea j en el calendario S, entonces $c_j(S) = s_j(S) + p_{jE}$. Las restricciones corresponden a: el tiempo de inicio de procesamiento de la tarea j, $s_j(S)$, debe ser mayor o igual al tiempo de liberación r_j de la tarea j; la tarea j tiene un procesamiento continuo en una máquina E y este no puede ser interrumpido, entonces el tiempo de completez de la tarea j se define como $c_j(S)$, este es igual al tiempo de inicio $s_j(S)$ de la tarea j en el calendario S, más el tiempo de procesamiento de la tarea j en la máquina E, p_{jE}; es decir, que la tarea j es procesada por la máquina E en el intervalo de tiempo $[s_j, c_j)$; la ultima restricción nos dice que las tareas i y j, cuyos tiempos de inicio de procesamiento son $s_i(S)$ y $s_j(S)$ respectivamente, tal que $s_j(S) < s_i(S)$; entonces por la restricción anterior, el tiempo de completez de la tarea j, $c_j(S)$, debe ser menor o igual al tiempo de inicio de procesamiento de la tarea i, $s_i(S)$; es decir, que la tarea i debe iniciar su procesamiento en la máquina E una vez que el trabajo j haya concluido su procesamiento en esa máquina E, esto es que dos tareas no pueden empalmarse.

3.2. Diseño de la Heurística H_1

3.2.1. Descripción verbal de H_1:

Sea J el conjunto de n tareas y M el conjunto de m máquinas compuesto por dos subconjuntos, máquinas de tipo A y tipo B. Inicialmente el tiempo actual $t := min(r_j)$, e iterativamente hasta que no existan tareas por asignar, del conjunto de tareas liberadas en tiempo t, (J_t), asignar la tarea más urgente $min(d_j)$ a la máquina en la cual completa su procesamiento primero. En seguida actualizar el tiempo de la máquina i donde la tarea fue asignada, y descartar esta del conjunto de tareas J. Luego actualizar $t := min(r_j)$ de las tareas por asignar del conjunto J.

3.2.2. Descripción Algorítmica de H_1:

Procedure $H_1\ (J, M)$
{
input: J, M **where** J *es el conjunto de tareas y* M *el conjunto de máquinas*

$t := min(r_j)$ *//valor mínimo del tiempo de liberación del conjunto* J
While $J\ != \emptyset$ **DO**
//Obtener el subconjunto de tareas liberadas en tiempo t
$J_t := J_t \cup \{\ j | r_j \leq t\}$
//Obtener la tarea más urgente del conjunto J_t
$j' := \{min(d_j)\ | j \in J_t\}$
//Calendarizar tarea j' *en* S *en la máquina* i *que termine primero*
$S := S \cup \{j'\}$
$J := \{J \backslash j'\}$ *//Descartar la tarea* j' *del conjunto* J
$t := min(r_j)$ *//Actualizar t*
End While
}

Lema 1: La heurística H_1 devuelve un calendario factible.

Demostración:

Restricción I: Sea $\forall j \in S$ y s_j el tiempo de inicio de procesamiento de j en S. Si $s_j = r_j$ la tarea inicia justo cuando es liberada, además, $\forall j \in S$ tal que $s_j \neq r_j$ entonces $s_j > r_j$; es claro que la tarea j no puede iniciar antes por la construcción del algoritmo.

Restricción II: Sea $\forall j \in S$ y c_j el tiempo de completez de j en S. Si la tarea j comienza su procesamiento en tiempo s_j y necesita exactamente p_{jE} para completarse, entonces la tarea j tuvo un procesamiento continuo en el intervalo $[s_j,\ c_j)$.

Restricción III: Sea $\forall j \in S$, Si la tarea j inicia su procesamiento en s_j de S, y si existe otra tarea i liberada del conjunto J, esta iniciará en s_i hasta que la tarea anterior termine su procesamiento, es decir, que $s_j(S) < s_i(S)$, entonces la tarea que inicia en s_i es asignada después o justo cuando se completa la anterior en c_j esto es $c_j(S) \leq s_i(S)$.

En el cuadro 3.1 se muestra el ejemplo II, una instancia de 10 tareas y 2 máquinas, con $p_{max} = 10$ y en la figura 3.1 se muestra la solución de forma gráfica con la heurística H_1. Los criterios para generar la siguiente instancia se describen en la sección 4.1

Job	r_j	p_{jA}	p_{jB}	d_j	s_j	c_j	L_j	m_i
1	8	10	9	22	16	26	4	1
2	5	6	5	22	10	16	-6	1
3	4	10	8	50	9	17	-33	2
4	10	9	3	29	30	33	4	2
5	4	5	5	18	4	2	-9	2
6	6	9	5	55	17	22	-36	2
7	3	7	7	18	3	10	-8	1
8	9	6	4	23	22	26	3	2
9	10	5	4	20	26	30	10	2
10	10	9	8	46	26	35	-11	1

Cuadro 3.1: Ejemplo II. Instancia con 10 tareas sobre dos máquinas con $p_{max} = 10$.

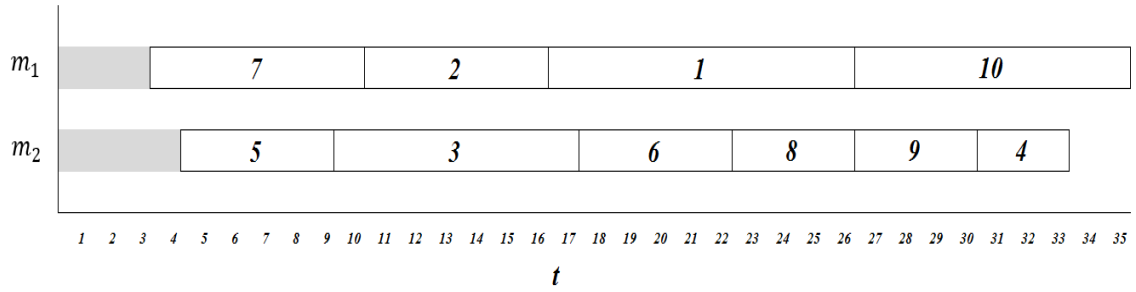

Figura 3.1: Solución del la instancia del cuadro 3.1

Contraejemplo:

Considere lo siguiente, dadas dos tareas por asignar j_1, j_2 ,un máquina m_1 y el tiempo t.

Job	r_j	p_j	d_j	s_j	c_j	L_j
1	t	100	$t+100$	t	$t+100$	$(t+100)-(t+100)=0$
2	$t+1$	1	$t+1+1$	$t+100$	$t+100+1$	$(t+101)-(t+2)=99$

Cuadro 3.2: Contraejemplo

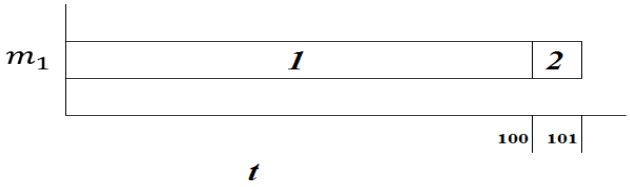

Figura 3.2: Solución del contraejemplo

Nuestra heurística H_1 utiliza el principio de Jackson, en el cuadro y figura 3.2 notamos que si existe una tarea j liberada en tiempo t y esta tiene un tiempo de procesamiento muy grande (*tarea de interferencia*) (Potts, 1980), las tareas que se liberan después o cuando esta tarea está en ejecución pueden ser más urgentes, entonces las tareas posteriores tendrán que esperar hasta que termine la tarea anterior y las tareas posteriores se completarán muy tarde; es decir que existe otro calendario tal que el valor de la función objetivo sea mejor. Si la heurística propuesta por Jackson JH es conocida por no ser óptima y nuestra heurística H_1 esta basada en JH, entonces H_1 no es óptima.

3.3. Definición de la variante del Problema

En esta sección presentamos la variante del problema original, debido a que al evaluar nuestros resultados de la heurística anterior H_1 conducimos este estudio a la versión con interrupciones (*Preemtions*), consiste en que una tarea puede interrumpirse, y reanudarse en un momento posterior incluso en otra máquina, y puede ser interrumpida hasta completar su procesamiento (Bruker, 2007).

Objetivo:

Desarrollar un algoritmo para el problema con interrupciones que permita definir una cota inferior para estimar los resultados anteriores.

Sea un conjunto de máquinas idénticas de dos tipos, un conjunto de tareas con, tiempos de liberación, fechas límite y dos tiempos de procesamiento posibles, tal que a las tareas se permiten las interrupciones; el objetivo es minimizar la tardanza máxima. A continuación, se define el problema para la versión con interrupciones.

1. Objetos

Sea J el conjunto de n tareas.

$$J = \{j_1, ...j_n\}$$

Sea M el conjunto de m máquinas.

$$M = \{A_{k_1}, B_{k_2}\}$$

Donde A_{k_1} es el subconjunto de máquinas tipo A y B_{k_2} es el subconjunto de máquinas tipo B.

2. Parámetros

$\forall j \in J$

r_j : Tiempo de liberación de la tarea j.

p_{jA} : Tiempo de procesamiento de la tarea j en una máquina de tipo A.

p_{jB} : Tiempo de procesamiento de la tarea j en una máquina de tipo B.

d_j : es la fecha límite de la tarea j.

Notación:

Sea S un calendario factible; $s_j(S)$ es el tiempo de inicio de la tarea j en el calendario S; $c_j(S)$ es el tiempo de completez de la tarea j en el calendario S.

Sea p_{ji} tal que $p_{ji} \in p_{jA},\ p_{jB}$, es el tiempo de procesamiento de la tarea $j \in J$ sobre la máquina i, tal que $i \in I$. Donde I es el conjunto de máquinas donde se procesó la tarea j.

Sea t_{ij} el tiempo total durante el cual la máquina i procesa la tarea j en S.

3. Restricciones

$$s_j(S) \geq r_j | r_j > t \tag{3.1}$$

$$\sum_{i \in I} t_{ij}(S)/p_{ji} = 1 \tag{3.2}$$

$$Si\ s_j(S) < s_i(S)\ ,\ entonces\ c_j(S) \leq s_i(S) \tag{3.3}$$

En la ecuación 3.1 Sea $s_j(S)$ el tiempo de inicio de procesamiento de la tarea j, debe ser mayor o igual al tiempo de liberación r_j de la tarea j y r_j mayor a al tiempo t.

La tarea j puede ser interrumpida tantas veces como sea necesario, y asignarse en varias máquinas hasta completar su procesamiento; sea la suma de los t_{ij} del conjunto de máquinas I entre el tiempo de procesamiento absoluto p_{ji} de la tarea j, si solo si es igual a 1, la tarea j completa su procesamiento (ecuación 3.2).

La ecuación 3.3 nos dice que las tareas i y j, cuyos tiempos de inicio de procesamiento

son $s_i(S)$ y $s_j(S)$ respectivamente, tal que $s_j(S) < s_i(S)$; entonces por la restricción anterior, el tiempo de completez de la tarea j, $c_j(S)$, debe ser menor o igual al tiempo de inicio de procesamiento de la tarea i, $s_i(S)$; es decir, que la tarea i debe iniciar su procesamiento en la máquina E una vez que el trabajo j haya concluido su procesamiento en esa máquina.

4. Función Objetivo

La función objetivo es:

$$Min[L_{max}]$$

Donde:

$$L_{max}(S) = max\{L_j\} \quad | \quad j_i \in S$$

3.4. Diseño de la Heuristica H_2

La heurística H_2 se basa en la versión del algoritmo anterior H_1 sin interrupciones *(no-preemtive)*. La idea principal es que si una tarea se está ejecutando puede ser interrumpida a favor de una más urgente liberada durante la ejecución de esta y se reanudará en otro momento.

3.4.1. Descripción verbal de H_2

Dando un conjunto J de n tareas y un conjunto M de m máquinas de dos tipos A y B.
Inicialmente consideramos un tiempo de calendarización $t = min(rj)$ y este se actualiza en cada iteración.
De forma iterativa hasta que todas las tareas sean calendarizadas.
Considerar las tareas liberadas en tiempo t y que aún no se han completado, y las definimos en el conjunto J_t
Del conjunto J_t encontramos a lo mucho las $|M|$ tareas más urgentes y estas se definen en el conjunto $J(t, M)$.
Sean los siguientes tres subconjuntos:
$J(t, M, A)$ subconjunto de tareas que tienen un tiempo de procesamiento menor en una máquina de tipo A.
$J(t, M, B)$ subconjunto de tareas que tienen un tiempo de procesamiento menor en una máquina de tipo B
$J(t, M, AB)$ Subconjunto de tareas con el mismo tiempo de procesamiento en ambos tipos de máquinas.

Consideramos un orden no decreciente respecto a sus fechas límite para los tres subconjuntos anteriores. Ahora asociamos las tareas de estos tres subconjuntos con las máquinas de la siguiente forma:
Las tareas del conjunto $J(t, M, A)$ serán asociadas comenzando con la más urgente a la máquina de menor índice del conjunto $M(A)$ hasta que se agoten las tareas o las máquinas. Si hay tareas que no fueron asociadas quedarán pendientes para asociarse en máquinas del conjunto $M(B)$.
Análogamente asociamos las tareas del conjunto $J(t, M, B)$ comenzando con la más urgente a la máquina de menor índice del conjunto $M(B)$ hasta que se agoten las tareas o las máquinas. Si hay tareas que no fueron asociadas, quedan pendientes para

asociarse en máquinas del conjunto $M(A)$.
Si es el caso que el conjunto $J(t, M, A)$ contiene tareas no asociadas, asociamos en máquinas del conjunto $M(B)$ seguidas de las anteriores.
De igual manera si el conjunto $J(t, M, B)$ aún contiene tareas no asociadas, asociamos en máquinas del conjunto $M(A)$ seguidas de las anteriores.
En seguida asociamos las tareas del conjunto $J(t, M, AB)$ comenzando por las del conjunto $M(A)$, si no hay disponibles asociamos en el conjunto $M(B)$.
Notemos que esto es válido porque $J(t, M)$ tiene a lo mucho $|M|$ tareas.

Respecto a las asociaciones anteriores. Consideramos la carga mínima en la máquina i y el $min(p_j, M)$ el menor tiempo de procesamiento del conjunto de las tareas $J(t, M)$ con base a su máquina asociada.
Sea $min(r_j, t)$ el menor tiempo de liberación del conjunto original J, tal que $r_j > t$, es decir, la siguiente tarea en liberarse.
Obtener $t' = min(t + min(p_j, M), min(r_j, t))$
Ahora calendarizamos las tareas del conjunto $J(t, M)$ en tiempo t respecto a las asociaciones anteriores e interrumpimos en tiempo t'.
Luego $t = t'$ y repetimos de forma iterativa.

3.4.2. Descripción Algorítmica de H_2

Procedure H_2 (J, M)
{
input: J, M **where** J es el conjunto de tareas, M es el conjunto de máquinas
$t := min(r_j)$ *//Tiempo actual*
WHILE $J! = 0$ **DO**
//Obtener las tareas liberadas en tiempo t aún sin completarse
$J_t := J_t \cup\{\ j | r_j \leq t\}$
//Obtener las $|M|$ tareas más urgentes
$J(t, M) := J(t, M) \cup\{\ j | j \in J_t, r_j \leq t\}$
//Obtener los subconjuntos de $J(t, M)$
$J(t, M, A)$, $J(t, M, B)$, $J(t, M, AB) \subsetneq J(t, M)$
//Ordenar tareas respecto a su fecha límite d_j
$J(t, M, A)$, $J(t, M, B)$, $J(t, M, AB)$ //de forma no decreciente
tal que $\{d_{i_1}, < d_{i_2} < d_{i_3} < ... < d_{i_k}\}$
//Obtener los subconjuntos de M
M_A, $M_B \subsetneq M$
//Encontrar el valor de la próxima tarea en liberarse del conjunto J de tareas no asignadas}
$min(r_j, t) | r_j > t,\ j \in J$
//Encontrar la tarea próxima en completarse}
$min(p_j, M)\ | j \in J(t, M)$
$t' := min((r_j, t), t + min(p_j, M))$
//Asociar los subconjuntos de tareas con los subconjuntos de máquinas
ASOCIAR TAREAS ($J(t, M, A)$,$J(t, M, B)$,$J(t, M, AB)$,M_A,M_B, t,t')
//Calendarizar parcialmente en tiempo t e interrumpir en t'
$S' := S' \cup \{j\}\ | \forall j \in J(t, M)$
If $\sum_{i\ \in\ I} t_{ij}(S')/p_{ji} =\ 1$ **Then**
$S := S \cup \{j\}\ | \forall j \in J(t, M)$ *//Calendarizar*
$J := \{J \backslash j\}$ *//Descartar tarea del conjunto J*
Else
$t := t'$
End While
}

En el cuadro 3.3 se muestra el ejemplo III, una instancia de 10 tareas y 2 máquinas con un $p_{max} = 10$, y en la figura 3.3 se muestra la solución de la instancia utilizando heurística H_2, observemos que la máxima tardanza es -10. Los criterios para generar la siguiente instancia se describen en la sección 4.1, t_{ij} es el tiempo que le toma a la tarea j procesarse en la máquina i.

Job	r_j	p_{jA}	p_{jB}	d_j	s_j	c_j	L_j				Máquina		Proc.	Actual
								t	t'	t_{ij}	i	i^E	p_{jA}	p_{jB}
1	7	4	7	96	14	19	-77	14	15	1	2	B	4	6
								15	19	4	1	A	0	0
2	8	6	9	101	15	23	-78	15	19	4	2	B	4	5
								19	23	4	1	A	0	0
3	6	6	1	79	10	11	-68	10	11	1	2	B	0	0
4	1	5	2	52	1	3	-49	1	2	1	2	B	3	1
								2	3	1	2	B	0	0
5	2	6	9	61	2	11	-50	2	3	1	1	A	5	8
								3	6	3	1	A	2	4
								6	7	1	1	A	1	2
								9	10	1	2	B	1	1
								10	11	1	1	A	0	0
6	10	9	3	90	11	14	-76	11	14	3	2	B	0	0
7	3	9	5	38	3	9	-29	3	6	3	2	B	4	2
								6	7	1	2	B	2	1
								7	8	1	1	A	1	1
								8	9	1	2	B	0	0
8	7	3	1	33	7	8	-25	7	8	1	2	B	0	0
9	1	5	6	90	1	15	-75	1	2	1	1	A	4	5
								11	14	3	1	A	1	2
								14	15	1	1	A	0	0
10	8	2	4	20	8	10	-10	8	9	1	1	A	2	2
								9	10	1	1	A	0	0

Cuadro 3.3: Ejemplo III. Instancia de 10 tareas sobre 2 máquinas y un $p_{max} = 10$.

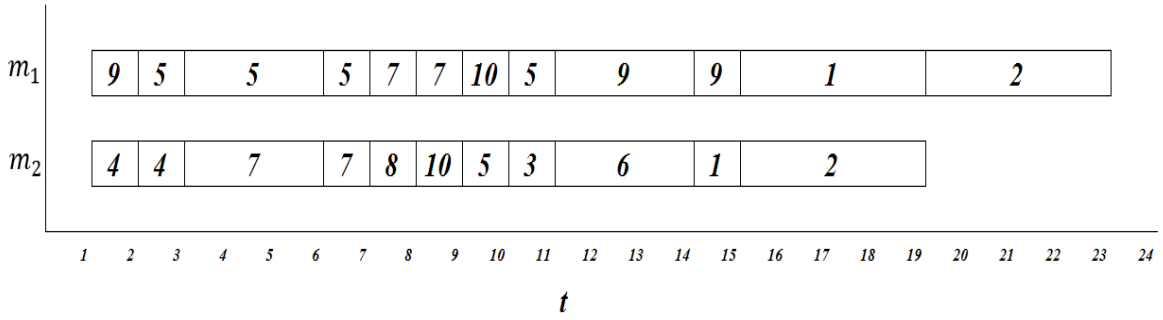

Figura 3.3: Solución de la instancia del cuadro 3.3.

En la figura 3.3 observamos el calendario que devuelve la heurística H_2 las dos primeras tareas en liberarse la 4 y 9 son seleccionadas para comenzar su procesamiento; por la construcción del algoritmo estas tareas son interrumpidas por otras tareas más urgentes, esto ocurre de manera iterativa para las demás tareas, por tanto nuestro objetivo fue que se logró minimizar la tardanza máxima para la versión con interrupciones.

Capítulo 4

Desarrollo

4.1. Procedimientos de H_1

Los procedimientos 3.1 al 3.7 corresponden a la implementación de las subrutinas de la heurística H_1.

Definiciones:
Sea J el conjunto de n tareas, con las siguientes propiedades para cada tarea j; r_j es el tiempo de liberación, d_j es la fecha límite, y dos posibles tiempos de procesamiento p_{jA} y p_{jB}, s_j es el tiempo en que inicia su procesamiento, c_j tiempo en que completa su procesamiento, L_j la tardanza de la tarea j. Sea M el conjunto de máquinas, con las siguientes propiedades para cada máquina i, donde t_i es el tiempo actual de la máquina i, i^E el tipo de máquina a la que pertenece la máquina i.

Procedimiento 3.1 Tiempo Actual: recibe el conjunto de tareas J, y retorna el valor mínimo del tiempo de liberación de este conjunto. Sea t el tiempo de calendarizacion actual.

Procedure TIEMPO ACTUAL(J)

{

input: J **where** J *es el conjunto de tareas*

$j' := 0$ *//Tarea temporal*

For $j := 1$ **To** J **D**

If $j \notin S$ **Then**

If $j' == \emptyset$ **Then** *//Verificar objeto vacío*

$j' := j$ *//Asignar primera tarea j a j'}*

End If

Else

If $r'_j > r_j$ **Then** *//Comparar valores en los tiempos de liberación*

$j' := j$ *//Actualizar j'*

End If

End Else

End If

End For

$t := r'_j$ *//Asignar valor a t*

Retrun t *//Retornar valor de t*

Procedimiento 3.2 Obtener tareas disponibles: recibe el conjunto J y el tiempo de calendarización t, retorna un subconjunto J_t de tareas disponibles (liberadas) en tiempo t.

Procedure OBTENER TAREAS DISPONIBLES(J, t)

```
{
 input: J, t where J es el conjunto de tareas, t es el tiempo de calendarización

 J_t := {∅}          //Conjunto de tareas disponibles en tiempo t
 For j := 1 To J Do
   If j ∉ S Then
      If r_j ≤ t Then            //Comparar valor
         J_t := J_t ∪ {j}|j ∈ J          //Guardar j en conjunto J_t
      End If
   End If
 End For
 Return J_t       //Retornar conjunto J_t
}
```

Procedimiento 3.3 Obtener tarea urgente: recibe el conjunto J_t de tareas liberadas en tiempo t, retorna la tarea de menor fecha límite $min(d_j)$.

Procedure OBTENER TAREA URGENTE(J_t)

```
{
 input: J_t where  J_t es el conjunto de tareas disponibles en tiempo t

 j' := ∅            //Tarea temporal
 For j := 1 To J_t Do
   If j' == ∅ Then        //Verificar Objeto vacío
      j' = j              //Asignar tarea j a j'
    Else
      If d_j' > d_j Then        //Comparar valores de fechas límite
       j' := j                  //Asignar tarea j a j'
      End If
    End Else
   End If
 End For
 Return j'        //Retornar la tarea j más urgente
}
```

Procedimiento 3.4 Obtener máquina de menor tiempo: recibe el conjunto M, retorna dos objetos máquina distintos respectivamente con el mínimo tiempo actual entre toda las máquinas de su tipo.

Procedure OBTENER MÁQUINA DE MENOR TIEMPO (M)

```
{
 input: M where  M es el conjunto de máquinas

 i', i''            //Objetos máquina temporales
 For i := 1 To M Do
 If i ∈ "A" Then        //Verificar subconjunto de máquinas
   If i' == ∅ Then        //Verificar objeto vacío
      i' = i        //Asignación inicial de i en i'
     End If
     Else
        If t_i' > t_i Then        //Comparar tiempo actual
          i' = i        //Asignar i' a i
        End If
   End Else
 Else
     If i'' == ∅ Then        //Verificar de objeto vacío
       i'' = i        //Asignación inicial de i en i''
     Else
        If t_i'' > t_i Then        //Comparar tiempo actual
         i'' = i        //Asignar i' a i
        End If
     End Else
     End If
   End Else
   End If
 End For
 //Retorna dos objetos maquina de tipo A y B con el menor tiempo actual
 RETURN i', i''
}
```

Procedimiento 3.5 Seleccionar máquina: recibe la tarea mas urgente j' disponible en tiempo t, y dos objeto máquina i' e i'' de tipo A y B respectivamente, retorna el objeto máquina en la cual la tarea j' termine su procesamiento primero.

Procedure SELECCIONAR MÁQUINA(j', i', ii'')

```
{
  input: j', i', i''.

     //Calcular tiempo de completez de j' en i' e i''
  t_{i'} := t_{i'} + p_{j'A}
  t_{i''} := t_{i''} + p_{j'B}

    If t_{i'} < t_{i''} Then
      Return i'     //Retornar máquina de tipo A
    Else
      Return i''    //Retornar máquina de tipo B
}
```

Procedimiento 3.6 Asignar tarea: recibe la tarea j' mas urgente disponible en tiempo t, y el objeto máquina i' o i'' (i^E) en la cual la tarea j' termine primero su procesamiento, retorna el objeto máquina y la tarea j' con sus respectivos parámetros actualizados.

Procedure ASIGNAR TAREA(j', i^E)

{
input: j',i^E

//Considere que la máquina espera a que una tarea se libere
If $t_{i^E} < r'_j$ **Then**
$t_{i^E} := r'_j$ *//Igualar tiempos*
Else
$S := S \cup \{j'\}$ *//Calendarizar tarea*
$s_{j'} := t_{i^E}$ *//Tiempo de inicio de la tarea j*
End Else
End If
//Actualizar parámetros de j' y i^E
If $i^E ==$ *"A"* **The** *//Verifica si es de tipo A*
$t_{i^E} := t_{i^E} + p_{j'A}$ *//Actualizar tiempo actual de la máquina i*
$c_{j'} := s_{j'} + p_{j'A}$ *//Calcular el tiempo de completez de la tarea j*
Else *//De lo contrario es de tipo B*
$t_{i^E} := t_{i^E} + p_{j'B}$ *//Actualizar tiempo actual de la máquina i*
$c_{j'} := s_{j'} + p_{j'B}$ *//Calcular el tiempo de completez de la tarea j*
End Else
End If
$L_{j'} := c_{j'} - d_{j'}$ *//Calcular la tardanza de la tarea j*
//Retornar la máquina i^E y la tarea j' con sus respectivos parametros
Return j', i^E
}

Procedimiento 3.7 Tardanza máxima: recibe el calendario S, retorna el valor de la tardanza máxima entre todas las tareas que pertenecen a S.

Procedure TARDANZA MÁXIMA(S)

```
{
input: S where S es un calendario factible

 j' := 0          //Tarea temporal
 For j := 1 To S Do
   If j' == ∅ Then        //Verificar objeto vacío
      j' = j         //Asignar tarea j a j'
   Else
      If L_j' < L_j Then
       j' := j
      End If
    End Else
   End If
 End For
  L_max := L'_j            //Obtener valor
 RETURN L_max       //Retornar valor L_max
}
```

4.2. Procedimientos de H_2

Los siguientes procedimientos corresponden a la implementación de la heurística H_2, recordando que es una extensión de la heurística H_1, es por ello que algunos procedimientos son reutilizados.

Procedimiento 3.8 Tiempo Actual, ver ***Procedimiento 3.1***.

Procedimiento 3.9 Obtener tareas disponibles, ver ***Procedimiento 3.2***.

Procedimiento 3.10 Ordenar: recibe un conjunto de tareas y un parámetro especificado $''o''$ para ordenar dicho conjunto, retorna un conjunto de tareas ordenadas en forma no decreciente respecto la propiedad especificada.

Procedure ORDENAR(J', $''o''$)

```
{
input: J',"o" where J' es el conjunto de tareas, "o" es parámetro asociado
       a la tarea j

 j' := ∅            //Tarea temporal
 For i := 1 To J' Do
   For k := 1 To J' − i − 1 Do
     IF o_j > o_{j+1} THEN
       j' := j
        j := j + 1
          j + 1 := j'
     End If
  End For
 End For
//Retornar el conjunto J'
 Return J'
}
```

Procedimiento 3.11 Obtener tareas urgentes: recibe el conjunto de tareas J_t liberadas en tiempo t, ver Procedimiento 3.9 y el conjunto de máquinas M, retorna un conjunto de las tareas más urgentes con cardinalidad $|M|$ o menos.

Procedure OBTENER TAREAS URGENTES(J_t, M)

{

input: J_t,M **where** J_t *es el conjunto de tareas liberadas en tiempo* t*,*
M *es el conjunto de máquinas*

$J(t, M) := \emptyset$ *//Definición de nuevo conjunto*

//Invocar proc. ordenar respecto a la propiedad d_j

$J(t, M) := J(t, M) \cup \{ORDENAR(J_t,'' d_j'')\}$

//Iterar hasta el mínimo valor de la cardinalidad entre ambos conjuntos

For $i := 1$ **To** $min(|J_t|, |M|)$ **Do**

$J(t, M) := J(t, M) \cup \{j\}\ |j \in J_t$ *//Guardar tarea*

End For

//Retornar el conjunto $J(t, M)$ *de las* $|M|$ *o menos tareas más urgentes*

Return $J(t, M)$

}

Procedimiento 3.12 Subconjuntos de tareas: recibe el conjunto $J(t, M)$, y retorna tres subconjuntos distintos con las siguientes propiedades, $J(t, M, A)$ tareas que tienen un tiempo de procesamiento menor en una máquina de tipo A que de tipo B, $J(t, M, B)$ tareas que tienen un tiempo de procesamiento menor en una máquina de tipo B que de tipo A y $J(t, M, AB)$ tareas con el mismo tiempo de procesamiento en ambos tipos de máquinas.

Procedure SUBCONJUNTOS TAREAS($J(t, M)$)

{
input: $J(t, M)$ **where** $J(t, M)$ *conjunto de las* $|M|$ *o menos tareas más urgentes*

//Definición de subconjuntos
$J(t, M, A) := \emptyset$
$J(t, M, B) := \emptyset$
$J(t, M, AB) := \emptyset$
For $j := 1$ **To** $J(t, M)$ **Do**
If $p_{jA} < p_{jB}$ **Then** *//Comparar tiempos de procesamiento*
$J(t, M, A) := J(t, M, A) \cup \{j\}$
Else
If $p_{jB} < p_{jA}$ **Then** *//Comparar tiempos de procesamiento*
$J(t, M, B) := J(t, M, B) \cup \{j\}$
Else
$J(t, M, AB) := J(t, M, AB) \cup \{j\}$
End Else
End If
End Else
End If
End For
//Retornar los tres subconjuntos
Return $J(t, M, A), J(t, M, B), J(t, M, AB)$
}

Procedimiento 3.13 Obtener subconjuntos de máquinas: recibe el conjunto de máquinas M, y retorna dos subconjuntos de máquinas tipo A y B.

Procedure SUBCONJUNTOS MÁQUINAS(M)

{
input: M **where** M *es el conjunto máquinas*

//Definición de subconjuntos
$A := \emptyset$
$B := \emptyset$
For $i := 1$ **To** M **Do**
If $i^E == "A"$ **Then** *//Verificar tipo de máquina*
$A := A \cup \{i\}$
Else
$B : B \cup \{i\}$
End Else
END IF
End For
//Retornar subconjuntos de máquinas
Return A, B
}

Procedimiento 3.14 Obtener procesamiento mínimo: recibe el subconjunto J' tal que $J' \in J(t, M)$ y $''E''$ el tipo de máquina, retorna el valor del menor tiempo de procesamiento de la tarea j asociada al subconjunto de máquinas especificado.

Procedure PROCESAMIENTO MÍNIMO (J', $''E''$)

```
{
input: J', "E" where J' es el conjunto de tareas a lo mucho |M|
       más urgentes, "E" el tipo de máquina especificado.

 If J' == ∅ Then        //Verificar conjunto vacío
    Return ∅
 End If
 j' := ∅        //Tarea temporal
 For j := 1 To J' Do
   If j' == ∅ Then
     j' := j
   Else
     If p_j'E > p_jE Then        //Comparación de ambos valores
     j' := j
     End If
   End Else
 End If
 End For
 min(p_j) := p_j'E        //Asignar valor
 //Retornar el menor tiempo de procesamiento del subconjunto de tareas J'
 Retrun min(p_j)
}
```

Procedimiento 3.15 Próxima en terminar: recibe el conjunto $J(t, M)$ con $|M|$ o menos tareas más urgentes y retorna el valor del mínimo tiempo de procesamiento entre los subconjuntos de $J(t, M)$.

Procedure PRÓXIMA EN TERMINAR($J(t, M)$)

{

input: $J(t, M)$, M_A y M_B **where** $J(t, M)$ *es el conjunto de las* $|M|$ *o menos tareas más urgentes,* M_A *y* M_B *son los subconjuntos de máquinas*

If $J(t, M) == \emptyset$ **Then** *//Verificar conjunto vacío*
Return $\emptyset$
End If

//Definición de subconjuntos

$J(t, M, A) := \emptyset$
$J(t, M, B) := \emptyset$
$J(t, M, AB) := \emptyset$
For $j := 1$ **To** $J(t, M)$ **Do**
If $p_{jA} > p_{jB}$ **Then** *//Comparar ambos tiempos de procesamiento de j*
$J(t, M, B) := J(t, M, B) \cup \{j\}$
End If
If $p_{jA} < p_{jB}$ **Then**
$J(t, M, A) := J(t, M, A) \cup \{j\}$
End If
If $p_{jA} == p_{jB}$ **Then**
$J(t, M, AB) := J(t, M, AB) \cup \{j\}$
End If
End For
//Ordenar subconjuntos de acuerdo a su fecha límite de forma no decreciente
$J(t, M, A) := \{ORDENAR(J(t, M, A),'' d_j'')\}$
$J(t, M, B) := \{ORDENAR(J(t, M, B),'' d_j'')\}$
$J(t, M, AB) := \{ORDENAR(J(t, M, AB),'' d_j'')\}$
$A' := \emptyset$ *//Tareas pendientes del conjunto* $J(t, M, A)$
$B' := \emptyset$ *//Tareas pendientes del conjunto* $J(t, M, B)$

{*continúa..*}

If $|J(t,M,A)| \leq |M_A|$ **Then** *//Comparar cardinalidad*
$A' := \emptyset$ *//No hay tareas pendientes del conjunto* $J(t,M,A)$
If $|J(t,M,B)| \leq |M_B|$ **Then** *//Comparar cardinalidad*
$B' := \emptyset$ *//No hay tareas pendientes del conjunto* $J(t,M,B)$
Else
$B' := |J(t,M,B)| - |M_B|$ *//Num. tareas del conjunto* $J(t,M,B)$ *pendientes*
$J(t,M,B) := |M_B|$ *//Num. tareas del conjunto* $J(t,M,B)$
End Else
End If
Else
$A' := |J(t,M,A)| - |M_A|$ *//Num. tareas del conjunto* $J(t,M,A)$ *pendientes*
$J(t,M,A) := |M_A|$ *//Num. tareas del conjunto* $J(t,M,A)$
$B' := \emptyset$
Else
End If

If $A' != \emptyset$ **The**
$|J(t,M,B)| := |J(t,M,B)| + |A'|$ *//Num. tareas del conjunto* $J(t,M,B)$
End If
If $B' != \emptyset$ **Then**
$|J(t,M,A)| := |J(t,M,A)| + |B'|$ *//Num. tareas del conjunto* $J(t,M,A)$
End If

//Obtener el mínimo del tiempo de procesamiento
$p_{min}(J(t,M,A))$:= PROCESAMIENTO MÍNIMO $(J(t,M,A),'' A'')$
$p_{min}(J(t,M,B))$:= PROCESAMIENTO MÍNIMO$(J(t,M,B),'' B'')$
$p_{min}(J(t,M,AB))$:= PROCESAMIENTO MÍNIMO $(J(t,M,AB),'' B'')$
If $p_{min}(J(t,M,A)) < p_{min}(J(t,M,B))$ **Then**
If $p_{min}(J(t,M,A)) < p_{min}(J(t,M,AB))$ **Then**
Return $p_{min}(J(t,M,A))$
Else
Return $p_{min}(J(t,M,AB))$
End Else
End If
Else
//continúa..

If $p_{min}(J(t, M, B)) < p_{min}(J(t, M, AB))$ **Then**
Return $p_{min}(J(t, M, B))$
Else
Return $p_{min}(J(t, M, AB))$
End Else
End If
End Else
End If
}

Procedimiento 3.16 Próxima en liberarse: recibe el conjunto de tareas J aún no calendarizadas y t el tiempo actual, retorna el valor mínimo del tiempo de liberación de la tarea j $|j \in J$ de tal manera que debe ser mayor a t.

Procedure PRÓXIMA EN LIBERARSE(J, t)

```
{
 input: J, t where J es el conjunto tareas no calendarizadas y t el tiempo actual

 j' := 0        //Tarea temporal
For j := 1 To: J Do
  If j ∉ S ∧ r_j > t Then
    If j' == 0      //Verificar objeto vacío
      j' := j
      Else
      If r_j' > r_j
         j' := j
      End If
  End Else
  End If
  r_min :=  r_j'
   //Retornar valor mínimo del tiempo de liberación del conjunto J
 Return r_min
}
```

Procedimiento 3.17 Asociar tareas a máquinas: recibe los subconjuntos $J(t, M, A)$, $J(t, M, B)$, $J(t, M, AB)$, los subconjuntos de máquinas M_A, M_B, los valores t y t'.

Este procedimiento asocia los subconjuntos de tareas con los subconjuntos de las máquinas; el conjunto tareas $J(t, M, A)$ será asociado comenzando con la tarea más urgente a la máquina de menor índice del conjunto M_A, de forma análoga para el conjunto $J(t, M, B)$ en el conjunto de máquinas M_B. Si es caso que el conjunto $J(t, M, A)$ contiene tareas no asociadas, estas se asocian en máquinas del conjunto M_B seguidas de las anteriores, análogo con $J(t, M, B)$ sobre el subconjunto M_A. Para el subconjunto de $J(t, M, AB)$ se asocian comenzando en el subconjunto M_A, si no hay máquinas disponibles asociamos en el subconjunto M_B.

Sea l_{inf} y l_{sup} el límite inferior y superior del los subconjuntos $J(t, M, A)$, $J(t, M, B)$ o $J(t, M, AB)$.

Procedure ASOCIAR TAREAS($J(t, M, A)$, $J(t, M, B)$, $J(t, M, AB)$, M_A, M_B, t, t')

{

input: $J(t, M, A)$, $J(t, M, B)$, $J(t, M, AB)$, M_A, M_B, t, t', l_{inf} y l_{sup}

NA := $False$ *//Variable temporal*

If $|J(t, M, A)| \leq |M_A|$ **Then**

If $J(t, M, A) > 0$ **Then**

ASIGNAR TAREAS ($J(t, M, A)$,M_A, 0, $|M_A| - 1$, NA, NA, NA,t, t')

End If

If $|J(t, M, B)| \leq |M_B|$ **Then**

If $J(t, M, B) > 0$ **Then**

ASIGNAR TAREAS ($J(t, M, B)$,M_B, 0, $|M_B| - 1$, NA, NA, NA,t, t')

End If

If $J(t, M, AB) > 0$ **Then**

$l_{inf}^{J(t,M,A)} := |J(t, M, A)|$

$l_{sup}^{J(t,M,A)} := |J(t, M, A)| + min(|J(t, M, A)|, |M_A| - |J(t, M, A)|) - 1$

$l_{inf}^{J(t,M,B)} := |J(t, M, B)|$

$l_{sup}^{J(t,M,B)} := |J(t, M, B)| + |J(t, M, AB)|$ - $max(l_{sup}^{J(t,M,A)} - l_{inf}^{J(t,M,A)} + 1, 0) - 1$

ASIGNAR TAREAS ($J(t, M, AB)$,M_A, $l_{inf}^{J(t,M,A)}$, $l_{sup}^{J(t,M,A)}$, M_B, $l_{inf}^{J(t,M,B)}$, $l_{sup}^{J(t,M,B)}$, t, t')

End If

Else

If $J(t, M, B) > 0$ **The**

ASIGNAR TAREAS ($J(t, M, B)$,M_B, 0, $|M_B| - 1$, M_A, $|J(t, M, A)|$,

$|J(t, M, A)| + |J(t, M, B)| - |M_B| - 1$,$t$, t')

End If

If $J(t, M, AB) > 0$ **Then**

$l_{inf}^{J(t,M,A)} := |J(t, M, A)| + |J(t, M, B)| - |M_B|$

$l_{inf}^{J(t,M,B)} := l_{inf}^{J(t,M,A)} + |J(t, M, AB)| - 1$

ASIGNAR TAREAS ($J(t, M, AB)$,M_A, $l_{inf}^{J(t,M,A)}$, $l_{inf}^{J(t,M,B)}$, NA, NA, NA, t, t')

End If

End Else

End If

If $|J(t, M, A)| > |M_A|$ **Then**

If $|J(t, M, A)| > 0$ **Then**

ASIGNAR TAREAS ($J(t, M, A)$,M_A, 0, $|M_A| - 1$, M_B, 0, $|J(t, M, A)| - |M_A| - 1$, t, t')

End If

If $J(t, M, B) > 0$ **Then**

ASIGNAR TAREAS ($J(t, M, B)$,M_B, $|J(t, M, A)| - |J(t, M, A)|$,

$|J(t, M, A)| - ||J(t, M, A)| + |J(t, M, B)| - 1$, NA, NA, NA, t, t')

End If

If $J(t, M, AB) > 0$ **Then**

$l_{inf}^{J(t,M,AB)} := |J(t, M, A)| - |J(t, M, A)| + |J(t, M, B)|$

$l_{sup}^{J(t,M,AB)} := l_{inf}^{J(t,M,AB)} + |J(t, M, AB)| - 1$

ASIGNAR TAREAS ($J(t, M, B)$,M_B, $l_{inf}^{J(t,M,AB)}$, $l_{sup}^{J(t,M,AB)}$, NA, NA, NA, t, t')

End If

End If

}

Procedimiento 3.18 Asignar tareas: este procedimiento realiza una calendarización parcial en el intervalo $[t, t']$ en S'. Recibe el subconjunto de tareas $J(t, M, E)$ especificado, los subconjuntos de máquinas M_A, M_B, además $l_{inf}^{M_A}$ y $l_{sup}^{M_A}$, $l_{inf}^{M_B}$ y $l_{sup}^{M_B}$ los límites inferior y superior del los subconjuntos M_A y M_B respectivamente, t y t' el intervalo de asignación, este procedimiento indica cuando inicia el procesamiento y el momento de interrupción de las tareas del subconjunto $J(t, M, E)$.

Procedure ASIGNAR TAREAS($J(t, M, E)$, M_A, $l_{inf}^{M_A}$, $l_{sup}^{M_A}$, M_B, $l_{inf}^{M_B}$, $l_{sup}^{M_B}$, t, t')

{

input: $J(t, M, A)$, $J(t, M, B)$, $J(t, M, AB)$, M_A, M_B, t y t'

$x := 0$ *//Contador*

If $M_A! = \emptyset$ **Then**

For $i := l_{inf}^{M_A}$ **To** $l_{sup}^{M_A} + 1$ **Do**

$t_{ij} := t' - t$

ACTUALIZAR TIEMPO PROCESAMIENTO ($J(t, M, E)[x]$,$M_A[i]$, t_{ij}, t')

$s'_j := t$ *//Tiempo de inicio de la tarea j\| $j \in J(t, M, E)$*

$c'_j := t'$ *//Fin del intervalo de procesamiento de la tarea j*

$x := x + 1$ *//Incrementar contador*

End For

End If

If $M_B! = \emptyset$ **Then**

For $i := l_{inf}^{M_B}$ **To** $l_{sup}^{M_B} + 1$ **Do**

$t_{ij} := t' - t$

ACTUALIZAR TIEMPO PROCESAMIENTO ($J(t, M, E)[x]$,$M_B[i]$, t_{ij}, t')

$s'_j := t$ *//Tiempo de inicio de la tarea j\| $j \in J(t, M, E)$*

$c'_j := t'$ *//Fin del intervalo de procesamiento de la tarea j*

$x := x + 1$ *//Incrementar contador*

End For

End If

}

Procedimiento 3.19 Actualizar tiempo de procesamiento: recibe la tarea j, la máquina i, el tamaño del intervalo de procesamiento $t_{ij} = t - t'$ y t el tiempo actual, este procedimiento actualiza el tiempo de procesamiento de la tarea j.

Procedure ACTUALIZAR TIEMPO DE PROCESAMIENTO(j, i, t_{ij}, t)

{

input: j, i, t_{ij}, t

If $i^E ==''A''$ **Then**

$\rho := \lfloor \frac{p_{jB}}{p_{jA}} * t_{ij} \rfloor$ *//Proporción*

$p_{jA} := p_{jA} - t_{ij}$

$p_{jB} := p_{jB} - \rho$

Else

$\rho := \lfloor \frac{p_{jA}}{p_{jB}} * t_{ij} \rfloor$ *//Proporción*

$p_{jB} := p_{jB} - t_{ij}$

$p_{jB} := p_{jA} - \rho$

End Else

}

Procedimiento 3.29 Obtener tardanza máxima, ver ***Procedimiento 3.7***.

Capítulo 5

Análisis de Resultados

Nuestros experimentos computacionales se realizaron con instancias generadas aleatoriamente, utilizamos intervalos para los tiempos de procesamiento p_j tomados de la literatura como referencia [1,10], [1,20], [1,50], [1,100], también [100, 120], [100, 200] y [1000, 1100] en [Fanjul-Peyro y Ruiz, 2010], [Martello, Soumis y Toth, 1997] y [1,1000] en [Ramos et al., 2021]. Cada intervalo corresponde a 14 400 instancias de prueba, es decir, un total de 115 200 instancias de prueba, de manera independiente creamos un programa para generar cada combinación de instancias. Nuestro programa computacional ejecuta cada combinación resolviendo primero cada instancia con la heurística H_2 y en seguida con la H_1.

Se utilizó un equipo de cómputo para nuestros experimentos con un Sistema Operativo Windows 8.1, de un procesador AMD A8-7410 4 core, con una Tarjeta gráfica APU Radeon R5 a 2.20 GHz y 4.0 Gb de memoria RAM.

5.1. Características de las Instancias

Proponemos instancias con n tareas de 10, 20, 30, 50, 100, 200, 300, 500, 750, 1000; para el número de máquinas 2, 6, 10, 20, 50, y $k := p_{max}$ (*es el máximo tiempo de procesamiento*), cada tarea tiene cuatro parámetros: tiempo de liberación r_j, fecha límite d_j, y dos tiempos de procesamiento posibles p_{jA} y p_{jB}; basamos nuestros intervalos en los trabajos de [Nowicki y Smutnicki, 1994].

Intervalos de los tiempos de procesamiento p_j.

$p_{max} := 10, 20, 50, 100, 120, 200, 1100, 1000.$
$p_{min} := 1, \frac{p_{max}}{3}, \frac{p_{max}}{6}.$

$$[1, p_{max}] \tag{5.1}$$
$$[\frac{p_{max}}{3}, p_{max}] \tag{5.2}$$
$$[\frac{p_{max}}{6}, p_{max}] \tag{5.3}$$

Intervalos de los tiempos de liberación r_j.
$r_{max} := 10, 30.$
$r_{min} := 1, \frac{r_{max}}{2}.$

$$[1, r_{max}] \tag{5.4}$$
$$[\frac{r_{max}}{2}, r_{max}] \tag{5.5}$$

Intervalos de las fechas límite d_j.
$d_{max} := [\frac{[r_{max}+r_{min}]}{2} + n * \frac{[p_{max}+p_{min}]}{2}]/100$
$d_{min} := 1, \frac{d_{max}}{10}, \frac{d_{max}}{20}.$

$$[1, d_{max}] \tag{5.6}$$
$$[\frac{d_{max}}{10}, d_{max}] \tag{5.7}$$
$$[\frac{d_{max}}{20}, d_{max}] \tag{5.8}$$

Medimos el rendimiento de la heurística H_1 con respecto a la cota inferior H_2 de la siguiente manera:

(1) Para cada combinación se generaron 10 instancias distintas, de estas, obtenemos una media respecto a las fechas límite, ver formula 5.9. (2) Una vez teniendo la media calculamos, para cada instancia la media más el valor de la función objetivo de la heurística H_2, entre la media más el valor de la función objetivo de la heurística H_1, esto por cien, para obtener el rendimiento basado en porcentajes con la fórmula 5.10. (3) Se crearon grupos de 240 instancias por cada combinación (ver sección 5.2),

calculamos el rendimiento promedio total para cada grupo, ver fórmula 5.11. (4) Finalmente calculamos la desviación estándar para cada combinación de 10 instancias, esta permite verificar qué tan dispersos están nuestros rendimientos del rendimiento promedio total, ver fórmula 5.12.

$$\bar{x} = \frac{\sum_{j \in J} d_j}{n} \tag{5.9}$$

$$Rendimiento \ = \frac{\bar{x_{d_j}} + L_{max}^{H_2}}{\bar{x_{d_j}} + L_{max}^{H_1}} * 100 \tag{5.10}$$

$$Rendimiento.\ Prom. = \frac{\sum_1^N Rendimiento}{N} \tag{5.11}$$

$$\sigma = \sqrt{\frac{\sum_1^N (x_i - Rendimiento.\ Prom.)^2}{N}} \tag{5.12}$$

5.2. Experimentos

En esta sección presentamos los rendimientos proporcionados al correr nuestros algoritmos. Cada cuadro representa un grupo de instancias por cada intervalo en los tiempos de procesamiento p_j. Cada celda del cuadro representa una combinación de 240 instancias, recordando que la versión fraccionaria del problema se resuelve con la heurística H_2, la cuál proporciona una cota inferior para las soluciones de la heurística H_1, ver más detalles en el apéndice.

En el cuadro 5.1 observamos el grupo de instancias con un intervalo [1,10]; la heurística H_1 tiene un rendimiento menor de 70 % para los casos de 2 máquinas a partir de 30 tareas y con 4 máquinas de 750 y 1000 tareas, es decir, que H_1 no es un algoritmo aceptable para el 16.66 % de este grupo de instancias. Además, H_1 tiene rendimientos mayores al 70 % y menores al 90 % para los casos con: 2 máquinas de 10 y 20 tareas, con 4 máquinas de 20 a 500 tareas, 6 máquinas con 50 hasta 1000 tareas y 10 máquinas de 200 a 1000 tareas, esto representa el 35 % de las instancias con un rendimiento medio para este intervalo. La H_1 proporciona soluciones con rendimientos mayores a 90 % muy cercanas a las de H_2, por lo que representa el 48.33 % de rendimientos muy buenos para este grupo.

n	m					
	2	4	6	10	20	50
10	83.773 %	93.991 %	97.290 %	98.540 %	99.096 %	98.053 %
20	72.012 %	89.815 %	93.942 %	97.497 %	98.844 %	99.113 %
30	67.578 %	86.329 %	92.546 %	97.348 %	99.530 %	99.981 %
50	61.485 %	80.392 %	89.572 %	95.626 %	99.331 %	99.693 %
100	56.782 %	75.684 %	84.460 %	92.284 %	97.855 %	99.853 %
200	54.033 %	72.431 %	81.158 %	89.391 %	95.852 %	99.387 %
300	52.943 %	71.170 %	79.825 %	88.029 %	94.918 %	98.935 %
500	52.132 %	70.137 %	78.858 %	86.987 %	94.025 %	98.303 %
750	51.544 %	69.465 %	78.037 %	86.276 %	93.423 %	97.865 %
1000	51.309 %	68.965 %	77.562 %	85.976 %	93.003 %	97.710 %

Cuadro 5.1: Grupo de instancias con un intervalo [1,10]

En el cuadro 5.2 se muestra el grupo de instancias con el intervalo [1,20], se observa que la heurística H_1 tiene un rendimiento menor al 70 % para los casos de 2 máquinas a partir de 20 tareas y con 4 máquinas en 1000 tareas, es decir, representan el 16.66 % de este grupo con un rendimiento considerablemente bajo. En los casos mayores a 70 % y menores a 90 % es en 2 máquinas con 10 tareas, 4 máquinas con 20 hasta 750 tareas, 6 máquinas con 50 hasta 1000 tareas y 10 máquinas de 200 a 1000 tareas, representa el 35 % de las instancias de este grupo. La heurística H_1 proporciona soluciones cercanas a la H_2 para el resto de las instancias con rendimientos mayores al 90 % lo que representan el 48.33 % de las instancias de este grupo.

n	m					
	2	4	6	10	20	50
10	76.964 %	91.460 %	96.157 %	98.559 %	98.164 %	98.355 %
20	67.109 %	85.991 %	92.303 %	97.825 %	99.775 %	99.983 %
30	63.362 %	82.779 %	91.056 %	96.339 %	98.804 %	100.000 %
50	60.293 %	78.883 %	86.465 %	94.057 %	98.689 %	99.912 %
100	56.548 %	74.793 %	83.045 %	90.633 %	96.857 %	99.658 %
200	54.420 %	72.412 %	81.081 %	88.799 %	95.247 %	98.961 %
300	53.561 %	71.529 %	80.071 %	87.894 %	94.555 %	98.583 %
500	52.860 %	70.604 %	78.976 %	87.132 %	93.866 %	98.037 %
750	52.367 %	70.090 %	78.620 %	86.605 %	93.550 %	97.806 %
1000	52.242 %	69.789 %	78.153 %	86.306 %	93.121 %	97.601 %

Cuadro 5.2: Grupo de instancias con un intervalo [1,20]

El cuadro 5.3 muestra el grupo de instancias con el intervalo [1,50]. La heurística H_1 tiene un rendimiento menor al 70 % en los casos de 2 máquinas de más de 20 tareas y con 4 máquinas de 750 y 1000 tareas, lo que representa un 18.33 % de este grupo. Los rendimientos mayores al 70 % y menores al 90 % se presentan en: 2 máquinas con 10 tareas, 4 máquinas de 10 hasta 500 tareas, 6 máquinas en 30 hasta 1000 tareas y 10 máquinas con 200 hasta 1000 tareas; esto representa el 36.6 % de las instancias de este intervalo. Los rendimientos que son mayores al 90 % de la heurística H_1 representan el 45 % de las instancias en dicho intervalo.

n	m					
	2	4	6	10	20	50
10	72.075 %	88.235 %	94.617 %	99.491 %	99.670 %	99.753 %
20	64.935 %	82.725 %	90.423 %	96.475 %	99.842 %	100.000 %
30	61.435 %	80.011 %	88.333 %	94.809 %	98.923 %	100.000 %
50	58.461 %	76.946 %	84.939 %	92.977 %	97.595 %	99.939 %
100	55.706 %	74.181 %	82.340 %	90.205 %	96.248 %	99.367 %
200	54.303 %	72.155 %	80.716 %	88.189 %	94.882 %	98.680 %
300	53.587 %	71.316 %	79.809 %	87.638 %	94.223 %	98.277 %
500	52.891 %	70.236 %	78.903 %	87.014 %	93.576 %	97.892 %
750	52.477 %	69.966 %	78.427 %	86.577 %	93.380 %	97.635 %
1000	52.271 %	69.700 %	78.211 %	86.168 %	93.092 %	97.529 %

Cuadro 5.3: Grupo de instancias con un intervalo [1,50]

El cuadro 5.4 presenta los rendimientos del grupo de instancias que corresponden al intervalo [1,100]. La heurística H_1 tiene rendimientos menores al 70 % para los casos de 2 máquinas con más de 20 tareas y 4 máquinas con 750 y 1000 tareas que representa el 18.33 %, en el caso de los rendimientos mayores al 70 % y menores al 90 % con 2 máquinas en 10 tareas, con 4 máquinas de 10 hasta 500 tareas, con 6 máquinas en 20 hasta 1000 tareas y con 10 máquinas en 100 hasta 1000 tareas, representa el 40.6 %. Los rendimientos mayores a 90 % de la heurística H_1 proporciona soluciones cercanas a la H_2, estas soluciones representan el 41.66 % de las instancias de este grupo.

n	m					
	2	4	6	10	20	50
10	70.704 %	86.811 %	93.902 %	98.955 %	99.794 %	99.889 %
20	63.573 %	82.279 %	89.117 %	95.543 %	99.834 %	100.000 %
30	60.368 %	79.039 %	86.934 %	94.369 %	98.662 %	100.000 %
50	58.046 %	77.194 %	85.056 %	91.935 %	97.227 %	99.982 %
100	55.556 %	73.501 %	82.218 %	89.353 %	95.849 %	99.160 %
200	53.691 %	72.028 %	80.618 %	88.235 %	94.775 %	98.428 %
300	53.397 %	71.222 %	79.493 %	87.243 %	94.155 %	98.240 %
500	52.698 %	70.173 %	78.740 %	86.847 %	93.658 %	97.753 %
750	52.378 %	69.956 %	78.280 %	86.367 %	93.172 %	97.648 %
100	52.235 %	69.750 %	78.042 %	86.019 %	93.092 %	97.441 %

Cuadro 5.4: Grupo de instancias con un intervalo [1,100]

A continuación, incluimos grupos de instancias con intervalos de [100, 120], [100, 200], [1000, 1100] y [1,1000] tomados de [Fanjul-Peyro y Ruiz, 2010] y en [Martello, Soumis y Toth, 1997].

En el intervalo [100, 120], en el cuadro 5.5 se observa que la heurística H_1 tiene rendimientos menores al 70 % para todos los casos de 2 máquinas y con 4 máquinas de 200 hasta 1000 tareas, estos comprenden el 25 % para este grupo. Los rendimientos mayores al 70 % y menores al 90 % con 4 máquinas de 10 hasta 100 tareas, con 6 máquinas de 20 hasta 1000 tareas y con 10 máquinas a partir de las 50 hasta 1000 tareas, estas representan el 35 %. Los rendimientos mayores a 90 % de H_1 proporciona soluciones cercanas a la H_2, lo que representa 40 % de las instancias de este grupo.

n	m					
	2	4	6	10	20	50
10	65.953 %	85.609 %	91.361 %	99.926 %	99.994 %	99.929 %
20	60.644 %	78.633 %	86.696 %	94.278 %	99.960 %	100.000 %
30	57.709 %	74.690 %	83.847 %	91.963 %	97.234 %	100.000 %
50	54.244 %	72.342 %	81.704 %	89.984 %	96.110 %	99.992 %
100	52.233 %	70.700 %	79.018 %	87.533 %	94.945 %	98.752 %
200	50.931 %	68.466 %	77.111 %	86.056 %	93.581 %	98.072 %
300	50.275 %	67.824 %	76.573 %	85.321 %	92.758 %	97.619 %
500	49.679 %	67.070 %	75.821 %	84.494 %	92.321 %	97.285 %
750	49.520 %	66.587 %	75.278 %	84.129 %	91.795 %	96.943 %
1000	49.255 %	66.401 %	75.078 %	83.867 %	91.657 %	96.866 %

Cuadro 5.5: Grupo de instancias con un intervalo [100,120]

El intervalo [100, 200] muestra en el cuadro 5.6 la heurística H_1. Tiene rendimientos menores al 70 % para todos los casos de 2 máquinas y con 4 máquinas de 200 a 1000 tareas, es decir, representan el 25 % de este grupo de instancias. En el caso de los rendimientos mayores al 70 % y menores al 90 % con 4 máquinas de 10 hasta 100 tareas, con 6 máquinas de 20 hasta 1000 tareas y con 10 máquinas a partir de las 100 hasta 1000 tareas, representan el 35 %. Los rendimientos mayores al 90 % de H_1 proporciona soluciones cercanas a la H_2, representa 40 % de las instancias de este grupo.

n	m					
	2	4	6	10	20	50
10	66.713 %	83.497 %	92.210 %	99.609 %	100.000 %	99.570 %
20	59.727 %	78.242 %	86.337 %	94.533 %	99.887 %	100.000 %
30	57.667 %	74.984 %	84.091 %	92.756 %	97.540 %	100.000 %
50	55.088 %	73.640 %	81.837 %	90.197 %	96.480 %	99.979 %
100	52.600 %	71.152 %	79.931 %	87.987 %	95.083 %	98.778 %
200	51.463 %	69.098 %	78.078 %	86.397 %	93.808 %	97.927 %
300	50.727 %	68.372 %	77.169 %	85.878 %	93.109 %	97.738 %
500	50.062 %	67.659 %	76.467 %	85.110 %	92.794 %	97.406 %
750	49.787 %	67.168 %	75.994 %	84.518 %	92.198 %	97.256 %
1000	49.550 %	66.836 %	75.615 %	84.266 %	91.943 %	97.125 %

Cuadro 5.6: Grupo de instancias con un intervalo [100,200]

El cuadro 5.7 muestra el grupo de instancias con un intervalo [1,1000]. Contamos con rendimientos menores al 70 % para todos los casos de 2 máquinas y con 4 máquinas de 750 y 1000 tareas que representan el 20 % de este grupo de instancias. Los rendimientos mayores al 70 % y menores al 90 % con 4 máquinas de 10 hasta 500 tareas, con 6 máquinas de 20 hasta 1000 tareas y con 10 máquinas a partir de las 100 hasta 1000 tareas, representan el 38.33 % para este grupo. Los rendimientos mayores al 90 % de H_1, representan el 41 % de las instancias.

n	m					
	2	4	6	10	20	50
10	68.560 %	86.202 %	93.445 %	99.488 %	100.000 %	100.000 %
20	62.212 %	80.656 %	88.584 %	95.610 %	99.820 %	100.000 %
30	59.656 %	78.282 %	86.155 %	93.252 %	98.400 %	100.000 %
50	58.175 %	75.848 %	83.926 %	91.125 %	96.955 %	99.969 %
100	55.326 %	73.788 %	82.406 %	89.573 %	96.097 %	98.990 %
200	53.910 %	71.947 %	80.227 %	88.168 %	94.66.8 %	98.428 %
300	53.378 %	71.176 %	79.510 %	87.436 %	94.098 %	98.080 %
500	52.833 %	70.556 %	78.826 %	86.784 %	93.510 %	97.697 %
750	52.531 %	69.995 %	78.30 %	86.379 %	93.246 %	97.488 %
1000	52.328 %	69.684 %	78.044 %	86.089 %	93.086 %	97.420 %

Cuadro 5.7: Grupo de instancias con un intervalo [1,1000]

Finalmente el cuadro 5.8 muestra el intervalo [1000, 1100], notamos que la heurística H_1 tiene rendimientos menores al 70 % para todos los casos de 2 máquinas y con 4 máquinas de 200 a 1000 tareas, representa el 25 % de este grupo de instancias. Los rendimientos mayores al 70 % y menores al 90 % con 4 máquinas de 10 hasta 100 tareas, con 6 máquinas a partir de 20 hasta 1000 tareas y 10 máquinas a partir de las 50 hasta 1000 tareas, representan el 35 %. Los rendimientos mayores al 90 % representan 40 % de las instancias de este grupo.

n	m					
	2	4	6	10	20	50
10	67.064 %	82.398 %	90.216 %	99.960 %	100.000 %	100.000 %
20	60.074 %	76.922 %	85.384 %	93.868 %	99.981 %	100.000 %
30	56.345 %	75.199 %	83.788 %	91.382 %	97.017 %	100.000 %
50	54.748 %	72.739 %	81.222 %	89.361 %	95.929 %	99.995 %
100	52.338 %	70.182 %	78.748 %	87.689 %	94.517 %	98.578 %
200	50.669 %	68.379 %	77.355 %	85.871 %	93.499 %	97.810 %
300	50.261 %	67.841 %	76.350 %	85.145 %	92.909 %	97.593 %
500	49.819 %	66.880 %	75.656 %	84.340 %	92.231 %	97.192 %
750	49.323 %	66.622 %	75.145 %	83.938 %	91.825 %	97.012 %
1000	49.140 %	66.350 %	75.032 %	83.670 %	91.596 %	96.860 %

Cuadro 5.8: Grupo de instancias con un intervalo [1000,1100]

Lo anterior nos permite observar lo siguiente:

- Cuando se tienen tiempos de procesamientos cortos, por ejemplo en intervalos de [1,10], [1,20] y [100,120], la H_1 tiene rendimientos aceptables para la mayoría de las instancias, a excepción del caso con $m = 2$ y $m = 4$ con valores grandes en n los rendimientos son malos.
- Los casos donde los valores en los tiempos de procesamiento son grandes, con intervalos de [1,50], [1,100] y [100,200], arroja rendimientos muy buenos cuando $m \geq 4$ en todos los valores considerados en n; especialmente con $m = 2$ los rendimientos son muy malos y están por debajo del 65 % en la mayoría de las instancias de prueba.
- En los intervalos grandes como [1000,1100] y [1,1000] los rendimientos con $m \geq 10$ son muy buenos en todos los valores de n; los casos donde $m \leq 4$, a partir de 200 tareas obtenemos rendimientos muy malos.

- Cuando las fechas límite y los tiempos de liberación tienen una distribución amplia (intervalos grandes), obtenemos buenos rendimientos para instancias con valores de n pequeños. Se observa que en los grupos de 240 instancias de estos intervalos, los rendimientos son hasta dos veces peor de las soluciones de H_1.

- Cuando las instancias tienen tiempos de procesamiento pequeños (intervalos cortos) y las fechas límite son amplias (intervalos grandes) obtenemos rendimientos muy malos hasta 3 veces peor de la soluciones de H_1.

- Notamos que en soluciones de la H_1 aún con rendimientos de 90 % son hasta dos veces peor que H_2 en casos donde hay más máquinas que tareas.

- Cuando se tienen tiempos de procesamiento cortos (intervalos pequeños), con el mismo número de tareas y máquinas los rendimientos son malos; sin embargo con tiempos de procesamiento amplios (intervalos grandes) con el mismo numero de máquinas y tareas, y además las fechas límite son amplias (intervalos grandes) se tiene rendimientos entre 98 % y 100 % aún teniendo suficientes máquinas.

- Cuando se tienen muchas tareas y muchas máquinas los rendimientos se encuentran entre el 97 % y 100 % en la mayoría de las instancias, es decir que es conveniente utilizar H_1 cuando se cuentan con muchas tareas y muchos procesadores.

El cuadro 5.9 clasificamos los rendimientos en bajo, medio y alto para cada grupo de instancias y concluimos que el 20.62 % de las instancias de prueba de nuestros experimentos con la heurística H_1 proporciona muy malas soluciones, en cambio el 36.25 % de las instancias tienen un rendimiento medio, y el 43.12 % tienen un rendimiento mayor al 90 %, las soluciones que proporciona la heurística H_1, se aproximan y en algunos casos son idénticas a las soluciones que proporciona la heurística H_2.

Rendimiento	[1,10]	[1,20]	[1,50]	[1,100]	[100,200]	[100,120]	[1,1000]	[1000,1100]	Promedio
Bajo	16.66 %	16.66 %	18.33 %	18.33 %	25.00 %	25.00 %	20.00 %	25.00 %	20.62 %
Medio	35.00 %	35.00 %	36.66 %	40.00 %	35.00 %	35.00 %	38.33 %	35.00 %	36.25 %
Alto	48.33 %	48.33 %	45.00 %	41.66 %	40.00 %	40.00 %	41.66 %	40.00 %	43.12 %
Total	99.99 %	99.99 %	99.99 %	99.99 %	100.00 %	100.00 %	99.99 %	100.00 %	99.99 %

Cuadro 5.9: Clasificación en porcentaje de los rendimientos por cada grupo de instancias

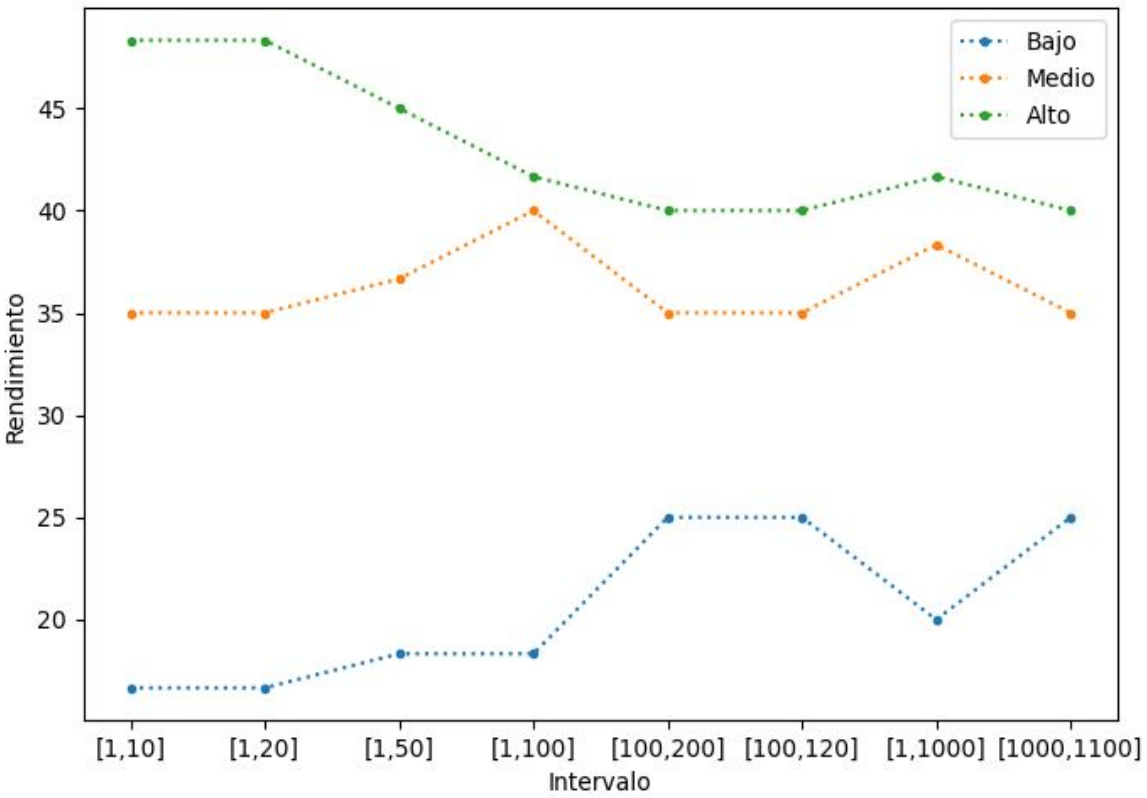

Figura 5.1: Rendimientos por grupo de instancias

Observamos de manera gráfica en la figura 5.1 el comportamiento de los rendimientos para cada grupo de instancias visto en el cuadro 5.9, el eje y representa el rendimiento, el eje x el grupo de instancias por intervalo de los tiempos de procesamiento.

En las figuras 5.2 y 5.3, se muestran los promedios en los tiempos de ejecución de la heurística H_1 y H_2 respectivamente, el eje x representa el tiempo en segundos, el eje y representa el número de tareas, cada grupo con su respectivos números de máquina.

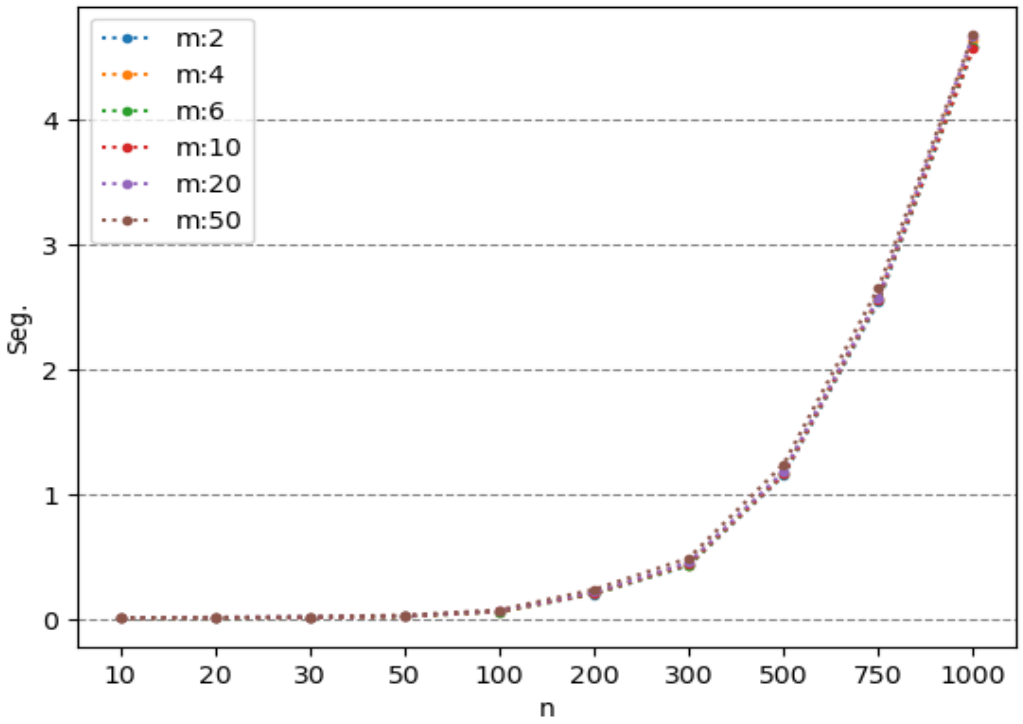

Figura 5.2: Promedios de los tiempos de ejecución de H_1

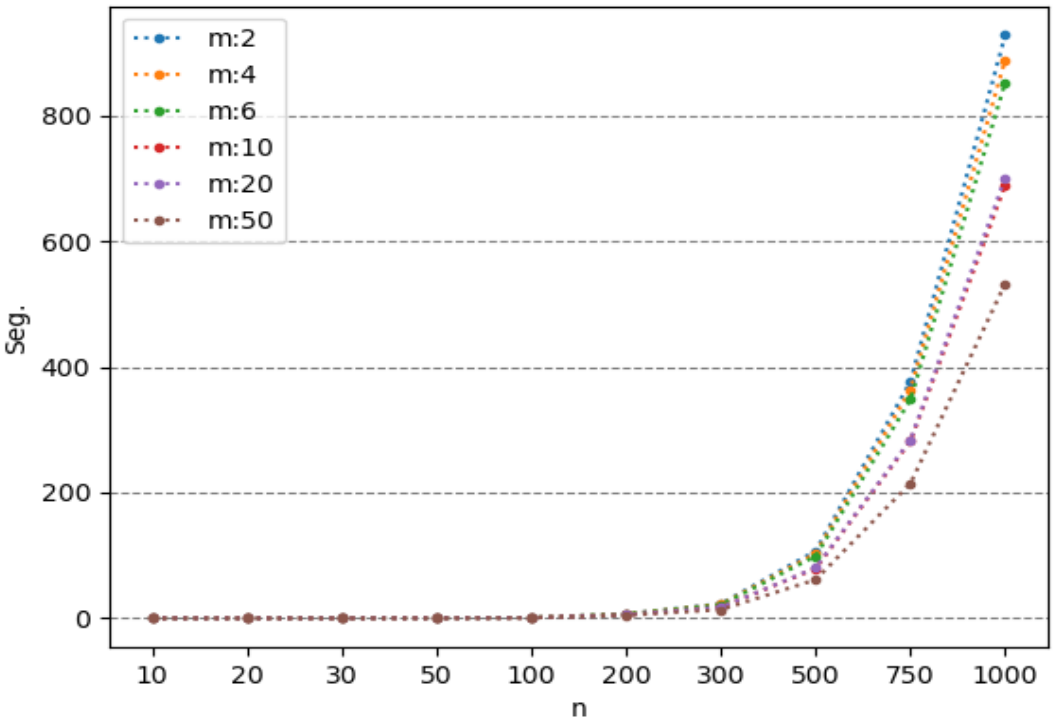

Figura 5.3: Promedios de los tiempos de ejecución de H_2

Conclusiones y trabajos futuros

Modelamos un nuevo problema de optimización del área de calendarización, el análisis presentado en la literatura, nos permitió verificar cuáles son las limitantes y los retos que presenta el problema aquí planteado. Enfocamos nuestra investigación en crear un modelo matemático, y se propuso una heurística H_1 de naturaleza voraz que proporcionó soluciones factibles para dicho modelo, además, se definió una variante del problema original en su versión fraccionaria y se diseñó e implementó la heurística H_2 que proporcionó soluciones razonables para esta última versión.

Creamos de manera artificial 115,200 instancias de prueba por grupos, cada grupo por intervalo en los tiempos de procesamiento tomados como referencia de la literatura. Nuestros experimentos proporcionan de manera general que las instancias de prueba tienen rendimientos de 20.62 % considerablemente bajos, es decir, que la heurística H_1 proporciona malas soluciones para este grupo especialmente cuando $m \leq 4$; en cambio el 36.32 % de nuestras instancias de prueba tienen un rendimiento medio; finalmente los grupos de instancias con buenos resultados con rendimientos mayores al 90 %, representan el 43.12 %; esto sucede especialmente cuando se cuenta con muchas máquinas y pocas tareas y entradas de n relativamente pequeñas.

Podemos concluir que la heurística H_1 proporcionó soluciones factibles en tiempo razonable del problema planteado, y la heurística H_2 permitió estimar las soluciones de la heurística H_1 de manera aceptable; por tanto, H_2 la consideramos como una cota inferior para las soluciones del problema planteado. Es de interés mejorar la heurística H_1 para obtener mejores soluciones y realizar experimentos aún, de igual manera mejorando la heurística H_2; no se descarta a idea de utilizar otros métodos por ejemplo, ramificación y poda, usando nuestras heurísticas como soluciones iniciales, o hacer uso de los métodos planteados en la literatura utilizando las propiedades de los *J-calendarios* con el fin de obtener un algoritmo que proporcione aún mejores soluciones.

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Apéndice

Tabla de Experimentos

$n : 10, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	2	[1,10]	[1,10]	[5,55]	0.016	0.012	0.8	5.8	85.866 %	0.1074
10	10	2	[1,10]	[1,10]	[10,55]	0.020	0.008	-3.8	4.8	78.033 %	0.0900
10	10	2	[1,10]	[5,10]	[5,57]	0.016	0.008	1.1	9.7	80.062 %	0.1376
10	10	2	[1,10]	[5,10]	[10,57]	0.013	0.010	-3.5	4.3	79.860 %	0.1139
10	10	2	[1,10]	[1,30]	[6,65]	0.017	0.008	10.3	11.8	96.805 %	0.0400
10	10	2	[1,10]	[1,30]	[12,65]	0.014	0.008	10.2	12.5	95.472 %	0.0404
10	10	2	[1,10]	[15,30]	[7,72]	0.014	0.008	20.9	26.3	91.433 %	0.0477
10	10	2	[1,10]	[15,30]	[14,72]	0.013	0.009	8.0	15.6	87.752 %	0.0759
10	10	2	[3,10]	[1,10]	[6,65]	0.014	0.009	0.6	14.5	72.138 %	0.0873
10	10	2	[3,10]	[1,10]	[12,65]	0.016	0.008	-4.3	6.0	77.741 %	0.1077
10	10	2	[3,10]	[5,10]	[6,67]	0.018	0.009	1.2	13.6	76.394 %	0.1130
10	10	2	[3,10]	[5,10]	[12,67]	0.014	0.008	-0.9	12.2	74.742 %	0.1000
10	10	2	[3,10]	[1,30]	[7,75]	0.014	0.011	12.6	14.5	96.843 %	0.0402
10	10	2	[3,10]	[1,30]	[14,75]	0.018	0.007	2.4	7.9	89.783 %	0.0622
10	10	2	[3,10]	[15,30]	[8,82]	0.017	0.010	17.5	24.8	90.006 %	0.0373
10	10	2	[3,10]	[15,30]	[16,82]	0.018	0.011	11.1	19.6	88.364 %	0.0655
10	10	2	[6,10]	[1,10]	[8,85]	0.018	0.006	-2.8	12.9	75.290 %	0.0903
10	10	2	[6,10]	[1,10]	[16,85]	0.020	0.005	-9.9	6.6	72.773 %	0.0816
10	10	2	[6,10]	[5,10]	[8,87]	0.017	0.009	1.4	12.6	81.071 %	0.0987
10	10	2	[6,10]	[5,10]	[16,87]	0.017	0.010	-5.4	13.6	70.728 %	0.0517
10	10	2	[6,10]	[1,30]	[9,95]	0.024	0.019	12.0	20.2	89.117 %	0.0524
10	10	2	[6,10]	[1,30]	[18,95]	0.016	0.010	2.8	10.1	89.585 %	0.0604
10	10	2	[6,10]	[15,30]	[10,103]	0.019	0.007	8.3	18.6	88.398 %	0.0685
10	10	2	[6,10]	[15,30]	[20,103]	0.014	0.010	-0.5	13.6	82.296 %	0.0684

Tiempo Promedio Total H_2: 0.017 seg.

Tiempo Promedio Total H_1: 0.009 seg.

Rendimiento Promedio Total: 83.773 %

Tabla de Experimentos

$n : 20, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	2	[1,10]	[1,10]	[10,106]	0.030	0.010	-6.9	13.5	71.500 %	0.0626
10	20	2	[1,10]	[1,10]	[20,106]	0.028	0.009	-12.8	9.7	69.592 %	0.0780
10	20	2	[1,10]	[5,10]	[10,108]	0.029	0.010	-1.9	18.3	74.873 %	0.0373
10	20	2	[1,10]	[5,10]	[20,108]	0.028	0.011	-11.3	11.9	69.941 %	0.0866
10	20	2	[1,10]	[1,30]	[11,116]	0.024	0.010	8.6	17.6	88.939 %	0.0457
10	20	2	[1,10]	[1,30]	[22,116]	0.026	0.011	2.0	19.6	79.713 %	0.0781
10	20	2	[1,10]	[15,30]	[12,123]	0.029	0.009	7.3	22.9	82.709 %	0.0649
10	20	2	[1,10]	[15,30]	[24,123]	0.026	0.009	-1.4	17.9	79.261 %	0.0625
10	20	2	[3,10]	[1,10]	[12,126]	0.031	0.010	-5.9	30.7	64.119 %	0.0289
10	20	2	[3,10]	[1,10]	[24,126]	0.041	0.043	-13.6	16.4	66.608 %	0.0658
10	20	2	[3,10]	[5,10]	[12,128]	0.044	0.019	-3.8	26.0	69.456 %	0.0904
10	20	2	[3,10]	[5,10]	[24,128]	0.029	0.010	-15.5	22.0	62.269 %	0.0633
10	20	2	[3,10]	[1,30]	[13,136]	0.029	0.010	9.1	32.1	78.007 %	0.0799
10	20	2	[3,10]	[1,30]	[26,136]	0.084	0.027	-9.8	15.3	74.762 %	0.0758
10	20	2	[3,10]	[15,30]	[14,143]	0.037	0.012	10.2	38.4	76.647 %	0.0506
10	20	2	[3,10]	[15,30]	[28,143]	0.031	0.011	-2.3	25.2	75.121 %	0.0580
10	20	2	[6,10]	[1,10]	[16,166]	0.034	0.010	-11.4	37.3	62.519 %	0.0537
10	20	2	[6,10]	[1,10]	[32,166]	0.030	0.012	-27.5	13.5	64.258 %	0.1029
10	20	2	[6,10]	[5,10]	[16,168]	0.030	0.010	-7.3	39.9	64.354 %	0.0335
10	20	2	[6,10]	[5,10]	[32,168]	0.035	0.011	-23.8	17.6	66.342 %	0.1240
10	20	2	[6,10]	[1,30]	[17,176]	0.066	0.022	0.5	32.7	75.375 %	0.0424
10	20	2	[6,10]	[1,30]	[34,176]	0.037	0.016	-12.2	24.0	71.969 %	0.0452
10	20	2	[6,10]	[15,30]	[18,183]	0.032	0.011	11.0	55.1	72.189 %	0.0419
10	20	2	[6,10]	[15,30]	[36,183]	0.037	0.010	-16.3	28.8	67.757 %	0.0669

Tiempo Promedio Total H_2: 0.035 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 72.012 %

Tabla de Experimentos

$n : 30, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	2	[1,10]	[1,10]	[15,156]	0.059	0.014	-6.8	32.9	67.430 %	0.0669
10	30	2	[1,10]	[1,10]	[30,156]	0.052	0.016	-23.9	8.8	68.709 %	0.0420
10	30	2	[1,10]	[5,10]	[15,158]	0.054	0.015	-6.4	28.4	70.138 %	0.0538
10	30	2	[1,10]	[5,10]	[30,158]	0.057	0.015	-19.6	16.6	68.010 %	0.0843
10	30	2	[1,10]	[1,30]	[16,166]	0.047	0.015	5.0	35.3	75.454 %	0.0361
10	30	2	[1,10]	[1,30]	[32,166]	0.052	0.012	-16.3	15.2	73.356 %	0.1166
10	30	2	[1,10]	[15,30]	[17,173]	0.062	0.017	3.0	36.4	75.902 %	0.0615
10	30	2	[1,10]	[15,30]	[34,173]	0.056	0.014	-10.1	21.1	75.994 %	0.1019
10	30	2	[3,10]	[1,10]	[18,186]	0.060	0.013	-13.2	37.7	63.464 %	0.0554
10	30	2	[3,10]	[1,10]	[36,186]	0.064	0.016	-25.6	27.4	61.847 %	0.0569
10	30	2	[3,10]	[5,10]	[18,188]	0.056	0.019	-7.0	42.0	65.304 %	0.0460
10	30	2	[3,10]	[5,10]	[36,188]	0.057	0.015	-23.8	34.6	59.830 %	0.0475
10	30	2	[3,10]	[1,30]	[19,196]	0.069	0.015	2.1	45.0	72.490 %	0.0589
10	30	2	[3,10]	[1,30]	[38,196]	0.060	0.016	-19.0	21.4	72.228 %	0.0506
10	30	2	[3,10]	[15,30]	[20,204]	0.057	0.014	6.7	59.8	69.209 %	0.0425
10	30	2	[3,10]	[15,30]	[40,204]	0.064	0.012	-17.9	29.5	69.139 %	0.0596
10	30	2	[6,10]	[1,10]	[24,247]	0.060	0.010	-15.3	65.7	60.720 %	0.0760
10	30	2	[6,10]	[1,10]	[48,247]	0.061	0.017	-39.4	28.9	62.055 %	0.0573
10	30	2	[6,10]	[5,10]	[24,249]	0.064	0.027	-16.0	64.4	59.706 %	0.0372
10	30	2	[6,10]	[5,10]	[48,249]	0.112	0.018	-38.1	36.5	60.591 %	0.0517
10	30	2	[6,10]	[1,30]	[25,257]	0.061	0.013	-5.7	53.9	69.127 %	0.0591
10	30	2	[6,10]	[1,30]	[50,257]	0.062	0.014	-34.5	29.2	65.935 %	0.0589
10	30	2	[6,10]	[15,30]	[26,264]	0.063	0.013	-1.0	57.0	72.030 %	0.0456
10	30	2	[6,10]	[15,30]	[52,264]	0.061	0.015	-28.4	48.5	63.194 %	0.0601

Tiempo Promedio Total H_2: 0.061 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 67.578 %

Tabla de Experimentos

$n : 50, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	2	[1,10]	[1,10]	[25,257]	0.139	0.024	-19.3	51.3	63.751 %	0.0513
10	50	2	[1,10]	[1,10]	[50,257]	0.142	0.023	-42.6	29.2	61.114 %	0.0558
10	50	2	[1,10]	[5,10]	[25,259]	0.141	0.027	-13.9	54.9	65.223 %	0.0476
10	50	2	[1,10]	[5,10]	[50,259]	0.146	0.025	-39.8	30.9	61.905 %	0.0356
10	50	2	[1,10]	[1,30]	[26,267]	0.167	0.044	-5.5	59.3	68.608 %	0.0339
10	50	2	[1,10]	[1,30]	[52,267]	0.137	0.025	-27.6	41.4	65.751 %	0.0235
10	50	2	[1,10]	[15,30]	[27,274]	0.146	0.023	-3.6	74.7	65.779 %	0.0558
10	50	2	[1,10]	[15,30]	[54,274]	0.135	0.024	-28.3	51.6	63.032 %	0.0425
10	50	2	[3,10]	[1,10]	[30,308]	0.163	0.026	-22.4	79.9	59.442 %	0.0436
10	50	2	[3,10]	[1,10]	[60,308]	0.150	0.027	-52.9	47.7	56.266 %	0.0192
10	50	2	[3,10]	[5,10]	[31,310]	0.151	0.024	-24.7	69.8	60.606 %	0.0401
10	50	2	[3,10]	[5,10]	[62,310]	0.157	0.022	-53.5	46.2	57.815 %	0.0450
10	50	2	[3,10]	[1,30]	[31,318]	0.149	0.025	-10.5	83.0	62.431 %	0.0549
10	50	2	[3,10]	[1,30]	[62,318]	0.158	0.023	-37.7	53.1	62.882 %	0.0476
10	50	2	[3,10]	[15,30]	[32,325]	0.155	0.022	-10.0	82.4	65.016 %	0.0528
10	50	2	[3,10]	[15,30]	[64,325]	0.160	0.025	-38.5	60.9	62.156 %	0.0387
10	50	2	[6,10]	[1,10]	[40,409]	0.163	0.026	-35.2	96.2	59.361 %	0.0605
10	50	2	[6,10]	[1,10]	[80,409]	0.166	0.026	-74.6	63.6	55.615 %	0.0455
10	50	2	[6,10]	[5,10]	[41,411]	0.157	0.026	-34.3	92.0	60.478 %	0.0547
10	50	2	[6,10]	[5,10]	[82,411]	0.157	0.026	-68.9	59.5	57.832 %	0.0878
10	50	2	[6,10]	[1,30]	[41,419]	0.178	0.024	-14.9	128.5	59.199 %	0.0227
10	50	2	[6,10]	[1,30]	[82,419]	0.182	0.024	-57.6	74.3	60.611 %	0.0567
10	50	2	[6,10]	[15,30]	[42,426]	0.186	0.028	-11.3	125.3	61.500 %	0.0213
10	50	2	[6,10]	[15,30]	[84,426]	0.177	0.024	-57.6	76.1	59.267 %	0.0407

Tiempo Promedio Total H_2: 0.157 seg.

Tiempo Promedio Total H_1: 0.026 seg.

Rendimiento Promedio Total: 61.485 %

Tabla de Experimentos

$n : 100, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	2	[1,10]	[1,10]	[51,510]	0.815	0.058	-47.2	120.0	57.508 %	0.0448
10	100	2	[1,10]	[1,10]	[102,510]	0.908	0.065	-92.2	67.3	57.675 %	0.0273
10	100	2	[1,10]	[5,10]	[51,512]	0.838	0.063	-41.4	119.0	60.405 %	0.0254
10	100	2	[1,10]	[5,10]	[102,512]	0.868	0.061	-95.3	62.5	57.347 %	0.0273
10	100	2	[1,10]	[1,30]	[52,520]	0.834	0.065	-28.4	139.7	60.414 %	0.0239
10	100	2	[1,10]	[1,30]	[104,520]	0.818	0.059	-83.7	72.5	59.800 %	0.0410
10	100	2	[1,10]	[15,30]	[52,527]	0.822	0.061	-29.4	127.1	62.245 %	0.0309
10	100	2	[1,10]	[15,30]	[104,527]	0.826	0.059	-81.0	87.6	58.183 %	0.0296
10	100	2	[3,10]	[1,10]	[61,611]	0.889	0.063	-54.1	170.1	56.142 %	0.0275
10	100	2	[3,10]	[1,10]	[122,611]	0.879	0.061	-111.6	117.9	52.332 %	0.0147
10	100	2	[3,10]	[5,10]	[61,613]	0.887	0.062	-52.1	162.1	57.731 %	0.0227
10	100	2	[3,10]	[5,10]	[122,613]	0.867	0.062	-115.3	108.1	52.897 %	0.0155
10	100	2	[3,10]	[1,30]	[62,621]	0.935	0.059	-42.0	166.5	59.039 %	0.0405
10	100	2	[3,10]	[1,30]	[124,621]	0.899	0.061	-107.1	111.3	54.633 %	0.0186
10	100	2	[3,10]	[15,30]	[62,628]	0.927	0.062	-36.6	190.4	57.774 %	0.0272
10	100	2	[3,10]	[15,30]	[124,628]	0.892	0.059	-96.4	131.8	55.883 %	0.0364
10	100	2	[6,10]	[1,10]	[81,813]	0.931	0.063	-74.1	234.2	54.189 %	0.0231
10	100	2	[6,10]	[1,10]	[162,813]	0.914	0.061	-150.3	145.0	53.989 %	0.0301
10	100	2	[6,10]	[5,10]	[81,815]	0.918	0.061	-72.9	206.9	56.353 %	0.0322
10	100	2	[6,10]	[5,10]	[162,815]	0.898	0.062	-150.9	124.1	56.249 %	0.0386
10	100	2	[6,10]	[1,30]	[82,823]	0.999	0.061	-66.2	229.1	56.792 %	0.0214
10	100	2	[6,10]	[1,30]	[164,823]	0.988	0.061	-144.2	153.6	53.948 %	0.0191
10	100	2	[6,10]	[15,30]	[83,830]	0.995	0.062	-58.3	238.9	56.784 %	0.0359
10	100	2	[6,10]	[15,30]	[166,830]	0.985	0.063	-144.4	159.5	54.444 %	0.0141

Tiempo Promedio Total H_2: 0.897 seg.

Tiempo Promedio Total H_1: 0.061 seg.

Rendimiento Promedio Total: 56.782 %

Tabla de Experimentos

$n : 200, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	2	[1,10]	[1,10]	[101,1015]	6.388	0.212	-97.0	247.0	57.800 %	0.0286
10	200	2	[1,10]	[1,10]	[202,1015]	6.572	0.215	-196.6	156.2	54.487 %	0.0280
10	200	2	[1,10]	[5,10]	[101,1017]	6.204	0.220	-92.0	253.0	57.797 %	0.0330
10	200	2	[1,10]	[5,10]	[202,1017]	6.246	0.213	-195.3	142.1	55.363 %	0.0207
10	200	2	[1,10]	[1,30]	[102,1025]	6.016	0.200	-80.8	282.9	57.019 %	0.0098
10	200	2	[1,10]	[1,30]	[204,1025]	6.007	0.201	-186.0	172.9	54.632 %	0.0178
10	200	2	[1,10]	[15,30]	[103,1032]	6.053	0.202	-79.8	276.3	57.452 %	0.0183
10	200	2	[1,10]	[15,30]	[206,1032]	6.061	0.200	-181.7	176.5	54.700 %	0.0254
10	200	2	[3,10]	[1,10]	[121,1217]	6.338	0.207	-113.4	354.9	54.522 %	0.0323
10	200	2	[3,10]	[1,10]	[242,1217]	6.513	0.204	-233.9	248.7	50.960 %	0.0231
10	200	2	[3,10]	[5,10]	[121,1219]	6.326	0.205	-115.3	343.1	54.791 %	0.0180
10	200	2	[3,10]	[5,10]	[242,1219]	6.410	0.211	-231.7	222.4	52.796 %	0.0146
10	200	2	[3,10]	[1,30]	[122,1227]	6.517	0.202	-99.8	388.4	53.472 %	0.0194
10	200	2	[3,10]	[1,30]	[244,1227]	6.487	0.196	-226.2	235.7	52.617 %	0.0188
10	200	2	[3,10]	[15,30]	[123,1234]	6.499	0.203	-94.9	380.4	54.926 %	0.0203
10	200	2	[3,10]	[15,30]	[246,1234]	6.567	0.199	-218.6	270.1	51.286 %	0.0188
10	200	2	[6,10]	[1,10]	[162,1621]	6.549	0.207	-154.3	468.2	54.596 %	0.0272
10	200	2	[6,10]	[1,10]	[324,1621]	6.720	0.204	-310.7	307.1	51.803 %	0.0201
10	200	2	[6,10]	[5,10]	[162,1623]	6.498	0.208	-150.8	473.4	53.606 %	0.0149
10	200	2	[6,10]	[5,10]	[324,1623]	6.719	0.208	-315.3	289.3	51.997 %	0.0138
10	200	2	[6,10]	[1,30]	[163,1631]	6.828	0.201	-143.1	510.8	54.207 %	0.0172
10	200	2	[6,10]	[1,30]	[326,1631]	6.862	0.204	-305.9	340.8	51.153 %	0.0161
10	200	2	[6,10]	[15,30]	[163,1638]	6.785	0.206	-139.3	497.1	54.412 %	0.0095
10	200	2	[6,10]	[15,30]	[326,1638]	6.601	0.201	-302.4	362.6	50.398 %	0.0203

Tiempo Promedio Total H_2: 6.449 seg.

Tiempo Promedio Total H_1: 0.205 seg.

Rendimiento Promedio Total: 54.033 %

Tabla de Experimentos

$n : 300, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	2	[1,10]	[1,10]	[152,1520]	20.097	0.429	-145.8	405.7	55.752 %	0.0182
10	300	2	[1,10]	[1,10]	[304,1520]	20.067	0.430	-296.4	263.8	52.784 %	0.0230
10	300	2	[1,10]	[5,10]	[152,1522]	20.190	0.456	-139.6	381.2	56.621 %	0.0148
10	300	2	[1,10]	[5,10]	[304,1522]	20.332	0.457	-294.4	218.3	54.875 %	0.0163
10	300	2	[1,10]	[1,30]	[153,1530]	19.550	0.427	-130.3	429.7	55.642 %	0.0348
10	300	2	[1,10]	[1,30]	[306,1530]	19.626	0.428	-285.7	251.0	54.099 %	0.0221
10	300	2	[1,10]	[15,30]	[153,1537]	19.839	0.431	-125.9	448.7	55.282 %	0.0100
10	300	2	[1,10]	[15,30]	[306,1537]	20.004	0.429	-277.2	278.0	53.889 %	0.0198
10	300	2	[3,10]	[1,10]	[182,1823]	20.872	0.444	-171.9	567.2	52.948 %	0.0144
10	300	2	[3,10]	[1,10]	[364,1823]	20.913	0.434	-356.1	369.0	50.192 %	0.0194
10	300	2	[3,10]	[5,10]	[182,1825]	20.703	0.457	-170.5	526.6	54.532 %	0.0113
10	300	2	[3,10]	[5,10]	[364,1825]	20.791	0.446	-353.3	352.6	51.376 %	0.0142
10	300	2	[3,10]	[1,30]	[183,1833]	20.928	0.427	-162.8	606.9	52.391 %	0.0125
10	300	2	[3,10]	[1,30]	[366,1833]	21.058	0.421	-344.6	398.1	50.499 %	0.0218
10	300	2	[3,10]	[15,30]	[184,1840]	21.045	0.436	-154.3	580.2	53.934 %	0.0132
10	300	2	[3,10]	[15,30]	[368,1840]	20.971	0.434	-339.7	394.2	51.422 %	0.0215
10	300	2	[6,10]	[1,10]	[242,2429]	21.989	0.446	-239.8	738.1	53.132 %	0.0162
10	300	2	[6,10]	[1,10]	[484,2429]	21.600	0.432	-475.4	496.7	50.544 %	0.0153
10	300	2	[6,10]	[5,10]	[243,2431]	21.533	0.443	-237.3	674.4	55.156 %	0.0182
10	300	2	[6,10]	[5,10]	[486,2431]	21.503	0.442	-477.3	433.8	51.421 %	0.0135
10	300	2	[6,10]	[1,30]	[243,2439]	22.115	0.427	-225.9	776.3	52.418 %	0.0254
10	300	2	[6,10]	[1,30]	[486,2439]	22.380	0.429	-468.0	548.7	49.334 %	0.0167
10	300	2	[6,10]	[15,30]	[244,2446]	21.589	0.423	-220.4	806.6	52.210 %	0.0153
10	300	2	[6,10]	[15,30]	[488,2446]	21.812	0.425	-458.8	553.1	50.185 %	0.0150

Tiempo Promedio Total H_2: 20.896 seg.

Tiempo Promedio Total H_1: 0.436 seg.

Rendimiento Promedio Total: 52.943 %

Tabla de Experimentos

$n : 500, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	2	[1,10]	[1,10]	[253,2530]	96.881	1.157	-246.1	698.9	54.962 %	0.0209
10	500	2	[1,10]	[1,10]	[506,2530]	95.301	1.156	-498.8	418.1	52.316 %	0.0145
10	500	2	[1,10]	[5,10]	[253,2532]	96.175	1.204	-243.6	605.0	57.608 %	0.0164
10	500	2	[1,10]	[5,10]	[506,2532]	95.966	1.179	-499.1	365.3	53.753 %	0.0127
10	500	2	[1,10]	[1,30]	[254,2540]	95.524	1.130	-232.4	730.1	54.692 %	0.0139
10	500	2	[1,10]	[1,30]	[508,2540]	94.385	1.123	-485.0	451.9	52.287 %	0.0159
10	500	2	[1,10]	[15,30]	[254,2547]	96.524	1.141	-225.4	743.2	54.536 %	0.0123
10	500	2	[1,10]	[15,30]	[508,2547]	96.600	1.139	-481.6	469.8	52.437 %	0.0095
10	500	2	[3,10]	[1,10]	[303,3035]	98.549	1.165	-294.1	933.1	52.785 %	0.0123
10	500	2	[3,10]	[1,10]	[606,3035]	99.077	1.157	-596.9	643.1	49.736 %	0.0093
10	500	2	[3,10]	[5,10]	[303,3037]	99.524	1.206	-293.4	864.0	54.634 %	0.0103
10	500	2	[3,10]	[5,10]	[606,3037]	98.392	1.179	-594.9	588.4	51.205 %	0.0107
10	500	2	[3,10]	[1,30]	[304,3045]	100.529	1.142	-284.5	1010.5	51.838 %	0.0090
10	500	2	[3,10]	[1,30]	[608,3045]	99.679	1.133	-590.7	697.9	48.796 %	0.0103
10	500	2	[3,10]	[15,30]	[305,3052]	98.815	1.145	-281.3	960.2	53.117 %	0.0107
10	500	2	[3,10]	[15,30]	[610,3052]	98.808	1.140	-584.2	679.7	49.471 %	0.0142
10	500	2	[6,10]	[1,10]	[404,4045]	101.352	1.159	-393.3	1272.7	52.716 %	0.0142
10	500	2	[6,10]	[1,10]	[808,4045]	101.387	1.152	-799.5	889.4	49.406 %	0.0108
10	500	2	[6,10]	[5,10]	[404,4047]	103.250	1.172	-391.7	1187.2	53.640 %	0.0055
10	500	2	[6,10]	[5,10]	[808,4047]	101.267	1.184	-796.7	775.0	50.775 %	0.0090
10	500	2	[6,10]	[1,30]	[405,4055]	103.552	1.132	-382.0	1367.9	51.603 %	0.0126
10	500	2	[6,10]	[1,30]	[810,4055]	104.282	1.130	-784.9	1006.5	47.858 %	0.0101
10	500	2	[6,10]	[15,30]	[406,4062]	103.055	1.137	-380.0	1348.1	51.667 %	0.0116
10	500	2	[6,10]	[15,30]	[812,4062]	103.546	1.136	-786.8	901.2	49.334 %	0.0200

Tiempo Promedio Total H_2: 99.267 seg.

Tiempo Promedio Total H_1: 1.154 seg.

Rendimiento Promedio Total: 52.132 %

Tabla de Experimentos

$n : 750, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	2	[1,10]	[1,10]	[379,3792]	341.751	2.566	-370.5	1065.5	54.188 %	0.0101
10	750	2	[1,10]	[1,10]	[758,3792]	336.832	2.565	-750.5	640.8	52.420 %	0.0121
10	750	2	[1,10]	[5,10]	[379,3794]	342.312	2.619	-371.6	949.3	56.300 %	0.0109
10	750	2	[1,10]	[5,10]	[758,3794]	340.393	2.631	-751.3	566.1	53.739 %	0.0083
10	750	2	[1,10]	[1,30]	[380,3802]	338.018	2.489	-354.5	1147.6	53.793 %	0.0084
10	750	2	[1,10]	[1,30]	[760,3802]	337.028	2.509	-738.8	754.1	50.946 %	0.0115
10	750	2	[1,10]	[15,30]	[380,3809]	341.032	2.512	-358.6	1096.4	54.464 %	0.0124
10	750	2	[1,10]	[15,30]	[760,3809]	339.172	2.504	-733.6	727.1	51.509 %	0.0131
10	750	2	[3,10]	[1,10]	[455,4550]	348.521	2.541	-447.5	1417.3	52.483 %	0.0118
10	750	2	[3,10]	[1,10]	[910,4550]	347.914	2.560	-900.4	967.7	49.307 %	0.0114
10	750	2	[3,10]	[5,10]	[455,4552]	351.246	2.630	-443.9	1330.8	53.698 %	0.0088
10	750	2	[3,10]	[5,10]	[910,4552]	351.280	2.626	-901.2	840.9	51.572 %	0.0072
10	750	2	[3,10]	[1,30]	[456,4560]	350.528	2.476	-436.5	1510.8	51.565 %	0.0099
10	750	2	[3,10]	[1,30]	[912,4560]	351.485	2.491	-890.6	1093.3	47.835 %	0.0052
10	750	2	[3,10]	[15,30]	[456,4567]	352.396	2.532	-428.6	1522.9	51.632 %	0.0096
10	750	2	[3,10]	[15,30]	[912,4567]	351.862	2.503	-885.8	1052.0	48.806 %	0.0093
10	750	2	[6,10]	[1,10]	[606,6065]	357.427	2.567	-596.4	1963.8	51.763 %	0.0090
10	750	2	[6,10]	[1,10]	[1212,6065]	357.917	2.554	-1205.7	1321.4	48.922 %	0.0099
10	750	2	[6,10]	[5,10]	[606,6067]	354.849	2.620	-596.6	1805.0	53.330 %	0.0048
10	750	2	[6,10]	[5,10]	[1212,6067]	359.770	2.622	-1199.7	1160.5	50.877 %	0.0088
10	750	2	[6,10]	[1,30]	[607,6075]	361.590	2.495	-586.4	2094.1	50.544 %	0.0078
10	750	2	[6,10]	[1,30]	[1214,6075]	362.185	2.502	-1198.5	1511.2	47.535 %	0.0070
10	750	2	[6,10]	[15,30]	[608,6082]	360.131	2.522	-583.4	2051.4	51.095 %	0.0063
10	750	2	[6,10]	[15,30]	[1216,6082]	358.665	2.501	-1190.1	1426.7	48.736 %	0.0065

Tiempo Promedio Total H_2: 349.763 seg.

Tiempo Promedio Total H_1: 2.547 seg.

Rendimiento Promedio Total: 51.544 %

Tabla de Experimentos

$n : 1000, m : 2, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	2	[1,10]	[1,10]	[505,5055]	848.245	4.639	-502.1	1401.8	54.591 %	0.0097
10	1000	2	[1,10]	[1,10]	[1010,5055]	844.123	4.600	-1000.3	897.4	51.632 %	0.0087
10	1000	2	[1,10]	[5,10]	[505,5057]	839.369	4.731	-494.6	1267.3	56.494 %	0.0088
10	1000	2	[1,10]	[5,10]	[1010,5057]	853.182	4.740	-1000.7	784.0	53.188 %	0.0042
10	1000	2	[1,10]	[1,30]	[506,5065]	840.910	4.502	-487.9	1464.2	54.004 %	0.0114
10	1000	2	[1,10]	[1,30]	[1012,5065]	832.786	4.463	-991.2	995.4	50.361 %	0.0077
10	1000	2	[1,10]	[15,30]	[507,5072]	844.583	4.551	-483.6	1471.6	54.235 %	0.0081
10	1000	2	[1,10]	[15,30]	[1014,5072]	837.522	4.489	-988.3	962.9	51.162 %	0.0079
10	1000	2	[3,10]	[1,10]	[606,6065]	865.813	4.657	-599.1	1930.5	51.835 %	0.0044
10	1000	2	[3,10]	[1,10]	[1212,6065]	867.149	4.605	-1206.0	1330.5	48.980 %	0.0069
10	1000	2	[3,10]	[5,10]	[606,6067]	863.814	4.669	-596.8	1767.8	53.786 %	0.0073
10	1000	2	[3,10]	[5,10]	[1212,6067]	865.446	4.743	-1200.6	1138.5	51.316 %	0.0091
10	1000	2	[3,10]	[1,30]	[607,6075]	867.983	4.461	-583.5	2106.9	50.475 %	0.0082
10	1000	2	[3,10]	[1,30]	[1214,6075]	865.701	4.426	-1191.6	1470.2	48.157 %	0.0098
10	1000	2	[3,10]	[15,30]	[608,6082]	867.639	4.541	-581.3	2042.2	51.404 %	0.0109
10	1000	2	[3,10]	[15,30]	[1216,6082]	863.664	4.544	-1191.7	1432.4	48.417 %	0.0061
10	1000	2	[6,10]	[1,10]	[808,8085]	892.968	4.577	-798.1	2649.0	51.244 %	0.0050
10	1000	2	[6,10]	[1,10]	[1616,8085]	888.096	4.553	-1608.2	1807.4	48.964 %	0.0105
10	1000	2	[6,10]	[5,10]	[808,8087]	882.446	4.777	-798.0	2380.2	53.573 %	0.0074
10	1000	2	[6,10]	[5,10]	[1616,8087]	886.881	4.758	-1605.2	1556.2	50.504 %	0.0054
10	1000	2	[6,10]	[1,30]	[809,8095]	895.227	4.497	-788.8	2840.3	50.224 %	0.0107
10	1000	2	[6,10]	[1,30]	[1618,8095]	894.084	4.445	-1595.7	2018.7	47.493 %	0.0062
10	1000	2	[6,10]	[15,30]	[810,8102]	896.761	4.525	-783.2	2752.8	51.164 %	0.0103
10	1000	2	[6,10]	[15,30]	[1620,8102]	891.578	4.563	-1593.1	1932.4	48.212 %	0.0072

Tiempo Promedio Total H_2: 866.499 seg.

Tiempo Promedio Total H_1: 4.586 seg.

Rendimiento Promedio Total: 51.309 %

Tabla de Experimentos

$n : 10, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	4	[1,10]	[1,10]	[5,55]	0.015	0.007	-1.4	2.1	90.410 %	0.1786
10	10	4	[1,10]	[1,10]	[10,55]	0.013	0.009	-2.7	-2.1	98.126 %	0.0377
10	10	4	[1,10]	[5,10]	[5,57]	0.016	0.008	3.9	6.7	92.715 %	0.0496
10	10	4	[1,10]	[5,10]	[10,57]	0.013	0.010	-3.4	0.0	90.669 %	0.1713
10	10	4	[1,10]	[1,30]	[6,65]	0.016	0.007	10.9	12.5	96.278 %	0.0695
10	10	4	[1,10]	[1,30]	[12,65]	0.020	0.013	11.2	11.8	98.893 %	0.0162
10	10	4	[1,10]	[15,30]	[7,72]	0.017	0.009	17.4	18.2	98.602 %	0.0158
10	10	4	[1,10]	[15,30]	[14,72]	0.019	0.006	5.8	7.7	95.986 %	0.0694
10	10	4	[3,10]	[1,10]	[6,65]	0.014	0.010	-4.6	1.0	84.266 %	0.1583
10	10	4	[3,10]	[1,10]	[12,65]	0.012	0.008	-6.2	-4.4	94.919 %	0.0587
10	10	4	[3,10]	[5,10]	[6,67]	0.018	0.006	3.5	6.0	93.886 %	0.0670
10	10	4	[3,10]	[5,10]	[12,67]	0.018	0.008	-5.2	-2.0	92.368 %	0.0629
10	10	4	[3,10]	[1,30]	[7,75]	0.016	0.010	10.6	12.0	97.177 %	0.0304
10	10	4	[3,10]	[1,30]	[14,75]	0.015	0.009	6.8	7.7	98.412 %	0.0284
10	10	4	[3,10]	[15,30]	[8,82]	0.014	0.009	14.0	14.9	98.462 %	0.0183
10	10	4	[3,10]	[15,30]	[16,82]	0.017	0.007	8.9	11.2	96.029 %	0.0585
10	10	4	[6,10]	[1,10]	[8,85]	0.021	0.009	-5.7	-2.2	92.633 %	0.0555
10	10	4	[6,10]	[1,10]	[16,85]	0.018	0.007	-8.4	-6.1	95.028 %	0.0576
10	10	4	[6,10]	[5,10]	[8,87]	0.018	0.009	-1.8	3.4	90.688 %	0.0417
10	10	4	[6,10]	[5,10]	[16,87]	0.017	0.008	-12.5	-0.5	78.168 %	0.1937
10	10	4	[6,10]	[1,30]	[9,95]	0.020	0.001	8.0	10.6	95.447 %	0.1366
10	10	4	[6,10]	[1,30]	[18,95]	0.020	0.012	3.3	3.9	98.939 %	0.0145
10	10	4	[6,10]	[15,30]	[10,103]	0.035	0.016	17.6	20.3	96.427 %	0.0277
10	10	4	[6,10]	[15,30]	[20,103]	0.027	0.014	0.6	6.5	91.245 %	0.1399

Tiempo Promedio Total H_2: 0.018 seg.

Tiempo Promedio Total H_1: 0.009 seg.

Rendimiento Promedio Total: 93.991 %

Tabla de Experimentos

$n : 20, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	4	[1,10]	[1,10]	[10,106]	0.027	0.011	-3.5	2.3	90.000 %	0.0549
10	20	4	[1,10]	[1,10]	[20,106]	0.031	0.009	-11.9	-5.7	90.709 %	0.0635
10	20	4	[1,10]	[5,10]	[10,108]	0.028	0.009	-5.3	3.8	86.468 %	0.1269
10	20	4	[1,10]	[5,10]	[20,108]	0.030	0.013	-11.9	-2.6	85.182 %	0.0684
10	20	4	[1,10]	[1,30]	[11,116]	0.026	0.010	5.7	7.0	98.220 %	0.0182
10	20	4	[1,10]	[1,30]	[22,116]	0.029	0.012	-6.6	-1.7	92.407 %	0.1471
10	20	4	[1,10]	[15,30]	[12,123]	0.025	0.010	12.6	15.1	96.984 %	0.0264
10	20	4	[1,10]	[15,30]	[24,123]	0.024	0.011	1.6	6.1	94.520 %	0.0306
10	20	4	[3,10]	[1,10]	[12,126]	0.033	0.011	-4.4	7.5	84.845 %	0.0472
10	20	4	[3,10]	[1,10]	[24,126]	0.029	0.010	-16.2	-4.7	84.124 %	0.0387
10	20	4	[3,10]	[5,10]	[12,128]	0.030	0.011	-3.7	7.5	85.668 %	0.0646
10	20	4	[3,10]	[5,10]	[24,128]	0.030	0.011	-17.7	-7.8	86.556 %	0.0818
10	20	4	[3,10]	[1,30]	[13,136]	0.048	0.021	3.9	5.3	98.330 %	0.0220
10	20	4	[3,10]	[1,30]	[26,136]	0.028	0.009	-8.0	-5.7	97.094 %	0.0283
10	20	4	[3,10]	[15,30]	[14,143]	0.032	0.009	7.0	14.6	92.208 %	0.0304
10	20	4	[3,10]	[15,30]	[28,143]	0.032	0.010	-5.3	2.7	91.689 %	0.0303
10	20	4	[6,10]	[1,10]	[16,166]	0.042	0.013	-11.1	7.0	83.067 %	0.1461
10	20	4	[6,10]	[1,10]	[32,166]	0.038	0.011	-25.1	-7.7	81.134 %	0.0529
10	20	4	[6,10]	[5,10]	[16,168]	0.035	0.008	-9.1	5.6	85.087 %	0.0692
10	20	4	[6,10]	[5,10]	[32,168]	0.048	0.020	-23.9	-9.1	84.595 %	0.0627
10	20	4	[6,10]	[1,30]	[17,176]	0.034	0.009	1.6	6.5	95.277 %	0.0241
10	20	4	[6,10]	[1,30]	[34,176]	0.030	0.010	-15.0	-6.4	91.821 %	0.0617
10	20	4	[6,10]	[15,30]	[18,183]	0.036	0.008	-4.1	7.8	89.393 %	0.0509
10	20	4	[6,10]	[15,30]	[36,183]	0.046	0.013	-8.6	2.7	90.181 %	0.0392

Tiempo Promedio Total H_2: 0.033 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 89.815 %

Tabla de Experimentos

$n : 30, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	4	[1,10]	[1,10]	[15,156]	0.042	0.011	-9.7	2.8	85.777 %	0.0445
10	30	4	[1,10]	[1,10]	[30,156]	0.048	0.012	-21.1	-11.1	87.610 %	0.0450
10	30	4	[1,10]	[5,10]	[15,158]	0.044	0.013	-6.0	3.7	89.546 %	0.0578
10	30	4	[1,10]	[5,10]	[30,158]	0.043	0.015	-23.9	-10.1	84.307 %	0.0704
10	30	4	[1,10]	[1,30]	[16,166]	0.037	0.012	-1.7	2.5	95.658 %	0.0249
10	30	4	[1,10]	[1,30]	[32,166]	0.038	0.012	-9.8	-3.9	94.145 %	0.0355
10	30	4	[1,10]	[15,30]	[17,173]	0.042	0.013	8.7	21.0	89.350 %	0.0326
10	30	4	[1,10]	[15,30]	[34,173]	0.083	0.047	-9.2	2.6	88.336 %	0.0352
10	30	4	[3,10]	[1,10]	[18,186]	0.054	0.015	-11.5	7.8	82.433 %	0.0353
10	30	4	[3,10]	[1,10]	[36,186]	0.053	0.013	-27.9	-6.3	78.812 %	0.0577
10	30	4	[3,10]	[5,10]	[18,188]	0.059	0.018	-11.6	3.0	87.220 %	0.0787
10	30	4	[3,10]	[5,10]	[36,188]	0.054	0.013	-29.4	-10.2	81.617 %	0.0626
10	30	4	[3,10]	[1,30]	[19,196]	0.059	0.018	-3.6	4.9	92.969 %	0.0456
10	30	4	[3,10]	[1,30]	[38,196]	0.052	0.014	-17.3	-6.8	90.492 %	0.0282
10	30	4	[3,10]	[15,30]	[20,204]	0.056	0.015	1.1	18.1	86.354 %	0.0566
10	30	4	[3,10]	[15,30]	[40,204]	0.051	0.011	-13.1	3.2	87.294 %	0.0423
10	30	4	[6,10]	[1,10]	[24,247]	0.058	0.012	-15.0	9.7	83.048 %	0.0539
10	30	4	[6,10]	[1,10]	[48,247]	0.060	0.015	-36.8	-6.8	78.660 %	0.0387
10	30	4	[6,10]	[5,10]	[24,249]	0.059	0.015	-13.2	16.0	80.284 %	0.0691
10	30	4	[6,10]	[5,10]	[48,249]	0.053	0.013	-37.7	-16.0	84.030 %	0.0865
10	30	4	[6,10]	[1,30]	[25,257]	0.092	0.028	-2.7	19.1	86.056 %	0.0419
10	30	4	[6,10]	[1,30]	[50,257]	0.053	0.012	-29.6	-12.1	88.016 %	0.0426
10	30	4	[6,10]	[15,30]	[26,264]	0.057	0.012	-1.5	20.0	87.284 %	0.0474
10	30	4	[6,10]	[15,30]	[52,264]	0.073	0.017	-28.8	-1.2	82.590 %	0.0269

Tiempo Promedio Total H_2: 0.055 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 86.329 %

Tabla de Experimentos

$n : 50, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	4	[1,10]	[1,10]	[25,257]	0.111	0.023	-17.9	16.2	78.445 %	0.0471
10	50	4	[1,10]	[1,10]	[50,257]	0.106	0.023	-41.1	-11.0	79.059 %	0.0469
10	50	4	[1,10]	[5,10]	[25,259]	0.108	0.023	-19.5	7.9	82.335 %	0.0322
10	50	4	[1,10]	[5,10]	[50,259]	0.107	0.025	-41.6	-14.6	80.013 %	0.0375
10	50	4	[1,10]	[1,30]	[26,267]	0.086	0.024	-6.0	7.6	91.071 %	0.0289
10	50	4	[1,10]	[1,30]	[52,267]	0.133	0.037	-28.3	-12.0	89.276 %	0.0257
10	50	4	[1,10]	[15,30]	[27,274]	0.104	0.024	-4.1	19.5	86.237 %	0.0319
10	50	4	[1,10]	[15,30]	[54,274]	0.142	0.024	-28.0	2.9	81.670 %	0.0223
10	50	4	[3,10]	[1,10]	[30,308]	0.132	0.024	-23.1	21.3	76.505 %	0.0385
10	50	4	[3,10]	[1,10]	[60,308]	0.135	0.027	-51.8	-9.9	75.535 %	0.0358
10	50	4	[3,10]	[5,10]	[31,310]	0.128	0.025	-26.6	19.8	76.095 %	0.0320
10	50	4	[3,10]	[5,10]	[62,310]	0.145	0.024	-49.4	-7.9	76.149 %	0.0327
10	50	4	[3,10]	[1,30]	[31,318]	0.111	0.022	-13.3	18.8	84.032 %	0.0244
10	50	4	[3,10]	[1,30]	[62,318]	0.114	0.027	-44.3	-16.6	84.046 %	0.0274
10	50	4	[3,10]	[15,30]	[32,325]	0.126	0.020	-9.0	32.1	80.740 %	0.0688
10	50	4	[3,10]	[15,30]	[64,325]	0.129	0.026	-39.5	-2.4	80.639 %	0.0493
10	50	4	[6,10]	[1,10]	[40,409]	0.149	0.026	-30.1	28.6	76.809 %	0.0354
10	50	4	[6,10]	[1,10]	[80,409]	0.153	0.026	-78.5	-28.2	77.030 %	0.0604
10	50	4	[6,10]	[5,10]	[41,411]	0.142	0.022	-34.4	28.7	74.887 %	0.0240
10	50	4	[6,10]	[5,10]	[82,411]	0.158	0.025	-74.5	-29.2	79.194 %	0.0487
10	50	4	[6,10]	[1,30]	[41,419]	0.132	0.024	-21.1	23.2	82.742 %	0.0379
10	50	4	[6,10]	[1,30]	[82,419]	0.139	0.021	-63.3	-18.2	81.173 %	0.0510
10	50	4	[6,10]	[15,30]	[42,426]	0.145	0.020	-17.8	40.9	78.520 %	0.0360
10	50	4	[6,10]	[15,30]	[84,426]	0.165	0.023	-60.2	-2.9	77.201 %	0.0279

Tiempo Promedio Total H_2: 0.129 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 80.392 %

Tabla de Experimentos

$n : 100, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	4	[1,10]	[1,10]	[51,510]	0.636	0.063	-41.3	28.7	76.890 %	0.0194
10	100	4	[1,10]	[1,10]	[102,510]	0.674	0.064	-92.2	-17.4	74.116 %	0.0448
10	100	4	[1,10]	[5,10]	[51,512]	0.623	0.065	-40.1	29.9	77.396 %	0.0320
10	100	4	[1,10]	[5,10]	[102,512]	0.632	0.061	-91.8	-26.5	76.973 %	0.0375
10	100	4	[1,10]	[1,30]	[52,520]	0.490	0.063	-31.7	22.8	82.945 %	0.0355
10	100	4	[1,10]	[1,30]	[104,520]	0.478	0.063	-80.6	-19.7	78.769 %	0.0251
10	100	4	[1,10]	[15,30]	[52,527]	0.574	0.060	-28.2	41.3	78.948 %	0.0198
10	100	4	[1,10]	[15,30]	[104,527]	0.584	0.060	-78.0	-11.5	77.850 %	0.0362
10	100	4	[3,10]	[1,10]	[61,611]	0.737	0.063	-57.4	31.9	75.814 %	0.0251
10	100	4	[3,10]	[1,10]	[122,611]	0.747	0.061	-114.7	-21.9	73.330 %	0.0515
10	100	4	[3,10]	[5,10]	[61,613]	0.764	0.063	-52.6	36.5	75.998 %	0.0288
10	100	4	[3,10]	[5,10]	[122,613]	0.736	0.061	-112.8	-29.7	75.715 %	0.0378
10	100	4	[3,10]	[1,30]	[62,621]	0.677	0.063	-41.6	47.7	77.485 %	0.0208
10	100	4	[3,10]	[1,30]	[124,621]	0.645	0.060	-105.7	-22.5	76.508 %	0.0354
10	100	4	[3,10]	[15,30]	[62,628]	0.707	0.067	-37.2	58.7	76.658 %	0.0349
10	100	4	[3,10]	[15,30]	[124,628]	0.702	0.059	-101.6	-5.2	74.546 %	0.0327
10	100	4	[6,10]	[1,10]	[81,813]	0.841	0.060	-75.1	60.0	73.224 %	0.0341
10	100	4	[6,10]	[1,10]	[162,813]	0.831	0.062	-154.3	-15.9	70.723 %	0.0270
10	100	4	[6,10]	[5,10]	[81,815]	0.794	0.064	-71.7	55.6	74.617 %	0.0381
10	100	4	[6,10]	[5,10]	[162,815]	0.810	0.064	-152.1	-20.3	71.510 %	0.0381
10	100	4	[6,10]	[1,30]	[82,823]	0.786	0.063	-58.9	74.4	74.848 %	0.0183
10	100	4	[6,10]	[1,30]	[164,823]	0.785	0.060	-140.3	-11.7	73.082 %	0.0303
10	100	4	[6,10]	[15,30]	[83,830]	0.844	0.060	-58.8	77.9	74.383 %	0.0240
10	100	4	[6,10]	[15,30]	[166,830]	0.835	0.059	-144.2	-16.6	74.090 %	0.0486

Tiempo Promedio Total H_2: 0.706 seg.

Tiempo Promedio Total H_1: 0.062 seg.

Rendimiento Promedio Total: 75.684 %

Tabla de Experimentos

$n : 200, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	4	[1,10]	[1,10]	[101,1015]	4.948	0.200	-93.7	64.7	74.685 %	0.0187
10	200	4	[1,10]	[1,10]	[202,1015]	4.485	0.206	-197.0	-38.5	71.940 %	0.0113
10	200	4	[1,10]	[5,10]	[101,1017]	4.884	0.210	-93.4	50.6	76.637 %	0.0204
10	200	4	[1,10]	[5,10]	[202,1017]	4.816	0.207	-195.6	-58.5	75.289 %	0.0330
10	200	4	[1,10]	[1,30]	[102,1025]	3.962	0.206	-81.6	65.8	76.593 %	0.0238
10	200	4	[1,10]	[1,30]	[204,1025]	3.988	0.193	-176.7	-23.3	74.352 %	0.0262
10	200	4	[1,10]	[15,30]	[103,1032]	4.656	0.202	-78.1	85.1	75.158 %	0.0264
10	200	4	[1,10]	[15,30]	[206,1032]	4.652	0.201	-181.8	-33.1	75.027 %	0.0180
10	200	4	[3,10]	[1,10]	[121,1217]	5.117	0.206	-116.9	89.9	72.693 %	0.0238
10	200	4	[3,10]	[1,10]	[242,1217]	5.230	0.202	-234.3	-21.4	69.887 %	0.0291
10	200	4	[3,10]	[5,10]	[121,1219]	5.314	0.206	-111.9	90.8	73.093 %	0.0226
10	200	4	[3,10]	[5,10]	[242,1219]	5.353	0.205	-236.4	-37.4	71.406 %	0.0198
10	200	4	[3,10]	[1,30]	[122,1227]	4.909	0.205	-100.0	115.0	73.033 %	0.0234
10	200	4	[3,10]	[1,30]	[244,1227]	4.827	0.193	-225.9	-20.9	71.209 %	0.0168
10	200	4	[3,10]	[15,30]	[123,1234]	5.285	0.202	-97.2	124.4	72.171 %	0.0177
10	200	4	[3,10]	[15,30]	[246,1234]	5.133	0.197	-220.6	-8.6	70.759 %	0.0266
10	200	4	[6,10]	[1,10]	[162,1621]	5.771	0.200	-152.5	143.0	71.455 %	0.0227
10	200	4	[6,10]	[1,10]	[324,1621]	5.660	0.198	-314.1	-15.3	68.677 %	0.0275
10	200	4	[6,10]	[5,10]	[162,1623]	5.638	0.203	-153.2	131.3	72.071 %	0.0227
10	200	4	[6,10]	[5,10]	[324,1623]	5.777	0.201	-315.2	-29.8	70.011 %	0.0201
10	200	4	[6,10]	[1,30]	[163,1631]	5.619	0.194	-148.3	134.2	72.353 %	0.0137
10	200	4	[6,10]	[1,30]	[326,1631]	5.633	0.211	-306.1	-7.8	69.429 %	0.0136
10	200	4	[6,10]	[15,30]	[163,1638]	5.771	0.200	-140.1	175.7	70.546 %	0.0191
10	200	4	[6,10]	[15,30]	[326,1638]	5.874	0.205	-300.8	-2.6	69.862 %	0.0242

Tiempo Promedio Total H_2: 5.138 seg.

Tiempo Promedio Total H_1: 0.202 seg.

Rendimiento Promedio Total: 72.431 %

Tabla de Experimentos

$n : 300, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	4	[1,10]	[1,10]	[152,1520]	15.383	0.436	-150.5	102.2	73.182 %	0.0163
10	300	4	[1,10]	[1,10]	[304,1520]	15.311	0.440	-294.6	-40.4	71.131 %	0.0140
10	300	4	[1,10]	[5,10]	[152,1522]	15.615	0.446	-145.2	85.6	74.808 %	0.0235
10	300	4	[1,10]	[5,10]	[304,1522]	15.780	0.460	-296.3	-52.0	71.575 %	0.0110
10	300	4	[1,10]	[1,30]	[153,1530]	14.006	0.425	-133.5	90.0	76.056 %	0.0154
10	300	4	[1,10]	[1,30]	[306,1530]	14.553	0.427	-285.2	-49.3	72.837 %	0.0204
10	300	4	[1,10]	[15,30]	[153,1537]	14.949	0.432	-125.8	132.5	73.363 %	0.0215
10	300	4	[1,10]	[15,30]	[306,1537]	14.610	0.432	-280.0	-31.3	71.547 %	0.0108
10	300	4	[3,10]	[1,10]	[182,1823]	17.307	0.444	-178.4	141.9	72.331 %	0.0166
10	300	4	[3,10]	[1,10]	[364,1823]	17.151	0.430	-356.0	-31.7	69.340 %	0.0175
10	300	4	[3,10]	[5,10]	[182,1825]	17.433	0.442	-173.5	125.2	73.625 %	0.0231
10	300	4	[3,10]	[5,10]	[364,1825]	16.876	0.447	-355.6	-47.8	70.784 %	0.0175
10	300	4	[3,10]	[1,30]	[183,1833]	16.277	0.429	-165.8	164.5	72.460 %	0.0212
10	300	4	[3,10]	[1,30]	[366,1833]	16.161	0.430	-343.6	0.5	68.834 %	0.0178
10	300	4	[3,10]	[15,30]	[184,1840]	16.652	0.431	-158.1	183.3	71.521 %	0.0151
10	300	4	[3,10]	[15,30]	[368,1840]	17.048	0.441	-344.5	-8.3	69.196 %	0.0163
10	300	4	[6,10]	[1,10]	[242,2429]	18.884	0.444	-237.7	209.2	71.009 %	0.0242
10	300	4	[6,10]	[1,10]	[484,2429]	19.262	0.451	-481.1	-20.8	67.886 %	0.0202
10	300	4	[6,10]	[5,10]	[243,2431]	18.675	0.451	-230.6	228.0	70.820 %	0.0087
10	300	4	[6,10]	[5,10]	[486,2431]	19.004	0.450	-473.9	-30.2	69.002 %	0.0180
10	300	4	[6,10]	[1,30]	[243,2439]	18.366	0.422	-222.8	257.4	69.935 %	0.0134
10	300	4	[6,10]	[1,30]	[486,2439]	18.653	0.427	-466.1	11.8	67.691 %	0.0181
10	300	4	[6,10]	[15,30]	[244,2446]	18.825	0.427	-218.3	254.7	70.490 %	0.0125
10	300	4	[6,10]	[15,30]	[488,2446]	18.899	0.439	-462.7	-1.8	68.660 %	0.0209

Tiempo Promedio Total H_2: 16.903 seg.

Tiempo Promedio Total H_1: 0.438 seg.

Rendimiento Promedio Total: 71.170 %

Tabla de Experimentos

$n : 500, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	4	[1,10]	[1,10]	[253,2530]	74.401	1.166	-245.5	170.8	73.451 %	0.0136
10	500	4	[1,10]	[1,10]	[506,2530]	73.863	1.152	-498.7	-79.5	70.778 %	0.0195
10	500	4	[1,10]	[5,10]	[253,2532]	74.504	1.183	-243.1	160.9	73.966 %	0.0138
10	500	4	[1,10]	[5,10]	[506,2532]	73.883	1.203	-497.7	-94.9	71.806 %	0.0120
10	500	4	[1,10]	[1,30]	[254,2540]	69.189	1.129	-224.7	215.6	72.584 %	0.0147
10	500	4	[1,10]	[1,30]	[508,2540]	69.013	1.135	-483.3	-56.1	71.017 %	0.0148
10	500	4	[1,10]	[15,30]	[254,2547]	72.004	1.135	-231.8	201.6	73.035 %	0.0176
10	500	4	[1,10]	[15,30]	[508,2547]	71.650	1.140	-485.2	-58.4	70.836 %	0.0128
10	500	4	[3,10]	[1,10]	[303,3035]	80.374	1.163	-298.9	255.8	71.130 %	0.0184
10	500	4	[3,10]	[1,10]	[606,3035]	82.865	1.160	-598.2	-19.4	67.703 %	0.0110
10	500	4	[3,10]	[5,10]	[303,3037]	80.839	1.180	-293.5	239.6	72.014 %	0.0205
10	500	4	[3,10]	[5,10]	[606,3037]	80.626	1.188	-598.1	-57.6	69.369 %	0.0190
10	500	4	[3,10]	[1,30]	[304,3045]	80.327	1.122	-282.4	301.7	70.219 %	0.0107
10	500	4	[3,10]	[1,30]	[608,3045]	78.800	1.156	-585.6	13.4	67.354 %	0.0118
10	500	4	[3,10]	[15,30]	[305,3052]	79.960	1.152	-282.6	294.6	70.877 %	0.0169
10	500	4	[3,10]	[15,30]	[610,3052]	80.194	1.138	-586.8	3.7	68.040 %	0.0117
10	500	4	[6,10]	[1,10]	[404,4045]	88.147	1.154	-393.9	427.9	68.934 %	0.0065
10	500	4	[6,10]	[1,10]	[808,4045]	87.978	1.159	-798.4	-13.8	67.582 %	0.0160
10	500	4	[6,10]	[5,10]	[404,4047]	89.307	1.195	-400.0	338.6	71.490 %	0.0147
10	500	4	[6,10]	[5,10]	[808,4047]	89.743	1.184	-796.4	-41.4	68.429 %	0.0090
10	500	4	[6,10]	[1,30]	[405,4055]	88.401	1.122	-378.4	456.6	68.831 %	0.0129
10	500	4	[6,10]	[1,30]	[810,4055]	86.635	1.121	-793.2	23.9	66.846 %	0.0157
10	500	4	[6,10]	[15,30]	[406,4062]	88.752	1.156	-380.5	432.4	69.616 %	0.0188
10	500	4	[6,10]	[15,30]	[812,4062]	87.730	1.142	-784.3	14.6	67.374 %	0.0134

Tiempo Promedio Total H_2: 80.383 seg.

Tiempo Promedio Total H_1: 1.156 seg.

Rendimiento Promedio Total: 70.137 %

Tabla de Experimentos

$n : 750, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	4	[1,10]	[1,10]	[379,3792]	264.184	2.572	-371.4	263.1	72.990 %	0.0207
10	750	4	[1,10]	[1,10]	[758,3792]	261.077	2.555	-753.6	-109.7	70.194 %	0.0128
10	750	4	[1,10]	[5,10]	[379,3794]	266.429	2.622	-367.8	236.0	74.108 %	0.0155
10	750	4	[1,10]	[5,10]	[758,3794]	261.638	2.618	-748.2	-141.1	71.307 %	0.0047
10	750	4	[1,10]	[1,30]	[380,3802]	253.680	2.494	-362.2	301.2	72.175 %	0.0090
10	750	4	[1,10]	[1,30]	[760,3802]	251.378	2.480	-742.7	-66.7	69.391 %	0.0131
10	750	4	[1,10]	[15,30]	[380,3809]	262.126	2.531	-355.3	321.0	72.309 %	0.0131
10	750	4	[1,10]	[15,30]	[760,3809]	257.427	2.516	-734.4	-57.3	69.536 %	0.0114
10	750	4	[3,10]	[1,10]	[455,4550]	291.257	2.547	-446.1	424.3	70.258 %	0.0123
10	750	4	[3,10]	[1,10]	[910,4550]	288.937	2.556	-906.0	-25.5	67.575 %	0.0111
10	750	4	[3,10]	[5,10]	[455,4552]	288.317	2.634	-449.9	385.3	71.113 %	0.0097
10	750	4	[3,10]	[5,10]	[910,4552]	290.371	2.621	-904.7	-73.9	68.765 %	0.0093
10	750	4	[3,10]	[1,30]	[456,4560]	283.373	2.478	-434.1	484.5	69.231 %	0.0122
10	750	4	[3,10]	[1,30]	[912,4560]	283.265	2.499	-888.6	34.6	66.837 %	0.0141
10	750	4	[3,10]	[15,30]	[456,4567]	288.440	2.505	-432.0	466.0	69.757 %	0.0109
10	750	4	[3,10]	[15,30]	[912,4567]	286.024	2.568	-883.4	26.3	67.177 %	0.0067
10	750	4	[6,10]	[1,10]	[606,6065]	314.305	2.567	-606.4	620.3	68.936 %	0.0068
10	750	4	[6,10]	[1,10]	[1212,6065]	315.772	2.563	-1203.7	7.9	66.906 %	0.0123
10	750	4	[6,10]	[5,10]	[606,6067]	308.023	2.628	-597.1	537.7	70.657 %	0.0103
10	750	4	[6,10]	[5,10]	[1212,6067]	315.903	2.622	-1203.4	-46.8	67.762 %	0.0052
10	750	4	[6,10]	[1,30]	[607,6075]	311.131	2.496	-586.9	663.3	69.029 %	0.0095
10	750	4	[6,10]	[1,30]	[1214,6075]	310.068	2.475	-1192.9	68.1	66.003 %	0.0051
10	750	4	[6,10]	[15,30]	[608,6082]	309.093	2.491	-581.6	667.4	68.959 %	0.0117
10	750	4	[6,10]	[15,30]	[1216,6082]	310.518	2.505	-1192.9	70.1	66.186 %	0.0112

Tiempo Promedio Total H_2: 286.364 seg.

Tiempo Promedio Total H_1: 2.548 seg.

Rendimiento Promedio Total: 69.465 %

Tabla de Experimentos

$n : 1000, m : 4, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	4	[1,10]	[1,10]	[505,5055]	649.272	4.671	-497.5	393.4	71.928 %	0.0101
10	1000	4	[1,10]	[1,10]	[1010,5055]	653.396	4.621	-1004.3	-101.1	69.037 %	0.0050
10	1000	4	[1,10]	[5,10]	[505,5057]	663.773	4.801	-494.9	340.8	73.397 %	0.0064
10	1000	4	[1,10]	[5,10]	[1010,5057]	654.064	4.758	-1001.6	-174.6	71.187 %	0.0102
10	1000	4	[1,10]	[1,30]	[506,5065]	633.588	4.551	-485.3	447.2	71.222 %	0.0116
10	1000	4	[1,10]	[1,30]	[1012,5065]	626.418	4.569	-993.3	-92.0	69.564 %	0.0200
10	1000	4	[1,10]	[15,30]	[507,5072]	641.583	4.539	-479.6	447.5	71.267 %	0.0082
10	1000	4	[1,10]	[15,30]	[1014,5072]	653.291	4.548	-985.5	-64.7	69.106 %	0.0129
10	1000	4	[3,10]	[1,10]	[606,6065]	707.264	4.659	-598.2	587.6	69.872 %	0.0118
10	1000	4	[3,10]	[1,10]	[1212,6065]	724.733	4.695	-1202.4	13.2	66.658 %	0.0063
10	1000	4	[3,10]	[5,10]	[606,6067]	716.847	4.766	-599.4	512.5	71.142 %	0.0097
10	1000	4	[3,10]	[5,10]	[1212,6067]	715.664	4.785	-1202.9	-95.7	68.823 %	0.0102
10	1000	4	[3,10]	[1,30]	[607,6075]	691.151	4.488	-588.3	654.2	68.824 %	0.0100
10	1000	4	[3,10]	[1,30]	[1214,6075]	709.679	4.485	-1185.6	81.4	65.941 %	0.0073
10	1000	4	[3,10]	[15,30]	[608,6082]	710.279	4.561	-585.0	637.8	69.316 %	0.0124
10	1000	4	[3,10]	[15,30]	[1216,6082]	711.160	4.598	-1190.8	21.8	67.067 %	0.0115
10	1000	4	[6,10]	[1,10]	[808,8085]	773.037	4.704	-799.0	851.9	68.776 %	0.0059
10	1000	4	[6,10]	[1,10]	[1616,8085]	772.078	4.936	-1607.5	74.5	65.948 %	0.0046
10	1000	4	[6,10]	[5,10]	[808,8087]	768.170	4.777	-798.1	756.0	70.094 %	0.0058
10	1000	4	[6,10]	[5,10]	[1616,8087]	771.466	4.756	-1605.6	-56.5	67.811 %	0.0054
10	1000	4	[6,10]	[1,30]	[809,8095]	767.762	4.543	-783.1	913.0	68.338 %	0.0114
10	1000	4	[6,10]	[1,30]	[1618,8095]	767.525	4.651	-1600.3	124.4	65.470 %	0.0080
10	1000	4	[6,10]	[15,30]	[810,8102]	766.791	4.575	-783.8	905.5	68.680 %	0.0095
10	1000	4	[6,10]	[15,30]	[1620,8102]	768.768	4.585	-1592.9	112.4	65.694 %	0.0084

Tiempo Promedio Total H_2: 709.073 seg.

Tiempo Promedio Total H_1: 4.651 seg.

Rendimiento Promedio Total: 68.965 %

Tabla de Experimentos

$n : 10, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	6	[1,10]	[1,10]	[5,55]	0.015	0.009	0.7	1.7	96.764 %	0.0587
10	10	6	[1,10]	[1,10]	[10,55]	0.016	0.007	-5.8	-4.6	95.849 %	0.0722
10	10	6	[1,10]	[5,10]	[5,57]	0.017	0.010	2.7	3.9	96.288 %	0.0828
10	10	6	[1,10]	[5,10]	[10,57]	0.019	0.007	-1.2	1.0	93.746 %	0.1317
10	10	6	[1,10]	[1,30]	[6,65]	0.016	0.008	9.6	10.5	98.190 %	0.0206
10	10	6	[1,10]	[1,30]	[12,65]	0.019	0.008	5.0	6.4	96.055 %	0.1099
10	10	6	[1,10]	[15,30]	[7,72]	0.017	0.009	15.0	15.1	99.787 %	0.0064
10	10	6	[1,10]	[15,30]	[14,72]	0.013	0.006	8.7	9.3	98.888 %	0.0231
10	10	6	[3,10]	[1,10]	[6,65]	0.029	0.013	0.4	1.2	97.968 %	0.0317
10	10	6	[3,10]	[1,10]	[12,65]	0.021	0.011	-4.6	-4.4	99.343 %	0.0140
10	10	6	[3,10]	[5,10]	[6,67]	0.016	0.008	3.7	5.6	95.492 %	0.0541
10	10	6	[3,10]	[5,10]	[12,67]	0.056	0.016	-3.5	-2.5	97.437 %	0.0369
10	10	6	[3,10]	[1,30]	[7,75]	0.020	0.010	8.3	9.2	98.123 %	0.0308
10	10	6	[3,10]	[1,30]	[14,75]	0.016	0.009	7.7	8.3	98.828 %	0.0160
10	10	6	[3,10]	[15,30]	[8,82]	0.019	0.010	15.1	15.4	99.441 %	0.0168
10	10	6	[3,10]	[15,30]	[16,82]	0.023	0.015	7.4	8.5	97.894 %	0.0265
10	10	6	[6,10]	[1,10]	[8,85]	0.036	0.032	-7.8	-5.5	94.498 %	0.0480
10	10	6	[6,10]	[1,10]	[16,85]	0.025	0.014	-14.6	-13.5	97.790 %	0.0294
10	10	6	[6,10]	[5,10]	[8,87]	0.019	0.008	-2.9	0.7	91.705 %	0.1093
10	10	6	[6,10]	[5,10]	[16,87]	0.021	0.009	-6.2	-4.6	96.744 %	0.0386
10	10	6	[6,10]	[1,30]	[9,95]	0.024	0.014	3.8	4.3	99.094 %	0.0118
10	10	6	[6,10]	[1,30]	[18,95]	0.016	0.005	-2.6	-0.8	97.175 %	0.0664
10	10	6	[6,10]	[15,30]	[10,103]	0.014	0.011	15.1	15.5	99.475 %	0.0085
10	10	6	[6,10]	[15,30]	[20,103]	0.020	0.010	8.5	9.6	98.373 %	0.0129

Tiempo Promedio Total H_2: 0.021 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 97.290 %

Tabla de Experimentos

$n : 20, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	6	[1,10]	[1,10]	[10,106]	0.024	0.010	-6.7	-1.9	92.194 %	0.1152
10	20	6	[1,10]	[1,10]	[20,106]	0.024	0.009	-16.0	-14.3	96.503 %	0.0286
10	20	6	[1,10]	[5,10]	[10,108]	0.028	0.011	-14.4	2.6	71.212 %	0.4739
10	20	6	[1,10]	[5,10]	[20,108]	0.028	0.009	-10.5	-8.1	95.680 %	0.0343
10	20	6	[1,10]	[1,30]	[11,116]	0.024	0.013	7.3	8.7	98.098 %	0.0356
10	20	6	[1,10]	[1,30]	[22,116]	0.024	0.007	-5.1	-5.0	99.882 %	0.0035
10	20	6	[1,10]	[15,30]	[12,123]	0.029	0.014	12.1	13.0	98.827 %	0.0123
10	20	6	[1,10]	[15,30]	[24,123]	0.030	0.012	0.2	0.6	99.487 %	0.0086
10	20	6	[3,10]	[1,10]	[12,126]	0.027	0.011	-6.9	-1.9	92.143 %	0.0597
10	20	6	[3,10]	[1,10]	[24,126]	0.032	0.011	-15.1	-10.6	92.741 %	0.0263
10	20	6	[3,10]	[5,10]	[12,128]	0.032	0.009	-5.5	0.5	91.764 %	0.0519
10	20	6	[3,10]	[5,10]	[24,128]	0.029	0.011	-16.4	-11.9	93.315 %	0.0454
10	20	6	[3,10]	[1,30]	[13,136]	0.030	0.015	2.8	4.9	97.323 %	0.0494
10	20	6	[3,10]	[1,30]	[26,136]	0.051	0.023	-9.4	-2.9	92.020 %	0.2228
10	20	6	[3,10]	[15,30]	[14,143]	0.049	0.021	10.7	12.7	97.751 %	0.0141
10	20	6	[3,10]	[15,30]	[28,143]	0.027	0.011	-1.1	1.0	97.643 %	0.0227
10	20	6	[6,10]	[1,10]	[16,166]	0.038	0.011	-8.3	-2.1	92.875 %	0.0344
10	20	6	[6,10]	[1,10]	[32,166]	0.032	0.013	-22.3	-13.5	89.385 %	0.0373
10	20	6	[6,10]	[5,10]	[16,168]	0.032	0.011	-6.6	0.5	92.265 %	0.0492
10	20	6	[6,10]	[5,10]	[32,168]	0.033	0.011	-24.4	-13.5	87.568 %	0.0402
10	20	6	[6,10]	[1,30]	[17,176]	0.035	0.012	4.8	6.5	98.305 %	0.0127
10	20	6	[6,10]	[1,30]	[34,176]	0.032	0.012	-16.6	-13.5	97.184 %	0.0741
10	20	6	[6,10]	[15,30]	[18,183]	0.034	0.010	4.7	8.7	96.614 %	0.0227
10	20	6	[6,10]	[15,30]	[36,183]	0.039	0.010	-11.8	-5.2	93.823 %	0.0457

Tiempo Promedio Total H_2: 0.032 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 93.942 %

Tabla de Experimentos

$n : 30, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	6	[1,10]	[1,10]	[15,156]	0.037	0.012	-11.8	-6.8	93.753 %	0.0359
10	30	6	[1,10]	[1,10]	[30,156]	0.039	0.016	-21.7	-14.7	91.217 %	0.0292
10	30	6	[1,10]	[5,10]	[15,158]	0.040	0.016	-6.9	1.5	90.372 %	0.0503
10	30	6	[1,10]	[5,10]	[30,158]	0.041	0.017	-21.7	-13.9	90.359 %	0.0391
10	30	6	[1,10]	[1,30]	[16,166]	0.030	0.015	2.7	3.8	98.836 %	0.0146
10	30	6	[1,10]	[1,30]	[32,166]	0.035	0.013	-10.4	-9.9	99.426 %	0.0080
10	30	6	[1,10]	[15,30]	[17,173]	0.042	0.013	6.1	9.5	96.893 %	0.0197
10	30	6	[1,10]	[15,30]	[34,173]	0.041	0.015	-21.1	-5.1	85.350 %	0.3361
10	30	6	[3,10]	[1,10]	[18,186]	0.070	0.027	-11.9	-4.2	92.466 %	0.0507
10	30	6	[3,10]	[1,10]	[36,186]	0.055	0.017	-27.1	-14.5	86.761 %	0.0205
10	30	6	[3,10]	[5,10]	[18,188]	0.051	0.017	-12.4	-3.6	91.349 %	0.0331
10	30	6	[3,10]	[5,10]	[36,188]	0.051	0.013	-26.9	-18.3	90.939 %	0.0511
10	30	6	[3,10]	[1,30]	[19,196]	0.087	0.035	0.3	1.7	98.699 %	0.0106
10	30	6	[3,10]	[1,30]	[38,196]	0.055	0.014	-14.7	-12.8	98.024 %	0.0168
10	30	6	[3,10]	[15,30]	[20,204]	0.048	0.014	-1.2	4.2	95.513 %	0.0334
10	30	6	[3,10]	[15,30]	[40,204]	0.046	0.015	-17.4	-12.8	96.010 %	0.0160
10	30	6	[6,10]	[1,10]	[24,247]	0.059	0.012	-17.6	-0.9	87.091 %	0.0497
10	30	6	[6,10]	[1,10]	[48,247]	0.061	0.014	-40.7	-27.5	89.364 %	0.0535
10	30	6	[6,10]	[5,10]	[24,249]	0.060	0.015	-13.7	3.6	88.113 %	0.0494
10	30	6	[6,10]	[5,10]	[48,249]	0.055	0.014	-39.9	-24.5	87.780 %	0.0398
10	30	6	[6,10]	[1,30]	[25,257]	0.051	0.014	-4.9	1.7	95.469 %	0.0250
10	30	6	[6,10]	[1,30]	[50,257]	0.056	0.013	-28.8	-22.6	95.324 %	0.0187
10	30	6	[6,10]	[15,30]	[26,264]	0.052	0.014	-5.0	9.3	91.053 %	0.0395
10	30	6	[6,10]	[15,30]	[52,264]	0.056	0.016	-28.1	-14.9	90.931 %	0.0342

Tiempo Promedio Total H_2: 0.051 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 92.546 %

Tabla de Experimentos

$n : 50, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	6	[1,10]	[1,10]	[25,257]	0.089	0.022	-17.2	-2.5	89.368 %	0.0231
10	50	6	[1,10]	[1,10]	[50,257]	0.083	0.020	-42.3	-29.3	89.506 %	0.0245
10	50	6	[1,10]	[5,10]	[25,259]	0.098	0.025	-16.7	-3.0	90.090 %	0.0376
10	50	6	[1,10]	[5,10]	[50,259]	0.095	0.026	-41.2	-27.2	88.850 %	0.0249
10	50	6	[1,10]	[1,30]	[26,267]	0.062	0.024	-3.9	1.1	96.566 %	0.0254
10	50	6	[1,10]	[1,30]	[52,267]	0.087	0.029	-27.8	-24.8	97.822 %	0.0088
10	50	6	[1,10]	[15,30]	[27,274]	0.075	0.025	-0.9	10.5	92.967 %	0.0091
10	50	6	[1,10]	[15,30]	[54,274]	0.084	0.024	-32.1	-19.5	91.470 %	0.0350
10	50	6	[3,10]	[1,10]	[30,308]	0.117	0.025	-21.0	4.3	85.434 %	0.0323
10	50	6	[3,10]	[1,10]	[60,308]	0.124	0.026	-52.7	-28.2	84.510 %	0.0249
10	50	6	[3,10]	[5,10]	[31,310]	0.118	0.026	-21.6	-3.7	89.463 %	0.0377
10	50	6	[3,10]	[5,10]	[62,310]	0.126	0.024	-50.7	-30.7	87.617 %	0.0613
10	50	6	[3,10]	[1,30]	[31,318]	0.080	0.026	-21.4	-4.2	90.188 %	0.1314
10	50	6	[3,10]	[1,30]	[62,318]	0.090	0.026	-42.7	-33.1	93.804 %	0.0257
10	50	6	[3,10]	[15,30]	[32,325]	0.115	0.024	-15.9	-2.9	92.779 %	0.0351
10	50	6	[3,10]	[15,30]	[64,325]	0.105	0.025	-38.9	-20.9	89.984 %	0.0371
10	50	6	[6,10]	[1,10]	[40,409]	0.148	0.025	-31.3	-6.6	88.903 %	0.0571
10	50	6	[6,10]	[1,10]	[80,409]	0.139	0.026	-69.0	-33.5	83.434 %	0.0325
10	50	6	[6,10]	[5,10]	[41,411]	0.135	0.025	-34.5	-5.6	87.326 %	0.0638
10	50	6	[6,10]	[5,10]	[82,411]	0.147	0.025	-77.2	-43.3	83.858 %	0.0401
10	50	6	[6,10]	[1,30]	[41,419]	0.119	0.024	-19.6	5.0	89.224 %	0.0152
10	50	6	[6,10]	[1,30]	[82,419]	0.123	0.025	-61.2	-40.6	90.610 %	0.0273
10	50	6	[6,10]	[15,30]	[42,426]	0.139	0.024	-19.6	6.2	89.490 %	0.0376
10	50	6	[6,10]	[15,30]	[84,426]	0.129	0.028	-55.6	-24.3	86.465 %	0.0325

Tiempo Promedio Total H_2: 0.109 seg.

Tiempo Promedio Total H_1: 0.025 seg.

Rendimiento Promedio Total: 89.572 %

Tabla de Experimentos

$n : 100, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	6	[1,10]	[1,10]	[51,510]	0.452	0.061	-43.2	-2.9	85.298 %	0.0232
10	100	6	[1,10]	[1,10]	[102,510]	0.479	0.064	-93.1	-52.1	83.700 %	0.0335
10	100	6	[1,10]	[5,10]	[51,512]	0.521	0.065	-43.7	-4.8	86.245 %	0.0247
10	100	6	[1,10]	[5,10]	[102,512]	0.504	0.067	-92.9	-52.3	84.064 %	0.0284
10	100	6	[1,10]	[1,30]	[52,520]	0.334	0.064	-28.0	2.4	89.319 %	0.0144
10	100	6	[1,10]	[1,30]	[104,520]	0.318	0.065	-84.3	-60.6	90.364 %	0.0225
10	100	6	[1,10]	[15,30]	[52,527]	0.404	0.061	-24.1	14.8	87.143 %	0.0129
10	100	6	[1,10]	[15,30]	[104,527]	0.452	0.060	-77.4	-34.8	84.437 %	0.0229
10	100	6	[3,10]	[1,10]	[61,611]	0.616	0.066	-52.5	4.8	83.428 %	0.0238
10	100	6	[3,10]	[1,10]	[122,611]	0.620	0.060	-113.2	-61.7	83.047 %	0.0478
10	100	6	[3,10]	[5,10]	[61,613]	0.627	0.063	-51.3	1.6	84.490 %	0.0300
10	100	6	[3,10]	[5,10]	[122,613]	0.657	0.060	-112.0	-54.1	81.713 %	0.0334
10	100	6	[3,10]	[1,30]	[62,621]	0.482	0.065	-47.0	-5.0	87.656 %	0.0197
10	100	6	[3,10]	[1,30]	[124,621]	0.470	0.059	-102.5	-60.2	86.862 %	0.0261
10	100	6	[3,10]	[15,30]	[62,628]	0.570	0.062	-35.0	20.5	84.721 %	0.0193
10	100	6	[3,10]	[15,30]	[124,628]	0.551	0.063	-97.9	-42.6	83.267 %	0.0225
10	100	6	[6,10]	[1,10]	[81,813]	0.735	0.063	-71.2	-6.0	85.370 %	0.0500
10	100	6	[6,10]	[1,10]	[162,813]	0.728	0.061	-157.3	-65.4	77.906 %	0.0221
10	100	6	[6,10]	[5,10]	[81,815]	0.708	0.065	-67.8	1.6	84.398 %	0.0440
10	100	6	[6,10]	[5,10]	[162,815]	0.750	0.062	-150.0	-70.2	80.862 %	0.0282
10	100	6	[6,10]	[1,30]	[82,823]	0.625	0.060	-61.4	9.8	84.757 %	0.0128
10	100	6	[6,10]	[1,30]	[164,823]	0.646	0.059	-139.2	-66.0	83.042 %	0.0314
10	100	6	[6,10]	[15,30]	[83,830]	0.709	0.062	-59.7	21.3	83.066 %	0.0244
10	100	6	[6,10]	[15,30]	[166,830]	0.723	0.058	-143.9	-64.5	81.883 %	0.0256

Tiempo Promedio Total H_2: 0.570 seg.

Tiempo Promedio Total H_1: 0.062 seg.

Rendimiento Promedio Total: 84.460 %

Tabla de Experimentos

$n : 200, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	6	[1,10]	[1,10]	[101,1015]	3.819	0.210	-95.0	-4.4	83.662 %	0.0187
10	200	6	[1,10]	[1,10]	[202,1015]	3.637	0.205	-194.9	-102.2	81.765 %	0.0203
10	200	6	[1,10]	[5,10]	[101,1017]	3.709	0.227	-91.4	-0.3	83.651 %	0.0185
10	200	6	[1,10]	[5,10]	[202,1017]	3.719	0.214	-192.2	-102.7	82.450 %	0.0255
10	200	6	[1,10]	[1,30]	[102,1025]	2.807	0.198	-78.7	7.9	84.877 %	0.0191
10	200	6	[1,10]	[1,30]	[204,1025]	2.675	0.200	-180.7	-100.3	84.353 %	0.0197
10	200	6	[1,10]	[15,30]	[103,1032]	3.251	0.209	-78.7	9.3	84.930 %	0.0283
10	200	6	[1,10]	[15,30]	[206,1032]	3.379	0.203	-178.8	-79.6	81.574 %	0.0161
10	200	6	[3,10]	[1,10]	[121,1217]	4.340	0.207	-114.8	24.3	79.847 %	0.0168
10	200	6	[3,10]	[1,10]	[242,1217]	4.337	0.208	-232.5	-93.4	77.692 %	0.0288
10	200	6	[3,10]	[5,10]	[121,1219]	4.328	0.213	-113.3	12.2	81.641 %	0.0270
10	200	6	[3,10]	[5,10]	[242,1219]	4.449	0.208	-233.7	-122.3	81.825 %	0.0365
10	200	6	[3,10]	[1,30]	[122,1227]	3.710	0.204	-102.6	28.9	81.111 %	0.0142
10	200	6	[3,10]	[1,30]	[244,1227]	3.720	0.213	-223.4	-95.4	79.617 %	0.0116
10	200	6	[3,10]	[15,30]	[123,1234]	4.130	0.204	-103.6	21.8	82.309 %	0.0286
10	200	6	[3,10]	[15,30]	[246,1234]	4.217	0.210	-218.9	-81.6	79.241 %	0.0132
10	200	6	[6,10]	[1,10]	[162,1621]	5.138	0.207	-160.9	27.0	79.458 %	0.0257
10	200	6	[6,10]	[1,10]	[324,1621]	4.985	0.204	-317.2	-140.0	78.516 %	0.0176
10	200	6	[6,10]	[5,10]	[162,1623]	5.092	0.210	-154.8	0.9	82.729 %	0.0341
10	200	6	[6,10]	[5,10]	[324,1623]	5.273	0.252	-314.8	-136.1	78.436 %	0.0182
10	200	6	[6,10]	[1,30]	[163,1631]	4.662	0.210	-142.5	39.7	80.542 %	0.0132
10	200	6	[6,10]	[1,30]	[326,1631]	4.736	0.208	-302.6	-117.6	78.893 %	0.0203
10	200	6	[6,10]	[15,30]	[163,1638]	4.946	0.200	-137.0	52.0	79.849 %	0.0146
10	200	6	[6,10]	[15,30]	[326,1638]	5.152	0.205	-297.6	-110.0	78.821 %	0.0229

Tiempo Promedio Total H_2: 4.175 seg.

Tiempo Promedio Total H_1: 0.210 seg.

Rendimiento Promedio Total: 81.158 %

Tabla de Experimentos

$n : 300, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	6	[1,10]	[1,10]	[152,1520]	12.129	0.435	-143.7	9.8	81.930 %	0.0179
10	300	6	[1,10]	[1,10]	[304,1520]	12.062	0.443	-296.7	-141.3	79.838 %	0.0225
10	300	6	[1,10]	[5,10]	[152,1522]	12.279	0.445	-144.7	-0.3	82.661 %	0.0184
10	300	6	[1,10]	[5,10]	[304,1522]	12.376	0.442	-296.0	-149.9	80.728 %	0.0257
10	300	6	[1,10]	[1,30]	[153,1530]	10.086	0.429	-137.4	4.8	83.241 %	0.0224
10	300	6	[1,10]	[1,30]	[306,1530]	10.201	0.425	-282.7	-128.9	80.272 %	0.0214
10	300	6	[1,10]	[15,30]	[153,1537]	11.607	0.427	-128.5	17.9	83.002 %	0.0097
10	300	6	[1,10]	[15,30]	[306,1537]	11.706	0.426	-280.7	-134.9	81.549 %	0.0150
10	300	6	[3,10]	[1,10]	[182,1823]	14.120	0.435	-173.0	40.5	79.591 %	0.0121
10	300	6	[3,10]	[1,10]	[364,1823]	14.436	0.430	-356.2	-151.4	78.187 %	0.0229
10	300	6	[3,10]	[5,10]	[182,1825]	14.447	0.450	-172.2	28.9	80.642 %	0.0119
10	300	6	[3,10]	[5,10]	[364,1825]	14.539	0.444	-358.5	-156.9	78.174 %	0.0147
10	300	6	[3,10]	[1,30]	[183,1833]	12.904	0.423	-158.5	53.5	79.959 %	0.0113
10	300	6	[3,10]	[1,30]	[366,1833]	12.956	0.425	-342.2	-127.5	77.962 %	0.0134
10	300	6	[3,10]	[15,30]	[184,1840]	14.074	0.429	-162.1	42.5	80.483 %	0.0206
10	300	6	[3,10]	[15,30]	[368,1840]	13.998	0.434	-342.0	-139.4	78.819 %	0.0223
10	300	6	[6,10]	[1,10]	[242,2429]	16.713	0.442	-233.6	54.5	79.010 %	0.0147
10	300	6	[6,10]	[1,10]	[484,2429]	16.459	0.436	-475.5	-212.4	78.953 %	0.0180
10	300	6	[6,10]	[5,10]	[243,2431]	16.523	0.452	-231.5	50.8	79.620 %	0.0164
10	300	6	[6,10]	[5,10]	[486,2431]	16.448	0.443	-476.0	-204.2	78.353 %	0.0209
10	300	6	[6,10]	[1,30]	[243,2439]	15.338	0.423	-230.1	64.8	79.010 %	0.0134
10	300	6	[6,10]	[1,30]	[486,2439]	15.271	0.432	-476.6	-187.6	77.249 %	0.0171
10	300	6	[6,10]	[15,30]	[244,2446]	16.152	0.438	-218.0	84.1	78.690 %	0.0126
10	300	6	[6,10]	[15,30]	[488,2446]	16.655	0.429	-467.6	-182.6	77.867 %	0.0202

Tiempo Promedio Total H_2: 13.895 seg.

Tiempo Promedio Total H_1: 0.435 seg.

Rendimiento Promedio Total: 79.825 %

Tabla de Experimentos

$n : 500, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	6	[1,10]	[1,10]	[253,2530]	56.647	1.162	-243.8	14.8	81.436 %	0.0088
10	500	6	[1,10]	[1,10]	[506,2530]	57.131	1.175	-499.9	-238.5	79.584 %	0.0167
10	500	6	[1,10]	[5,10]	[253,2532]	58.746	1.196	-243.2	12.4	81.925 %	0.0119
10	500	6	[1,10]	[5,10]	[506,2532]	60.940	1.201	-497.4	-250.1	80.687 %	0.0142
10	500	6	[1,10]	[1,30]	[254,2540]	51.243	1.135	-232.4	15.4	82.276 %	0.0148
10	500	6	[1,10]	[1,30]	[508,2540]	50.249	1.135	-487.3	-223.3	80.057 %	0.0129
10	500	6	[1,10]	[15,30]	[254,2547]	55.035	1.145	-227.0	53.3	80.483 %	0.0124
10	500	6	[1,10]	[15,30]	[508,2547]	55.251	1.145	-485.2	-214.2	79.282 %	0.0154
10	500	6	[3,10]	[1,10]	[303,3035]	67.144	1.170	-295.7	63.0	79.537 %	0.0137
10	500	6	[3,10]	[1,10]	[606,3035]	68.201	1.161	-599.5	-237.1	77.158 %	0.0133
10	500	6	[3,10]	[5,10]	[303,3037]	68.573	1.197	-293.3	57.5	79.711 %	0.0120
10	500	6	[3,10]	[5,10]	[606,3037]	68.798	1.208	-597.8	-248.5	77.665 %	0.0151
10	500	6	[3,10]	[1,30]	[304,3045]	64.169	1.133	-281.9	67.0	79.903 %	0.0182
10	500	6	[3,10]	[1,30]	[608,3045]	63.753	1.146	-585.7	-223.2	77.561 %	0.0077
10	500	6	[3,10]	[15,30]	[305,3052]	65.934	1.144	-281.7	91.1	78.961 %	0.0149
10	500	6	[3,10]	[15,30]	[610,3052]	66.422	1.148	-585.3	-240.8	78.418 %	0.0205
10	500	6	[6,10]	[1,10]	[404,4045]	77.650	1.172	-399.4	127.0	77.574 %	0.0085
10	500	6	[6,10]	[1,10]	[808,4045]	76.453	1.172	-799.3	-287.2	76.107 %	0.0159
10	500	6	[6,10]	[5,10]	[404,4047]	78.110	1.198	-396.5	52.8	80.446 %	0.0260
10	500	6	[6,10]	[5,10]	[808,4047]	78.195	1.195	-797.3	-313.2	76.920 %	0.0141
10	500	6	[6,10]	[1,30]	[405,4055]	74.033	1.134	-378.4	148.5	77.904 %	0.0158
10	500	6	[6,10]	[1,30]	[810,4055]	73.344	1.155	-785.1	-261.0	75.764 %	0.0135
10	500	6	[6,10]	[15,30]	[406,4062]	77.839	1.139	-380.2	160.6	77.481 %	0.0129
10	500	6	[6,10]	[15,30]	[812,4062]	76.713	1.153	-786.5	-255.1	75.756 %	0.0094

Tiempo Promedio Total H_2: 66.274 seg.

Tiempo Promedio Total H_1: 1.163 seg.

Rendimiento Promedio Total: 78.858 %

Tabla de Experimentos

$n : 750, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	6	[1,10]	[1,10]	[379,3792]	208.028	2.551	-371.8	54.9	79.918 %	0.0135
10	750	6	[1,10]	[1,10]	[758,3792]	209.734	2.550	-749.3	-332.6	78.656 %	0.0094
10	750	6	[1,10]	[5,10]	[379,3794]	213.916	2.628	-370.0	37.6	80.751 %	0.0063
10	750	6	[1,10]	[5,10]	[758,3794]	213.128	2.626	-748.7	-360.4	79.723 %	0.0097
10	750	6	[1,10]	[1,30]	[380,3802]	195.793	2.501	-357.8	62.9	80.615 %	0.0116
10	750	6	[1,10]	[1,30]	[760,3802]	195.908	2.501	-736.0	-305.1	78.185 %	0.0099
10	750	6	[1,10]	[15,30]	[380,3809]	207.021	2.524	-354.7	78.7	80.037 %	0.0119
10	750	6	[1,10]	[15,30]	[760,3809]	206.164	2.525	-734.1	-313.4	78.724 %	0.0133
10	750	6	[3,10]	[1,10]	[455,4550]	244.492	2.553	-446.4	125.6	78.244 %	0.0098
10	750	6	[3,10]	[1,10]	[910,4550]	241.660	2.562	-906.5	-352.0	76.864 %	0.0080
10	750	6	[3,10]	[5,10]	[455,4552]	246.252	2.611	-449.5	83.6	79.368 %	0.0086
10	750	6	[3,10]	[5,10]	[910,4552]	244.496	2.660	-902.2	-368.9	77.541 %	0.0104
10	750	6	[3,10]	[1,30]	[456,4560]	232.502	2.497	-441.4	146.2	77.678 %	0.0086
10	750	6	[3,10]	[1,30]	[912,4560]	235.090	2.505	-892.5	-329.9	76.720 %	0.0112
10	750	6	[3,10]	[15,30]	[456,4567]	239.046	2.529	-431.1	156.2	78.024 %	0.0087
10	750	6	[3,10]	[15,30]	[912,4567]	238.657	2.509	-887.7	-311.9	76.306 %	0.0180
10	750	6	[6,10]	[1,10]	[606,6065]	274.557	2.557	-595.3	170.5	78.045 %	0.0114
10	750	6	[6,10]	[1,10]	[1212,6065]	278.232	2.573	-1209.5	-427.1	75.538 %	0.0086
10	750	6	[6,10]	[5,10]	[606,6067]	277.589	2.627	-593.9	137.1	78.760 %	0.0083
10	750	6	[6,10]	[5,10]	[1212,6067]	280.072	2.629	-1204.6	-477.7	76.926 %	0.0139
10	750	6	[6,10]	[1,30]	[607,6075]	270.208	2.505	-589.0	168.9	78.545 %	0.0137
10	750	6	[6,10]	[1,30]	[1214,6075]	271.504	2.518	-1190.4	-382.0	75.317 %	0.0141
10	750	6	[6,10]	[15,30]	[608,6082]	270.400	2.521	-583.8	223.6	77.427 %	0.0106
10	750	6	[6,10]	[15,30]	[1216,6082]	272.454	2.548	-1191.3	-370.0	74.980 %	0.0092

Tiempo Promedio Total H_2: 240.288 seg.

Tiempo Promedio Total H_1: 2.555 seg.

Rendimiento Promedio Total: 78.037 %

Tabla de Experimentos

$n : 1000, m : 6, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	6	[1,10]	[1,10]	[505,5055]	517.833	4.359	-498.1	77.8	80.001 %	0.0107
10	1000	6	[1,10]	[1,10]	[1010,5055]	513.762	4.397	-1000.9	-441.3	78.212 %	0.0111
10	1000	6	[1,10]	[5,10]	[505,5057]	528.661	4.511	-496.8	50.3	80.714 %	0.0068
10	1000	6	[1,10]	[5,10]	[1010,5057]	523.382	4.504	-1000.5	-461.2	79.124 %	0.0075
10	1000	6	[1,10]	[1,30]	[506,5065]	493.985	4.224	-487.8	89.2	79.937 %	0.0156
10	1000	6	[1,10]	[1,30]	[1012,5065]	486.962	4.251	-991.4	-406.8	77.738 %	0.0108
10	1000	6	[1,10]	[15,30]	[507,5072]	504.897	4.320	-485.6	89.1	80.151 %	0.0067
10	1000	6	[1,10]	[15,30]	[1014,5072]	514.134	4.311	-986.6	-394.5	77.704 %	0.0128
10	1000	6	[3,10]	[1,10]	[606,6065]	593.123	4.398	-599.6	179.4	77.908 %	0.0058
10	1000	6	[3,10]	[1,10]	[1212,6065]	599.656	4.341	-1204.1	-436.5	76.140 %	0.0139
10	1000	6	[3,10]	[5,10]	[606,6067]	604.420	4.540	-599.2	139.0	78.647 %	0.0048
10	1000	6	[3,10]	[5,10]	[1212,6067]	601.823	4.527	-1200.8	-460.6	76.484 %	0.0065
10	1000	6	[3,10]	[1,30]	[607,6075]	577.596	4.260	-587.5	211.7	77.551 %	0.0113
10	1000	6	[3,10]	[1,30]	[1214,6075]	584.160	4.273	-1194.3	-426.3	76.206 %	0.0144
10	1000	6	[3,10]	[15,30]	[608,6082]	587.650	4.322	-582.4	185.8	78.404 %	0.0096
10	1000	6	[3,10]	[15,30]	[1216,6082]	591.405	4.320	-1192.0	-403.1	75.802 %	0.0118
10	1000	6	[6,10]	[1,10]	[808,8085]	672.767	4.407	-807.6	236.3	77.642 %	0.0098
10	1000	6	[6,10]	[1,10]	[1616,8085]	684.026	4.436	-1608.6	-522.2	75.030 %	0.0097
10	1000	6	[6,10]	[5,10]	[808,8087]	678.245	4.553	-795.8	206.9	78.408 %	0.0089
10	1000	6	[6,10]	[5,10]	[1616,8087]	677.849	4.574	-1607.9	-571.9	75.920 %	0.0035
10	1000	6	[6,10]	[1,30]	[809,8095]	662.255	4.217	-790.2	273.4	77.674 %	0.0140
10	1000	6	[6,10]	[1,30]	[1618,8095]	667.194	4.283	-1592.0	-493.1	74.785 %	0.0097
10	1000	6	[6,10]	[15,30]	[810,8102]	684.592	4.308	-783.9	325.2	76.775 %	0.0072
10	1000	6	[6,10]	[15,30]	[1620,8102]	670.507	4.322	-1592.4	-477.7	74.539 %	0.0033

Tiempo Promedio Total H_2: 592.537 seg.

Tiempo Promedio Total H_1: 4.373 seg.

Rendimiento Promedio Total: 77.562 %

Tabla de Experimentos

$n : 10, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	10	[1,10]	[1,10]	[5,55]	0.017	0.007	3.5	3.5	100.000 %	0.0000
10	10	10	[1,10]	[1,10]	[10,55]	0.015	0.009	-6.4	-4.5	93.923 %	0.1330
10	10	10	[1,10]	[5,10]	[5,57]	0.013	0.009	1.8	2.3	98.420 %	0.0284
10	10	10	[1,10]	[5,10]	[10,57]	0.013	0.007	-0.8	-0.7	99.644 %	0.0107
10	10	10	[1,10]	[1,30]	[6,65]	0.017	0.008	12.2	13.1	98.126 %	0.0316
10	10	10	[1,10]	[1,30]	[12,65]	0.013	0.010	8.3	9.1	98.569 %	0.0258
10	10	10	[1,10]	[15,30]	[7,72]	0.018	0.012	15.5	16.1	99.118 %	0.0265
10	10	10	[1,10]	[15,30]	[14,72]	0.015	0.007	7.2	7.5	99.335 %	0.0200
10	10	10	[3,10]	[1,10]	[6,65]	0.018	0.009	-1.5	-1.5	100.000 %	0.0000
10	10	10	[3,10]	[1,10]	[12,65]	0.015	0.010	-3.8	-3.1	98.103 %	0.0569
10	10	10	[3,10]	[5,10]	[6,67]	0.017	0.012	2.1	2.1	100.000 %	0.0000
10	10	10	[3,10]	[5,10]	[12,67]	0.015	0.007	-3.4	-3.0	98.830 %	0.0145
10	10	10	[3,10]	[1,30]	[7,75]	0.015	0.005	14.7	16.0	97.733 %	0.0388
10	10	10	[3,10]	[1,30]	[14,75]	0.016	0.008	4.8	5.2	98.960 %	0.0243
10	10	10	[3,10]	[15,30]	[8,82]	0.022	0.014	18.7	18.7	100.000 %	0.0000
10	10	10	[3,10]	[15,30]	[16,82]	0.020	0.009	8.4	9.0	98.875 %	0.0225
10	10	10	[6,10]	[1,10]	[8,85]	0.018	0.008	-1.9	-0.1	96.032 %	0.1022
10	10	10	[6,10]	[1,10]	[16,85]	0.019	0.008	-13.5	-13.4	99.711 %	0.0087
10	10	10	[6,10]	[5,10]	[8,87]	0.021	0.013	-0.4	-0.3	99.789 %	0.0063
10	10	10	[6,10]	[5,10]	[16,87]	0.019	0.009	-9.8	-9.8	100.000 %	0.0000
10	10	10	[6,10]	[1,30]	[9,95]	0.020	0.012	7.3	12.4	91.733 %	0.2068
10	10	10	[6,10]	[1,30]	[18,95]	0.017	0.009	2.6	3.0	99.384 %	0.0100
10	10	10	[6,10]	[15,30]	[10,103]	0.019	0.011	11.0	11.6	99.105 %	0.0185
10	10	10	[6,10]	[15,30]	[20,103]	0.019	0.009	5.4	5.7	99.589 %	0.0088

Tiempo Promedio Total H_2: 0.017 seg.

Tiempo Promedio Total H_1: 0.009 seg.

Rendimiento Promedio Total: 98.541 %

Tabla de Experimentos

$n : 20, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	10	[1,10]	[1,10]	[10,106]	0.027	0.012	-16.9	-2.0	76.652 %	0.4930
10	20	10	[1,10]	[1,10]	[20,106]	0.025	0.010	-12.1	-12.0	99.827 %	0.0052
10	20	10	[1,10]	[5,10]	[10,108]	0.023	0.010	-3.3	-2.1	98.013 %	0.0263
10	20	10	[1,10]	[5,10]	[20,108]	0.022	0.012	-11.0	-10.3	98.786 %	0.0188
10	20	10	[1,10]	[1,30]	[11,116]	0.023	0.011	3.8	4.3	99.299 %	0.0145
10	20	10	[1,10]	[1,30]	[22,116]	0.025	0.010	-4.2	0.8	93.490 %	0.1538
10	20	10	[1,10]	[15,30]	[12,123]	0.025	0.012	9.8	10.0	99.752 %	0.0074
10	20	10	[1,10]	[15,30]	[24,123]	0.024	0.009	-0.9	0.0	98.557 %	0.0294
10	20	10	[3,10]	[1,10]	[12,126]	0.028	0.011	-5.0	-4.6	99.383 %	0.0125
10	20	10	[3,10]	[1,10]	[24,126]	0.037	0.028	-15.0	-14.1	98.301 %	0.0239
10	20	10	[3,10]	[5,10]	[12,128]	0.028	0.009	-8.7	-5.4	95.479 %	0.0603
10	20	10	[3,10]	[5,10]	[24,128]	0.036	0.015	-14.7	-14.5	99.700 %	0.0060
10	20	10	[3,10]	[1,30]	[13,136]	0.038	0.023	7.1	7.1	100.000 %	0.0000
10	20	10	[3,10]	[1,30]	[26,136]	0.027	0.012	-6.5	-6.0	99.419 %	0.0132
10	20	10	[3,10]	[15,30]	[14,143]	0.027	0.010	8.6	9.0	99.516 %	0.0081
10	20	10	[3,10]	[15,30]	[28,143]	0.026	0.011	-5.3	-3.2	97.511 %	0.0438
10	20	10	[6,10]	[1,10]	[16,166]	0.033	0.012	-9.7	-8.1	98.247 %	0.0153
10	20	10	[6,10]	[1,10]	[32,166]	0.032	0.012	-26.3	-24.9	97.943 %	0.0200
10	20	10	[6,10]	[5,10]	[16,168]	0.030	0.010	-7.4	-6.1	98.606 %	0.0159
10	20	10	[6,10]	[5,10]	[32,168]	0.036	0.013	-22.7	-20.8	97.718 %	0.0237
10	20	10	[6,10]	[1,30]	[17,176]	0.030	0.011	-5.2	-0.4	94.912 %	0.1397
10	20	10	[6,10]	[1,30]	[34,176]	0.038	0.016	-14.2	-13.9	99.612 %	0.0087
10	20	10	[6,10]	[15,30]	[18,183]	0.035	0.013	6.5	7.2	99.400 %	0.0068
10	20	10	[6,10]	[15,30]	[36,183]	0.053	0.014	-11.1	-10.9	99.810 %	0.0057

Tiempo Promedio Total H_2: 0.030 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 97.497 %

Tabla de Experimentos

$n : 30, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	10	[1,10]	[1,10]	[15,156]	0.031	0.015	-9.7	-8.5	98.419 %	0.0147
10	30	10	[1,10]	[1,10]	[30,156]	0.030	0.014	-24.2	-22.8	98.091 %	0.0142
10	30	10	[1,10]	[5,10]	[15,158]	0.034	0.015	-6.8	-4.7	97.440 %	0.0174
10	30	10	[1,10]	[5,10]	[30,158]	0.032	0.015	-21.3	-19.1	96.933 %	0.0196
10	30	10	[1,10]	[1,30]	[16,166]	0.033	0.015	4.6	6.3	98.271 %	0.0390
10	30	10	[1,10]	[1,30]	[32,166]	0.035	0.016	-10.9	-10.6	99.640 %	0.0077
10	30	10	[1,10]	[15,30]	[17,173]	0.036	0.016	4.8	5.1	99.652 %	0.0104
10	30	10	[1,10]	[15,30]	[34,173]	0.037	0.016	-9.1	-6.6	97.686 %	0.0527
10	30	10	[3,10]	[1,10]	[18,186]	0.044	0.017	-8.5	-5.7	96.843 %	0.0223
10	30	10	[3,10]	[1,10]	[36,186]	0.057	0.019	-26.6	-23.1	96.273 %	0.0206
10	30	10	[3,10]	[5,10]	[18,188]	0.065	0.025	-12.5	-5.4	93.073 %	0.1437
10	30	10	[3,10]	[5,10]	[36,188]	0.051	0.019	-25.8	-21.3	94.778 %	0.0384
10	30	10	[3,10]	[1,30]	[19,196]	0.041	0.016	-6.2	-1.3	95.646 %	0.1221
10	30	10	[3,10]	[1,30]	[38,196]	0.043	0.017	-18.1	-17.6	99.508 %	0.0070
10	30	10	[3,10]	[15,30]	[20,204]	0.042	0.015	5.1	7.2	98.247 %	0.0138
10	30	10	[3,10]	[15,30]	[40,204]	0.045	0.020	-16.7	-15.9	99.266 %	0.0053
10	30	10	[6,10]	[1,10]	[24,247]	0.054	0.015	-15.8	-10.4	95.855 %	0.0261
10	30	10	[6,10]	[1,10]	[48,247]	0.056	0.017	-40.9	-35.2	94.946 %	0.0279
10	30	10	[6,10]	[5,10]	[24,249]	0.055	0.020	-15.5	-8.9	94.780 %	0.0218
10	30	10	[6,10]	[5,10]	[48,249]	0.054	0.015	-41.1	-35.6	94.866 %	0.0253
10	30	10	[6,10]	[1,30]	[25,257]	0.047	0.014	-2.1	-1.7	99.743 %	0.0042
10	30	10	[6,10]	[1,30]	[50,257]	0.048	0.016	-29.9	-29.7	99.847 %	0.0031
10	30	10	[6,10]	[15,30]	[26,264]	0.049	0.015	-6.2	-3.9	98.411 %	0.0186
10	30	10	[6,10]	[15,30]	[52,264]	0.055	0.011	-28.0	-25.6	98.134 %	0.0176

Tiempo Promedio Total H_2: 0.045 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 97.348 %

Tabla de Experimentos

$n : 50, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	10	[1,10]	[1,10]	[25,257]	0.064	0.024	-19.2	-15.4	96.866 %	0.0290
10	50	10	[1,10]	[1,10]	[50,257]	0.066	0.025	-42.6	-36.4	94.682 %	0.0277
10	50	10	[1,10]	[5,10]	[25,259]	0.082	0.022	-13.1	-7.3	95.738 %	0.0233
10	50	10	[1,10]	[5,10]	[50,259]	0.074	0.024	-40.3	-34.7	95.201 %	0.0327
10	50	10	[1,10]	[1,30]	[26,267]	0.054	0.024	-6.7	-4.6	98.529 %	0.0322
10	50	10	[1,10]	[1,30]	[52,267]	0.055	0.027	-30.8	-30.8	100.000 %	0.0000
10	50	10	[1,10]	[15,30]	[27,274]	0.111	0.035	-4.3	-0.7	97.522 %	0.0198
10	50	10	[1,10]	[15,30]	[54,274]	0.052	0.026	-28.2	-25.8	98.226 %	0.0079
10	50	10	[3,10]	[1,10]	[30,308]	0.107	0.026	-26.3	-17.2	94.039 %	0.0173
10	50	10	[3,10]	[1,10]	[60,308]	0.099	0.024	-51.9	-42.3	93.583 %	0.0165
10	50	10	[3,10]	[5,10]	[31,310]	0.115	0.027	-22.8	-13.9	94.594 %	0.0284
10	50	10	[3,10]	[5,10]	[62,310]	0.114	0.026	-50.5	-39.2	92.029 %	0.0214
10	50	10	[3,10]	[1,30]	[31,318]	0.069	0.032	-12.3	-11.8	99.687 %	0.0041
10	50	10	[3,10]	[1,30]	[62,318]	0.064	0.023	-46.5	-45.8	99.521 %	0.0065
10	50	10	[3,10]	[15,30]	[32,325]	0.077	0.025	-11.0	-3.1	95.439 %	0.0302
10	50	10	[3,10]	[15,30]	[64,325]	0.087	0.025	-43.4	-36.5	95.794 %	0.0152
10	50	10	[6,10]	[1,10]	[40,409]	0.129	0.028	-39.6	-25.3	93.310 %	0.0286
10	50	10	[6,10]	[1,10]	[80,409]	0.123	0.023	-75.5	-61.6	92.404 %	0.0322
10	50	10	[6,10]	[5,10]	[41,411]	0.126	0.027	-26.6	-10.2	92.318 %	0.0294
10	50	10	[6,10]	[5,10]	[82,411]	0.136	0.024	-72.9	-58.3	91.979 %	0.0347
10	50	10	[6,10]	[1,30]	[41,419]	0.092	0.024	-20.5	-16.0	97.980 %	0.0133
10	50	10	[6,10]	[1,30]	[82,419]	0.088	0.026	-59.3	-55.1	97.800 %	0.0082
10	50	10	[6,10]	[15,30]	[42,426]	0.110	0.024	-21.7	-9.6	94.700 %	0.0213
10	50	10	[6,10]	[15,30]	[84,426]	0.116	0.025	-60.6	-46.8	93.076 %	0.0187

Tiempo Promedio Total H_2: 0.092 seg.

Tiempo Promedio Total H_1: 0.026 seg.

Rendimiento Promedio Total: 95.626 %

Tabla de Experimentos

$n : 100, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	10	[1,10]	[1,10]	[51,510]	0.296	0.063	-41.9	-23.6	93.028 %	0.0153
10	100	10	[1,10]	[1,10]	[102,510]	0.300	0.062	-93.1	-72.0	90.882 %	0.0168
10	100	10	[1,10]	[5,10]	[51,512]	0.376	0.068	-42.4	-22.7	92.163 %	0.0327
10	100	10	[1,10]	[5,10]	[102,512]	0.363	0.064	-92.7	-77.5	93.351 %	0.0300
10	100	10	[1,10]	[1,30]	[52,520]	0.160	0.062	-38.6	-31.9	97.466 %	0.0112
10	100	10	[1,10]	[1,30]	[104,520]	0.144	0.061	-78.1	-72.1	97.481 %	0.0106
10	100	10	[1,10]	[15,30]	[52,527]	0.245	0.065	-28.6	-13.0	94.438 %	0.0206
10	100	10	[1,10]	[15,30]	[104,527]	0.245	0.065	-77.8	-60.2	92.996 %	0.0182
10	100	10	[3,10]	[1,10]	[61,611]	0.453	0.062	-54.6	-29.1	91.774 %	0.0273
10	100	10	[3,10]	[1,10]	[122,611]	0.447	0.063	-115.0	-92.9	92.011 %	0.0340
10	100	10	[3,10]	[5,10]	[61,613]	0.480	0.067	-55.5	-27.4	91.051 %	0.0168
10	100	10	[3,10]	[5,10]	[122,613]	0.535	0.066	-113.0	-88.5	91.221 %	0.0170
10	100	10	[3,10]	[1,30]	[62,621]	0.263	0.065	-44.2	-27.7	94.814 %	0.0130
10	100	10	[3,10]	[1,30]	[124,621]	0.270	0.064	-103.8	-85.8	93.744 %	0.0137
10	100	10	[3,10]	[15,30]	[62,628]	0.383	0.059	-36.9	-12.8	92.527 %	0.0170
10	100	10	[3,10]	[15,30]	[124,628]	0.386	0.065	-98.1	-73.3	91.663 %	0.0182
10	100	10	[6,10]	[1,10]	[81,813]	0.620	0.067	-79.1	-38.3	90.231 %	0.0183
10	100	10	[6,10]	[1,10]	[162,813]	0.590	0.062	-151.5	-107.7	88.210 %	0.0222
10	100	10	[6,10]	[5,10]	[81,815]	0.618	0.067	-74.4	-39.7	91.793 %	0.0265
10	100	10	[6,10]	[5,10]	[162,815]	0.601	0.065	-149.8	-108.3	89.255 %	0.0403
10	100	10	[6,10]	[1,30]	[82,823]	0.443	0.060	-64.5	-33.7	92.729 %	0.0142
10	100	10	[6,10]	[1,30]	[164,823]	0.436	0.060	-140.2	-105.4	91.016 %	0.0167
10	100	10	[6,10]	[15,30]	[83,830]	0.544	0.064	-63.0	-24.1	90.996 %	0.0172
10	100	10	[6,10]	[15,30]	[166,830]	0.523	0.065	-136.2	-96.6	89.982 %	0.0213

Tiempo Promedio Total H_2: 0.405 seg.

Tiempo Promedio Total H_1: 0.064 seg.

Rendimiento Promedio Total: 92.284 %

Tabla de Experimentos

$n : 200, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	10	[1,10]	[1,10]	[101,1015]	2.402	0.219	-96.4	-47.6	90.253 %	0.0198
10	200	10	[1,10]	[1,10]	[202,1015]	2.273	0.214	-196.5	-152.8	90.677 %	0.0203
10	200	10	[1,10]	[5,10]	[101,1017]	2.495	0.213	-90.7	-45.5	91.045 %	0.0209
10	200	10	[1,10]	[5,10]	[202,1017]	2.495	0.217	-193.9	-147.6	89.923 %	0.0208
10	200	10	[1,10]	[1,30]	[102,1025]	1.311	0.206	-84.4	-51.4	93.545 %	0.0124
10	200	10	[1,10]	[1,30]	[204,1025]	1.367	0.212	-184.5	-145.6	91.648 %	0.0128
10	200	10	[1,10]	[15,30]	[103,1032]	2.060	0.209	-82.1	-36.4	91.500 %	0.0138
10	200	10	[1,10]	[15,30]	[206,1032]	1.969	0.204	-179.2	-132.8	90.430 %	0.0149
10	200	10	[3,10]	[1,10]	[121,1217]	3.110	0.207	-115.7	-52.3	89.586 %	0.0206
10	200	10	[3,10]	[1,10]	[242,1217]	3.136	0.214	-233.1	-161.3	87.175 %	0.0201
10	200	10	[3,10]	[5,10]	[121,1219]	3.298	0.222	-112.1	-45.4	89.230 %	0.0175
10	200	10	[3,10]	[5,10]	[242,1219]	3.373	0.212	-229.5	-160.7	88.123 %	0.0184
10	200	10	[3,10]	[1,30]	[122,1227]	2.256	0.207	-102.6	-48.2	91.567 %	0.0157
10	200	10	[3,10]	[1,30]	[244,1227]	2.208	0.205	-223.0	-170.9	91.005 %	0.0170
10	200	10	[3,10]	[15,30]	[123,1234]	2.821	0.210	-100.5	-37.7	90.154 %	0.0113
10	200	10	[3,10]	[15,30]	[246,1234]	2.893	0.207	-219.2	-145.5	87.539 %	0.0135
10	200	10	[6,10]	[1,10]	[162,1621]	3.957	0.212	-151.2	-41.8	87.130 %	0.0132
10	200	10	[6,10]	[1,10]	[324,1621]	3.995	0.209	-313.3	-221.1	87.371 %	0.0214
10	200	10	[6,10]	[5,10]	[162,1623]	4.075	0.215	-148.2	-46.8	87.905 %	0.0180
10	200	10	[6,10]	[5,10]	[324,1623]	4.097	0.213	-316.6	-228.1	87.911 %	0.0205
10	200	10	[6,10]	[1,30]	[163,1631]	3.363	0.211	-141.6	-50.2	89.234 %	0.0171
10	200	10	[6,10]	[1,30]	[326,1631]	3.272	0.206	-302.7	-205.9	87.306 %	0.0139
10	200	10	[6,10]	[15,30]	[163,1638]	3.656	0.210	-135.7	-41.5	88.806 %	0.0207
10	200	10	[6,10]	[15,30]	[326,1638]	3.831	0.209	-299.0	-193.3	86.326 %	0.0124

Tiempo Promedio Total H_2: 2.905 seg.

Tiempo Promedio Total H_1: 0.211 seg.

Rendimiento Promedio Total: 89.391 %

Tabla de Experimentos

$n : 300, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	10	[1,10]	[1,10]	[152,1520]	7.898	0.441	-142.7	-60.2	89.591 %	0.0114
10	300	10	[1,10]	[1,10]	[304,1520]	7.769	0.441	-297.5	-212.4	87.969 %	0.0125
10	300	10	[1,10]	[5,10]	[152,1522]	8.360	0.465	-143.4	-61.8	89.479 %	0.0180
10	300	10	[1,10]	[5,10]	[304,1522]	8.210	0.450	-294.9	-219.8	89.162 %	0.0196
10	300	10	[1,10]	[1,30]	[153,1530]	5.463	0.436	-132.5	-58.2	90.454 %	0.0110
10	300	10	[1,10]	[1,30]	[306,1530]	5.491	0.436	-286.5	-218.7	90.324 %	0.0089
10	300	10	[1,10]	[15,30]	[153,1537]	7.291	0.435	-130.7	-53.6	90.228 %	0.0155
10	300	10	[1,10]	[15,30]	[306,1537]	6.916	0.438	-283.4	-206.4	89.365 %	0.0126
10	300	10	[3,10]	[1,10]	[182,1823]	10.178	0.437	-176.0	-67.1	88.564 %	0.0170
10	300	10	[3,10]	[1,10]	[364,1823]	10.067	0.451	-356.2	-247.2	87.084 %	0.0168
10	300	10	[3,10]	[5,10]	[182,1825]	10.906	0.443	-174.1	-68.4	88.703 %	0.0193
10	300	10	[3,10]	[5,10]	[364,1825]	10.649	0.451	-355.5	-243.6	86.699 %	0.0120
10	300	10	[3,10]	[1,30]	[183,1833]	8.075	0.427	-159.1	-47.1	88.211 %	0.0103
10	300	10	[3,10]	[1,30]	[366,1833]	7.993	0.430	-346.5	-245.4	88.083 %	0.0148
10	300	10	[3,10]	[15,30]	[184,1840]	9.525	0.456	-157.9	-41.0	88.061 %	0.0118
10	300	10	[3,10]	[15,30]	[368,1840]	9.684	0.445	-343.7	-224.6	86.448 %	0.0125
10	300	10	[6,10]	[1,10]	[242,2429]	12.907	0.445	-234.3	-79.4	87.585 %	0.0155
10	300	10	[6,10]	[1,10]	[484,2429]	12.956	0.435	-478.0	-306.4	85.246 %	0.0140
10	300	10	[6,10]	[5,10]	[243,2431]	13.154	0.454	-234.2	-90.0	88.545 %	0.0203
10	300	10	[6,10]	[5,10]	[486,2431]	13.341	0.450	-476.3	-318.1	85.912 %	0.0186
10	300	10	[6,10]	[1,30]	[243,2439]	11.162	0.426	-220.1	-70.7	88.213 %	0.0146
10	300	10	[6,10]	[1,30]	[486,2439]	11.623	0.488	-470.4	-304.6	85.749 %	0.0111
10	300	10	[6,10]	[15,30]	[244,2446]	12.135	0.434	-218.0	-55.8	87.486 %	0.0152
10	300	10	[6,10]	[15,30]	[488,2446]	12.203	0.430	-466.9	-301.7	85.546 %	0.0172

Tiempo Promedio Total H_2: 9.748 seg.

Tiempo Promedio Total H_1: 0.443 seg.

Rendimiento Promedio Total: 88.029 %

Tabla de Experimentos

$n : 500, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	10	[1,10]	[1,10]	[253,2530]	38.051	1.156	-244.3	-94.8	88.553 %	0.0088
10	500	10	[1,10]	[1,10]	[506,2530]	37.547	1.172	-498.2	-341.0	86.812 %	0.0110
10	500	10	[1,10]	[5,10]	[253,2532]	40.005	1.194	-242.9	-97.5	88.730 %	0.0108
10	500	10	[1,10]	[5,10]	[506,2532]	38.980	1.191	-495.1	-349.8	87.544 %	0.0121
10	500	10	[1,10]	[1,30]	[254,2540]	31.111	1.163	-240.0	-106.2	89.677 %	0.0098
10	500	10	[1,10]	[1,30]	[508,2540]	31.070	1.170	-489.9	-345.2	87.633 %	0.0076
10	500	10	[1,10]	[15,30]	[254,2547]	35.473	1.137	-230.8	-90.6	89.352 %	0.0091
10	500	10	[1,10]	[15,30]	[508,2547]	36.082	1.139	-486.1	-342.6	87.990 %	0.0125
10	500	10	[3,10]	[1,10]	[303,3035]	47.978	1.146	-295.8	-100.9	87.680 %	0.0160
10	500	10	[3,10]	[1,10]	[606,3035]	47.945	1.193	-595.7	-385.7	85.419 %	0.0084
10	500	10	[3,10]	[5,10]	[303,3037]	49.088	1.189	-295.1	-102.6	87.745 %	0.0120
10	500	10	[3,10]	[5,10]	[606,3037]	48.848	1.181	-596.2	-395.7	85.903 %	0.0091
10	500	10	[3,10]	[1,30]	[304,3045]	42.706	1.133	-284.7	-93.6	87.944 %	0.0155
10	500	10	[3,10]	[1,30]	[608,3045]	42.445	1.129	-587.9	-395.5	86.505 %	0.0123
10	500	10	[3,10]	[15,30]	[305,3052]	45.253	1.145	-280.6	-80.5	87.452 %	0.0113
10	500	10	[3,10]	[15,30]	[610,3052]	45.478	1.144	-587.4	-377.5	85.610 %	0.0113
10	500	10	[6,10]	[1,10]	[404,4045]	59.167	1.163	-398.4	-94.1	85.873 %	0.0061
10	500	10	[6,10]	[1,10]	[808,4045]	59.178	1.146	-801.5	-519.8	85.343 %	0.0107
10	500	10	[6,10]	[5,10]	[404,4047]	60.443	1.187	-397.7	-122.3	87.113 %	0.0103
10	500	10	[6,10]	[5,10]	[808,4047]	59.415	1.179	-797.1	-519.3	85.491 %	0.0120
10	500	10	[6,10]	[1,30]	[405,4055]	54.770	1.122	-387.0	-105.0	86.803 %	0.0136
10	500	10	[6,10]	[1,30]	[810,4055]	55.395	1.122	-789.4	-497.7	84.728 %	0.0148
10	500	10	[6,10]	[15,30]	[406,4062]	58.683	1.149	-381.6	-105.2	87.022 %	0.0142
10	500	10	[6,10]	[15,30]	[812,4062]	59.004	1.141	-788.2	-489.9	84.774 %	0.0115

Tiempo Promedio Total H_2: 46.838 seg.

Tiempo Promedio Total H_1: 1.158 seg.

Rendimiento Promedio Total: 86.987 %

Tabla de Experimentos

$n : 750, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	10	[1,10]	[1,10]	[379,3792]	139.551	2.557	-372.2	-130.6	87.553 %	0.0074
10	750	10	[1,10]	[1,10]	[758,3792]	138.934	2.575	-750.2	-520.7	86.888 %	0.0108
10	750	10	[1,10]	[5,10]	[379,3794]	141.103	2.636	-369.9	-143.5	88.377 %	0.0048
10	750	10	[1,10]	[5,10]	[758,3794]	141.743	2.652	-749.4	-526.6	87.262 %	0.0133
10	750	10	[1,10]	[1,30]	[380,3802]	120.248	2.504	-359.7	-122.9	88.146 %	0.0050
10	750	10	[1,10]	[1,30]	[760,3802]	118.790	2.699	-739.4	-515.3	87.430 %	0.0102
10	750	10	[1,10]	[15,30]	[380,3809]	133.284	2.542	-357.8	-130.8	88.485 %	0.0103
10	750	10	[1,10]	[15,30]	[760,3809]	133.028	2.553	-734.9	-490.3	86.240 %	0.0083
10	750	10	[3,10]	[1,10]	[455,4550]	175.962	2.561	-446.9	-120.3	86.211 %	0.0118
10	750	10	[3,10]	[1,10]	[910,4550]	176.111	2.564	-904.6	-588.9	85.306 %	0.0145
10	750	10	[3,10]	[5,10]	[455,4552]	178.798	2.649	-444.1	-137.2	87.157 %	0.0070
10	750	10	[3,10]	[5,10]	[910,4552]	176.048	2.636	-899.1	-591.4	85.564 %	0.0083
10	750	10	[3,10]	[1,30]	[456,4560]	158.688	2.519	-435.6	-124.1	86.951 %	0.0106
10	750	10	[3,10]	[1,30]	[912,4560]	158.192	2.522	-893.9	-567.4	84.984 %	0.0054
10	750	10	[3,10]	[15,30]	[456,4567]	170.600	2.523	-430.1	-118.4	87.003 %	0.0091
10	750	10	[3,10]	[15,30]	[912,4567]	167.029	2.544	-887.4	-565.7	85.209 %	0.0107
10	750	10	[6,10]	[1,10]	[606,6065]	215.148	2.609	-597.4	-160.0	86.143 %	0.0149
10	750	10	[6,10]	[1,10]	[1212,6065]	216.734	2.584	-1202.4	-730.0	83.820 %	0.0045
10	750	10	[6,10]	[5,10]	[606,6067]	216.389	2.635	-595.0	-150.0	85.963 %	0.0049
10	750	10	[6,10]	[5,10]	[1212,6067]	214.846	2.657	-1204.2	-772.5	85.053 %	0.0074
10	750	10	[6,10]	[1,30]	[607,6075]	200.627	2.505	-587.4	-137.5	86.029 %	0.0104
10	750	10	[6,10]	[1,30]	[1214,6075]	200.364	2.510	-1192.0	-738.4	84.422 %	0.0127
10	750	10	[6,10]	[15,30]	[608,6082]	209.598	2.547	-587.6	-133.5	85.872 %	0.0098
10	750	10	[6,10]	[15,30]	[1216,6082]	208.941	2.525	-1190.5	-739.5	84.562 %	0.0136

Tiempo Promedio Total H_2: 171.282 seg.

Tiempo Promedio Total H_1: 2.575 seg.

Rendimiento Promedio Total: 86.276 %

Tabla de Experimentos

$n : 1000, m : 10, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	10	[1,10]	[1,10]	[505,5055]	345.131	4.419	-498.6	-179.2	87.721 %	0.0086
10	1000	10	[1,10]	[1,10]	[1010,5055]	345.595	4.369	-1003.9	-671.8	85.888 %	0.0061
10	1000	10	[1,10]	[5,10]	[505,5057]	352.128	4.520	-495.6	-198.7	88.394 %	0.0100
10	1000	10	[1,10]	[5,10]	[1010,5057]	357.085	4.525	-999.5	-685.2	86.594 %	0.0090
10	1000	10	[1,10]	[1,30]	[506,5065]	307.719	4.340	-486.8	-175.2	87.993 %	0.0046
10	1000	10	[1,10]	[1,30]	[1012,5065]	309.727	4.279	-990.9	-673.2	86.513 %	0.0086
10	1000	10	[1,10]	[15,30]	[507,5072]	337.053	4.389	-484.2	-164.4	87.800 %	0.0063
10	1000	10	[1,10]	[15,30]	[1014,5072]	334.155	4.329	-987.8	-658.2	86.130 %	0.0086
10	1000	10	[3,10]	[1,10]	[606,6065]	431.955	4.430	-601.5	-164.1	86.196 %	0.0066
10	1000	10	[3,10]	[1,10]	[1212,6065]	434.871	4.412	-1206.9	-763.3	84.667 %	0.0087
10	1000	10	[3,10]	[5,10]	[606,6067]	435.249	4.534	-602.0	-176.8	86.515 %	0.0073
10	1000	10	[3,10]	[5,10]	[1212,6067]	440.657	4.511	-1204.9	-786.2	85.430 %	0.0093
10	1000	10	[3,10]	[1,30]	[607,6075]	399.461	4.338	-585.6	-149.1	86.230 %	0.0114
10	1000	10	[3,10]	[1,30]	[1214,6075]	405.837	4.272	-1188.5	-768.1	85.287 %	0.0083
10	1000	10	[3,10]	[15,30]	[608,6082]	418.106	4.360	-580.2	-144.4	86.373 %	0.0077
10	1000	10	[3,10]	[15,30]	[1216,6082]	430.241	4.337	-1193.2	-728.9	84.031 %	0.0065
10	1000	10	[6,10]	[1,10]	[808,8085]	522.857	4.387	-802.4	-195.0	85.878 %	0.0092
10	1000	10	[6,10]	[1,10]	[1616,8085]	524.487	4.467	-1611.1	-1027.0	84.884 %	0.0119
10	1000	10	[6,10]	[5,10]	[808,8087]	530.312	4.523	-798.4	-221.8	86.329 %	0.0073
10	1000	10	[6,10]	[5,10]	[1616,8087]	531.188	4.531	-1605.8	-1058.6	85.709 %	0.0116
10	1000	10	[6,10]	[1,30]	[809,8095]	502.467	4.304	-786.8	-162.3	85.490 %	0.0076
10	1000	10	[6,10]	[1,30]	[1618,8095]	499.755	4.257	-1601.1	-970.8	83.864 %	0.0115
10	1000	10	[6,10]	[15,30]	[810,8102]	525.004	4.330	-789.5	-166.4	85.437 %	0.0094
10	1000	10	[6,10]	[15,30]	[1620,8102]	521.068	4.357	-1592.0	-970.9	84.081 %	0.0074

Tiempo Promedio Total H_2: 426.755 seg.

Tiempo Promedio Total H_1: 4.397 seg.

Rendimiento Promedio Total: 85.976 %

Tabla de Experimentos

$n : 10, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	20	[1,10]	[1,10]	[5,55]	0.020	0.031	1.9	1.9	100.000 %	0.0000
10	10	20	[1,10]	[1,10]	[10,55]	0.015	0.010	-7.8	-7.8	100.000 %	0.0000
10	10	20	[1,10]	[5,10]	[5,57]	0.015	0.011	3.1	3.3	99.487 %	0.0154
10	10	20	[1,10]	[5,10]	[10,57]	0.012	0.011	0.0	0.2	99.324 %	0.0203
10	10	20	[1,10]	[1,30]	[6,65]	0.019	0.008	9.6	9.6	100.000 %	0.0000
10	10	20	[1,10]	[1,30]	[12,65]	0.014	0.012	7.5	7.5	100.000 %	0.0000
10	10	20	[1,10]	[15,30]	[7,72]	0.014	0.010	15.3	15.3	100.000 %	0.0000
10	10	20	[1,10]	[15,30]	[14,72]	0.017	0.006	10.9	11.6	98.532 %	0.0440
10	10	20	[3,10]	[1,10]	[6,65]	0.017	0.009	0.4	0.4	100.000 %	0.0000
10	10	20	[3,10]	[1,10]	[12,65]	0.018	0.008	-5.9	-2.3	89.692 %	0.1731
10	10	20	[3,10]	[5,10]	[6,67]	0.018	0.009	4.7	4.7	100.000 %	0.0000
10	10	20	[3,10]	[5,10]	[12,67]	0.022	0.008	-6.0	-3.1	91.265 %	0.2620
10	10	20	[3,10]	[1,30]	[7,75]	0.018	0.007	9.6	9.6	100.000 %	0.0000
10	10	20	[3,10]	[1,30]	[14,75]	0.021	0.012	2.2	2.2	100.000 %	0.0000
10	10	20	[3,10]	[15,30]	[8,82]	0.017	0.012	11.6	11.6	100.000 %	0.0000
10	10	20	[3,10]	[15,30]	[16,82]	0.021	0.010	5.5	5.5	100.000 %	0.0000
10	10	20	[6,10]	[1,10]	[8,85]	0.022	0.011	0.9	0.9	100.000 %	0.0000
10	10	20	[6,10]	[1,10]	[16,85]	0.019	0.010	-7.5	-7.5	100.000 %	0.0000
10	10	20	[6,10]	[5,10]	[8,87]	0.039	0.016	-4.5	-4.5	100.000 %	0.0000
10	10	20	[6,10]	[5,10]	[16,87]	0.038	0.017	-7.6	-7.6	100.000 %	0.0000
10	10	20	[6,10]	[1,30]	[9,95]	0.025	0.013	5.5	5.5	100.000 %	0.0000
10	10	20	[6,10]	[1,30]	[18,95]	0.019	0.009	-3.5	-3.5	100.000 %	0.0000
10	10	20	[6,10]	[15,30]	[10,103]	0.020	0.012	18.4	18.4	100.000 %	0.0000
10	10	20	[6,10]	[15,30]	[20,103]	0.018	0.010	2.4	2.4	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.020 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 99.096 %

Tabla de Experimentos

$n : 20, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	20	[1,10]	[1,10]	[10,106]	0.024	0.015	-2.9	-1.9	98.028 %	0.0592
10	20	20	[1,10]	[1,10]	[20,106]	0.026	0.013	-12.0	-12.0	100.000 %	0.0000
10	20	20	[1,10]	[5,10]	[10,108]	0.023	0.014	-1.6	-1.3	99.535 %	0.0139
10	20	20	[1,10]	[5,10]	[20,108]	0.023	0.012	-8.4	-8.4	100.000 %	0.0000
10	20	20	[1,10]	[1,30]	[11,116]	0.025	0.012	8.0	8.2	99.721 %	0.0084
10	20	20	[1,10]	[1,30]	[22,116]	0.026	0.026	-1.4	-1.1	99.579 %	0.0126
10	20	20	[1,10]	[15,30]	[12,123]	0.026	0.015	11.5	11.5	100.000 %	0.0000
10	20	20	[1,10]	[15,30]	[24,123]	0.029	0.010	-1.6	0.3	97.488 %	0.0482
10	20	20	[3,10]	[1,10]	[12,126]	0.028	0.015	-7.5	-3.6	93.977 %	0.1661
10	20	20	[3,10]	[1,10]	[24,126]	0.038	0.016	-15.9	-15.9	100.000 %	0.0000
10	20	20	[3,10]	[5,10]	[12,128]	0.027	0.017	-6.9	-6.9	100.000 %	0.0000
10	20	20	[3,10]	[5,10]	[24,128]	0.068	0.036	-14.0	-14.0	100.000 %	0.0000
10	20	20	[3,10]	[1,30]	[13,136]	0.040	0.016	6.1	6.7	99.180 %	0.0188
10	20	20	[3,10]	[1,30]	[26,136]	0.027	0.011	-7.3	-6.8	99.403 %	0.0122
10	20	20	[3,10]	[15,30]	[14,143]	0.029	0.017	4.7	7.1	97.277 %	0.0669
10	20	20	[3,10]	[15,30]	[28,143]	0.028	0.010	-5.0	-2.3	97.175 %	0.0719
10	20	20	[6,10]	[1,10]	[16,166]	0.039	0.014	-10.0	-9.4	99.303 %	0.0146
10	20	20	[6,10]	[1,10]	[32,166]	0.033	0.012	-23.2	-23.0	99.713 %	0.0086
10	20	20	[6,10]	[5,10]	[16,168]	0.059	0.027	-4.4	-4.1	99.684 %	0.0095
10	20	20	[6,10]	[5,10]	[32,168]	0.039	0.013	-20.6	-20.4	99.736 %	0.0079
10	20	20	[6,10]	[1,30]	[17,176]	0.032	0.011	-5.0	-2.5	97.393 %	0.0782
10	20	20	[6,10]	[1,30]	[34,176]	0.033	0.012	-13.2	-12.8	99.448 %	0.0166
10	20	20	[6,10]	[15,30]	[18,183]	0.036	0.014	4.3	5.0	99.195 %	0.0241
10	20	20	[6,10]	[15,30]	[36,183]	0.035	0.011	-14.7	-11.1	96.423 %	0.1040

Tiempo Promedio Total H_2: 0.033 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 98.844 %

Tabla de Experimentos

$n : 30, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	20	[1,10]	[1,10]	[15,156]	0.037	0.017	-8.6	-7.4	98.740 %	0.0309
10	30	20	[1,10]	[1,10]	[30,156]	0.039	0.021	-23.8	-23.8	100.000 %	0.0000
10	30	20	[1,10]	[5,10]	[15,158]	0.038	0.020	-8.8	-8.7	99.869 %	0.0039
10	30	20	[1,10]	[5,10]	[30,158]	0.036	0.020	-20.4	-20.1	99.610 %	0.0085
10	30	20	[1,10]	[1,30]	[16,166]	0.043	0.020	4.8	5.5	99.242 %	0.0128
10	30	20	[1,10]	[1,30]	[32,166]	0.037	0.020	-11.1	-10.4	99.198 %	0.0144
10	30	20	[1,10]	[15,30]	[17,173]	0.036	0.019	6.2	6.2	100.000 %	0.0000
10	30	20	[1,10]	[15,30]	[34,173]	0.038	0.020	-7.0	-6.5	99.512 %	0.0079
10	30	20	[3,10]	[1,10]	[18,186]	0.043	0.019	-12.0	-12.0	100.000 %	0.0000
10	30	20	[3,10]	[1,10]	[36,186]	0.046	0.019	-26.4	-26.0	99.502 %	0.0111
10	30	20	[3,10]	[5,10]	[18,188]	0.044	0.019	-14.1	-13.1	98.862 %	0.0224
10	30	20	[3,10]	[5,10]	[36,188]	0.044	0.019	-24.9	-24.5	99.554 %	0.0056
10	30	20	[3,10]	[1,30]	[19,196]	0.047	0.019	0.4	3.1	97.582 %	0.0612
10	30	20	[3,10]	[1,30]	[38,196]	0.067	0.051	-19.5	-19.2	99.665 %	0.0070
10	30	20	[3,10]	[15,30]	[20,204]	0.043	0.018	4.8	4.8	100.000 %	0.0000
10	30	20	[3,10]	[15,30]	[40,204]	0.039	0.013	-15.4	-15.4	100.000 %	0.0000
10	30	20	[6,10]	[1,10]	[24,247]	0.053	0.018	-16.3	-16.2	99.929 %	0.0021
10	30	20	[6,10]	[1,10]	[48,247]	0.052	0.018	-41.6	-41.2	99.610 %	0.0079
10	30	20	[6,10]	[5,10]	[24,249]	0.049	0.017	-19.3	-18.0	98.933 %	0.0106
10	30	20	[6,10]	[5,10]	[48,249]	0.055	0.013	-39.7	-38.7	99.106 %	0.0097
10	30	20	[6,10]	[1,30]	[25,257]	0.046	0.013	-5.1	-5.1	100.000 %	0.0000
10	30	20	[6,10]	[1,30]	[50,257]	0.046	0.017	-26.3	-26.0	99.774 %	0.0035
10	30	20	[6,10]	[15,30]	[26,264]	0.050	0.018	-1.9	-1.8	99.936 %	0.0019
10	30	20	[6,10]	[15,30]	[52,264]	0.053	0.023	-27.9	-27.8	99.924 %	0.0023

Tiempo Promedio Total H_2: 0.045 seg.

Tiempo Promedio Total H_1: 0.020 seg.

Rendimiento Promedio Total: 99.523 %

Tabla de Experimentos

$n : 50, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	20	[1,10]	[1,10]	[25,257]	0.051	0.027	-22.2	-22.2	100.000 %	0.0000
10	50	20	[1,10]	[1,10]	[50,257]	0.047	0.026	-41.8	-41.6	99.817 %	0.0055
10	50	20	[1,10]	[5,10]	[25,259]	0.058	0.031	-18.5	-17.6	99.295 %	0.0082
10	50	20	[1,10]	[5,10]	[50,259]	0.055	0.025	-40.9	-39.3	98.667 %	0.0112
10	50	20	[1,10]	[1,30]	[26,267]	0.058	0.026	-0.6	-0.5	99.924 %	0.0023
10	50	20	[1,10]	[1,30]	[52,267]	0.056	0.028	-26.4	-26.1	99.772 %	0.0050
10	50	20	[1,10]	[15,30]	[27,274]	0.056	0.028	-5.0	-4.3	99.519 %	0.0088
10	50	20	[1,10]	[15,30]	[54,274]	0.067	0.042	-28.9	-28.1	99.450 %	0.0104
10	50	20	[3,10]	[1,10]	[30,308]	0.076	0.028	-26.6	-25.2	99.041 %	0.0063
10	50	20	[3,10]	[1,10]	[60,308]	0.074	0.027	-53.9	-53.0	99.352 %	0.0073
10	50	20	[3,10]	[5,10]	[31,310]	0.113	0.037	-19.7	-17.2	98.406 %	0.0086
10	50	20	[3,10]	[5,10]	[62,310]	0.081	0.029	-53.0	-51.1	98.539 %	0.0104
10	50	20	[3,10]	[1,30]	[31,318]	0.068	0.026	-10.5	-10.4	99.947 %	0.0016
10	50	20	[3,10]	[1,30]	[62,318]	0.066	0.026	-43.2	-43.1	99.935 %	0.0020
10	50	20	[3,10]	[15,30]	[32,325]	0.065	0.028	-11.7	-10.6	99.376 %	0.0148
10	50	20	[3,10]	[15,30]	[64,325]	0.067	0.033	-44.3	-44.2	99.938 %	0.0019
10	50	20	[6,10]	[1,10]	[40,409]	0.103	0.029	-32.4	-30.0	98.834 %	0.0113
10	50	20	[6,10]	[1,10]	[80,409]	0.102	0.027	-69.6	-66.9	98.521 %	0.0125
10	50	20	[6,10]	[5,10]	[41,411]	0.109	0.027	-30.2	-26.7	98.278 %	0.0145
10	50	20	[6,10]	[5,10]	[82,411]	0.110	0.027	-75.5	-73.4	98.791 %	0.0101
10	50	20	[6,10]	[1,30]	[41,419]	0.081	0.027	-21.8	-21.6	99.907 %	0.0019
10	50	20	[6,10]	[1,30]	[82,419]	0.083	0.029	-62.6	-62.3	99.855 %	0.0031
10	50	20	[6,10]	[15,30]	[42,426]	0.086	0.029	-12.7	-11.6	99.487 %	0.0038
10	50	20	[6,10]	[15,30]	[84,426]	0.088	0.029	-56.5	-55.1	99.297 %	0.0059

Tiempo Promedio Total H_2: 0.076 seg.

Tiempo Promedio Total H_1: 0.029 seg.

Rendimiento Promedio Total: 99.331 %

Tabla de Experimentos

$n : 100, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	20	[1,10]	[1,10]	[51,510]	0.148	0.066	-47.9	-44.0	98.379 %	0.0100
10	100	20	[1,10]	[1,10]	[102,510]	0.160	0.069	-95.7	-91.6	98.039 %	0.0110
10	100	20	[1,10]	[5,10]	[51,512]	0.234	0.074	-40.3	-32.5	96.907 %	0.0110
10	100	20	[1,10]	[5,10]	[102,512]	0.201	0.119	-94.8	-89.7	97.709 %	0.0107
10	100	20	[1,10]	[1,30]	[52,520]	0.103	0.068	-28.9	-28.8	99.962 %	0.0011
10	100	20	[1,10]	[1,30]	[104,520]	0.108	0.071	-86.3	-86.3	100.000 %	0.0000
10	100	20	[1,10]	[15,30]	[52,527]	0.110	0.069	-30.0	-28.4	99.388 %	0.0060
10	100	20	[1,10]	[15,30]	[104,527]	0.110	0.068	-79.4	-78.3	99.551 %	0.0043
10	100	20	[3,10]	[1,10]	[61,611]	0.272	0.067	-53.4	-43.5	96.475 %	0.0073
10	100	20	[3,10]	[1,10]	[122,611]	0.259	0.072	-116.9	-107.0	96.212 %	0.0089
10	100	20	[3,10]	[5,10]	[61,613]	0.323	0.072	-52.0	-43.6	97.141 %	0.0187
10	100	20	[3,10]	[5,10]	[122,613]	0.347	0.074	-116.2	-104.9	95.848 %	0.0158
10	100	20	[3,10]	[1,30]	[62,621]	0.134	0.069	-43.3	-42.8	99.819 %	0.0037
10	100	20	[3,10]	[1,30]	[124,621]	0.129	0.068	-106.0	-105.5	99.801 %	0.0027
10	100	20	[3,10]	[15,30]	[62,628]	0.208	0.069	-40.3	-34.8	98.203 %	0.0088
10	100	20	[3,10]	[15,30]	[124,628]	0.195	0.071	-101.5	-95.5	97.823 %	0.0082
10	100	20	[6,10]	[1,10]	[81,813]	0.398	0.072	-75.3	-63.4	96.896 %	0.0170
10	100	20	[6,10]	[1,10]	[162,813]	0.397	0.071	-157.5	-142.6	95.736 %	0.0187
10	100	20	[6,10]	[5,10]	[81,815]	0.422	0.068	-72.3	-56.8	95.894 %	0.0145
10	100	20	[6,10]	[5,10]	[162,815]	0.421	0.075	-158.2	-145.3	96.316 %	0.0205
10	100	20	[6,10]	[1,30]	[82,823]	0.206	0.069	-65.2	-61.5	99.049 %	0.0050
10	100	20	[6,10]	[1,30]	[164,823]	0.210	0.070	-148.3	-145.1	99.076 %	0.0047
10	100	20	[6,10]	[15,30]	[83,830]	0.338	0.068	-57.0	-44.9	97.067 %	0.0059
10	100	20	[6,10]	[15,30]	[166,830]	0.334	0.070	-144.1	-133.9	97.218 %	0.0140

Tiempo Promedio Total H_2: 0.240 seg.

Tiempo Promedio Total H_1: 0.072 seg.

Rendimiento Promedio Total: 97.855 %

Tabla de Experimentos

$n : 200, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	20	[1,10]	[1,10]	[101,1015]	1.231	0.266	-93.9	-72.9	95.709 %	0.0052
10	200	20	[1,10]	[1,10]	[202,1015]	1.097	0.213	-195.7	-175.0	95.357 %	0.0056
10	200	20	[1,10]	[5,10]	[101,1017]	1.275	0.224	-89.4	-71.7	96.334 %	0.0112
10	200	20	[1,10]	[5,10]	[202,1017]	1.267	0.214	-191.2	-169.2	94.864 %	0.0056
10	200	20	[1,10]	[1,30]	[102,1025]	0.383	0.208	-80.6	-73.2	98.495 %	0.0045
10	200	20	[1,10]	[1,30]	[204,1025]	0.347	0.208	-186.4	-181.0	98.769 %	0.0051
10	200	20	[1,10]	[15,30]	[103,1032]	0.796	0.214	-75.5	-60.9	97.163 %	0.0115
10	200	20	[1,10]	[15,30]	[206,1032]	0.779	0.212	-179.8	-164.4	96.622 %	0.0098
10	200	20	[3,10]	[1,10]	[121,1217]	1.627	0.215	-113.0	-88.1	95.740 %	0.0117
10	200	20	[3,10]	[1,10]	[242,1217]	1.658	0.212	-235.5	-209.8	95.046 %	0.0172
10	200	20	[3,10]	[5,10]	[121,1219]	1.844	0.220	-112.7	-84.6	95.178 %	0.0143
10	200	20	[3,10]	[5,10]	[242,1219]	1.778	0.214	-234.3	-209.3	95.224 %	0.0181
10	200	20	[3,10]	[1,30]	[122,1227]	0.803	0.207	-100.1	-83.0	97.116 %	0.0063
10	200	20	[3,10]	[1,30]	[244,1227]	0.786	0.209	-221.0	-206.2	97.269 %	0.0066
10	200	20	[3,10]	[15,30]	[123,1234]	1.273	0.209	-95.4	-68.7	95.570 %	0.0051
10	200	20	[3,10]	[15,30]	[246,1234]	1.402	0.209	-221.8	-196.4	95.317 %	0.0100
10	200	20	[6,10]	[1,10]	[162,1621]	2.433	0.212	-153.7	-114.8	94.894 %	0.0195
10	200	20	[6,10]	[1,10]	[324,1621]	2.498	0.221	-315.4	-272.9	93.995 %	0.0113
10	200	20	[6,10]	[5,10]	[162,1623]	2.613	0.220	-155.2	-114.7	94.685 %	0.0122
10	200	20	[6,10]	[5,10]	[324,1623]	2.560	0.214	-315.6	-273.8	94.027 %	0.0140
10	200	20	[6,10]	[1,30]	[163,1631]	1.544	0.211	-144.4	-116.1	96.334 %	0.0083
10	200	20	[6,10]	[1,30]	[326,1631]	1.474	0.211	-309.7	-284.4	96.473 %	0.0146
10	200	20	[6,10]	[15,30]	[163,1638]	2.178	0.209	-139.5	-99.4	95.090 %	0.0153
10	200	20	[6,10]	[15,30]	[326,1638]	2.139	0.213	-299.7	-264.7	95.168 %	0.0165

Tiempo Promedio Total H_2: 1.491 seg.

Tiempo Promedio Total H_1: 0.215 seg.

Rendimiento Promedio Total: 95.852 %

Tabla de Experimentos

$n : 300, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	20	[1,10]	[1,10]	[152,1520]	3.718	0.461	-144.9	-110.6	95.258 %	0.0089
10	300	20	[1,10]	[1,10]	[304,1520]	3.718	0.456	-296.9	-264.5	94.971 %	0.0099
10	300	20	[1,10]	[5,10]	[152,1522]	4.165	0.479	-142.9	-115.2	96.126 %	0.0158
10	300	20	[1,10]	[5,10]	[304,1522]	4.341	0.473	-294.5	-260.8	94.778 %	0.0128
10	300	20	[1,10]	[1,30]	[153,1530]	1.776	0.504	-131.8	-109.4	96.976 %	0.0059
10	300	20	[1,10]	[1,30]	[306,1530]	1.765	0.458	-286.1	-266.3	96.946 %	0.0073
10	300	20	[1,10]	[15,30]	[153,1537]	3.080	0.456	-129.4	-100.7	96.227 %	0.0124
10	300	20	[1,10]	[15,30]	[306,1537]	3.041	0.548	-279.2	-247.3	95.285 %	0.0061
10	300	20	[3,10]	[1,10]	[182,1823]	5.459	0.454	-178.2	-134.9	95.029 %	0.0079
10	300	20	[3,10]	[1,10]	[364,1823]	5.513	0.465	-357.3	-310.8	94.083 %	0.0090
10	300	20	[3,10]	[5,10]	[182,1825]	5.863	0.461	-172.1	-129.9	95.153 %	0.0112
10	300	20	[3,10]	[5,10]	[364,1825]	5.859	0.462	-355.6	-312.1	94.436 %	0.0118
10	300	20	[3,10]	[1,30]	[183,1833]	3.302	0.453	-164.3	-130.0	96.142 %	0.0078
10	300	20	[3,10]	[1,30]	[366,1833]	3.533	0.492	-343.1	-304.2	95.094 %	0.0056
10	300	20	[3,10]	[15,30]	[184,1840]	4.809	0.453	-159.4	-117.1	95.290 %	0.0139
10	300	20	[3,10]	[15,30]	[368,1840]	4.999	0.480	-339.2	-290.8	94.054 %	0.0127
10	300	20	[6,10]	[1,10]	[242,2429]	7.990	0.454	-235.5	-169.5	94.436 %	0.0087
10	300	20	[6,10]	[1,10]	[484,2429]	8.034	0.467	-475.8	-402.0	93.047 %	0.0096
10	300	20	[6,10]	[5,10]	[243,2431]	7.950	0.462	-235.7	-165.2	94.045 %	0.0102
10	300	20	[6,10]	[5,10]	[486,2431]	8.181	0.464	-473.3	-402.8	93.316 %	0.0133
10	300	20	[6,10]	[1,30]	[243,2439]	5.603	0.448	-231.2	-171.3	94.951 %	0.0084
10	300	20	[6,10]	[1,30]	[486,2439]	5.646	0.441	-462.5	-403.0	94.367 %	0.0076
10	300	20	[6,10]	[15,30]	[244,2446]	7.020	0.444	-219.0	-148.0	94.061 %	0.0065
10	300	20	[6,10]	[15,30]	[488,2446]	7.218	0.453	-465.3	-401.5	93.972 %	0.0138

Tiempo Promedio Total H_2: 5.108 seg.

Tiempo Promedio Total H_1: 0.466 seg.

Rendimiento Promedio Total: 94.918 %

Tabla de Experimentos

$n : 500, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	20	[1,10]	[1,10]	[253,2530]	18.468	1.262	-246.7	-182.2	94.697 %	0.0077
10	500	20	[1,10]	[1,10]	[506,2530]	18.678	1.238	-502.0	-435.5	93.792 %	0.0060
10	500	20	[1,10]	[5,10]	[253,2532]	19.919	1.231	-245.5	-190.3	95.375 %	0.0119
10	500	20	[1,10]	[5,10]	[506,2532]	19.720	1.240	-498.7	-435.5	94.184 %	0.0076
10	500	20	[1,10]	[1,30]	[254,2540]	11.462	1.172	-234.1	-182.3	95.708 %	0.0058
10	500	20	[1,10]	[1,30]	[508,2540]	11.625	1.167	-489.4	-436.8	95.233 %	0.0082
10	500	20	[1,10]	[15,30]	[254,2547]	16.371	1.176	-232.1	-171.2	95.117 %	0.0115
10	500	20	[1,10]	[15,30]	[508,2547]	16.058	1.171	-483.9	-424.5	94.620 %	0.0079
10	500	20	[3,10]	[1,10]	[303,3035]	26.387	1.183	-296.8	-212.7	94.223 %	0.0070
10	500	20	[3,10]	[1,10]	[606,3035]	26.338	1.187	-600.5	-514.6	93.508 %	0.0121
10	500	20	[3,10]	[5,10]	[303,3037]	27.941	1.219	-295.5	-208.2	94.025 %	0.0077
10	500	20	[3,10]	[5,10]	[606,3037]	27.382	1.227	-595.0	-507.7	93.304 %	0.0102
10	500	20	[3,10]	[1,30]	[304,3045]	18.850	1.175	-285.7	-204.7	94.459 %	0.0068
10	500	20	[3,10]	[1,30]	[608,3045]	19.426	1.170	-587.0	-504.6	93.785 %	0.0103
10	500	20	[3,10]	[15,30]	[305,3052]	23.675	1.182	-283.9	-200.2	94.346 %	0.0104
10	500	20	[3,10]	[15,30]	[610,3052]	23.575	1.190	-586.5	-501.6	93.580 %	0.0123
10	500	20	[6,10]	[1,10]	[404,4045]	36.354	1.196	-397.1	-278.3	94.033 %	0.0109
10	500	20	[6,10]	[1,10]	[808,4045]	36.553	1.188	-803.9	-672.4	92.496 %	0.0095
10	500	20	[6,10]	[5,10]	[404,4047]	38.067	1.234	-396.3	-263.0	93.204 %	0.0088
10	500	20	[6,10]	[5,10]	[808,4047]	36.988	1.229	-797.1	-678.3	93.257 %	0.0096
10	500	20	[6,10]	[1,30]	[405,4055]	29.145	1.167	-385.0	-267.3	93.971 %	0.0085
10	500	20	[6,10]	[1,30]	[810,4055]	29.089	1.160	-789.7	-674.0	93.345 %	0.0094
10	500	20	[6,10]	[15,30]	[406,4062]	33.349	1.167	-382.3	-254.5	93.494 %	0.0079
10	500	20	[6,10]	[15,30]	[812,4062]	33.624	1.192	-791.2	-665.1	92.842 %	0.0118

Tiempo Promedio Total H_2: 24.960 seg.

Tiempo Promedio Total H_1: 1.197 seg.

Rendimiento Promedio Total: 94.025 %

Tabla de Experimentos

$n : 750, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	20	[1,10]	[1,10]	[379,3792]	67.627	2.601	-374.5	-272.2	94.396 %	0.0097
10	750	20	[1,10]	[1,10]	[758,3792]	68.174	2.613	-752.0	-645.7	93.482 %	0.0090
10	750	20	[1,10]	[5,10]	[379,3794]	71.672	2.690	-372.4	-274.6	94.605 %	0.0060
10	750	20	[1,10]	[5,10]	[758,3794]	71.981	2.669	-751.4	-659.1	94.346 %	0.0114
10	750	20	[1,10]	[1,30]	[380,3802]	49.999	2.524	-356.2	-257.4	94.645 %	0.0047
10	750	20	[1,10]	[1,30]	[760,3802]	48.898	2.535	-736.4	-642.6	94.286 %	0.0078
10	750	20	[1,10]	[15,30]	[380,3809]	62.596	2.579	-355.6	-251.7	94.342 %	0.0055
10	750	20	[1,10]	[15,30]	[760,3809]	63.022	2.565	-731.3	-628.8	93.856 %	0.0054
10	750	20	[3,10]	[1,10]	[455,4550]	93.508	2.600	-447.0	-302.1	93.408 %	0.0070
10	750	20	[3,10]	[1,10]	[910,4550]	93.899	2.617	-901.7	-756.1	92.653 %	0.0063
10	750	20	[3,10]	[5,10]	[455,4552]	97.957	2.662	-445.7	-309.0	93.820 %	0.0075
10	750	20	[3,10]	[5,10]	[910,4552]	97.708	2.681	-898.3	-773.0	93.597 %	0.0104
10	750	20	[3,10]	[1,30]	[456,4560]	76.459	2.550	-439.7	-300.0	93.642 %	0.0057
10	750	20	[3,10]	[1,30]	[912,4560]	76.214	2.527	-892.0	-756.5	93.176 %	0.0093
10	750	20	[3,10]	[15,30]	[456,4567]	88.427	2.571	-432.7	-291.8	93.649 %	0.0081
10	750	20	[3,10]	[15,30]	[912,4567]	88.496	2.572	-888.1	-740.0	92.600 %	0.0068
10	750	20	[6,10]	[1,10]	[606,6065]	128.790	2.582	-599.1	-381.5	92.702 %	0.0061
10	750	20	[6,10]	[1,10]	[1212,6065]	127.784	2.604	-1203.0	-1005.7	92.533 %	0.0062
10	750	20	[6,10]	[5,10]	[606,6067]	131.657	2.679	-600.9	-412.2	93.507 %	0.0124
10	750	20	[6,10]	[5,10]	[1212,6067]	131.234	2.660	-1200.6	-1003.5	92.434 %	0.0075
10	750	20	[6,10]	[1,30]	[607,6075]	111.356	2.525	-583.7	-377.4	93.019 %	0.0098
10	750	20	[6,10]	[1,30]	[1214,6075]	111.355	2.541	-1196.1	-992.2	92.363 %	0.0096
10	750	20	[6,10]	[15,30]	[608,6082]	123.568	2.561	-584.5	-376.4	92.933 %	0.0075
10	750	20	[6,10]	[15,30]	[1216,6082]	122.787	2.572	-1193.3	-986.0	92.166 %	0.0090

Tiempo Promedio Total H_2: 91.882 seg.

Tiempo Promedio Total H_1: 2.595 seg.

Rendimiento Promedio Total: 93.423 %

Tabla de Experimentos

$n : 1000, m : 20, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	20	[1,10]	[1,10]	[505,5055]	171.968	4.706	-498.6	-350.4	93.842 %	0.0055
10	1000	20	[1,10]	[1,10]	[1010,5055]	173.789	4.657	-1002.0	-860.1	93.462 %	0.0093
10	1000	20	[1,10]	[5,10]	[505,5057]	180.349	4.792	-493.9	-350.2	94.057 %	0.0052
10	1000	20	[1,10]	[5,10]	[1010,5057]	182.193	4.810	-1000.6	-854.3	93.259 %	0.0053
10	1000	20	[1,10]	[1,30]	[506,5065]	139.302	4.516	-483.7	-353.2	94.622 %	0.0045
10	1000	20	[1,10]	[1,30]	[1012,5065]	134.901	4.565	-989.0	-852.8	93.801 %	0.0075
10	1000	20	[1,10]	[15,30]	[507,5072]	159.753	4.615	-484.1	-332.9	93.875 %	0.0039
10	1000	20	[1,10]	[15,30]	[1014,5072]	159.552	4.577	-987.9	-840.9	93.292 %	0.0070
10	1000	20	[3,10]	[1,10]	[606,6065]	237.696	4.655	-596.8	-382.3	92.689 %	0.0038
10	1000	20	[3,10]	[1,10]	[1212,6065]	234.660	4.664	-1202.8	-999.0	92.338 %	0.0078
10	1000	20	[3,10]	[5,10]	[606,6067]	239.803	4.822	-597.5	-401.8	93.301 %	0.0058
10	1000	20	[3,10]	[5,10]	[1212,6067]	243.666	4.817	-1203.5	-1007.2	92.609 %	0.0053
10	1000	20	[3,10]	[1,30]	[607,6075]	198.925	4.524	-587.5	-393.0	93.397 %	0.0055
10	1000	20	[3,10]	[1,30]	[1214,6075]	200.016	4.547	-1192.1	-997.8	92.619 %	0.0094
10	1000	20	[3,10]	[15,30]	[608,6082]	222.709	4.601	-584.3	-385.4	93.257 %	0.0065
10	1000	20	[3,10]	[15,30]	[1216,6082]	223.300	4.595	-1190.3	-977.7	91.989 %	0.0058
10	1000	20	[6,10]	[1,10]	[808,8085]	319.341	4.666	-803.5	-520.5	92.772 %	0.0077
10	1000	20	[6,10]	[1,10]	[1616,8085]	318.042	4.669	-1611.6	-1335.9	92.145 %	0.0102
10	1000	20	[6,10]	[5,10]	[808,8087]	324.912	4.779	-799.1	-531.1	93.144 %	0.0078
10	1000	20	[6,10]	[5,10]	[1616,8087]	324.015	4.817	-1609.4	-1328.0	91.988 %	0.0064
10	1000	20	[6,10]	[1,30]	[809,8095]	284.568	4.538	-787.5	-500.3	92.703 %	0.0058
10	1000	20	[6,10]	[1,30]	[1618,8095]	284.062	4.548	-1592.1	-1307.2	91.950 %	0.0053
10	1000	20	[6,10]	[15,30]	[810,8102]	306.335	4.613	-787.3	-507.2	92.966 %	0.0084
10	1000	20	[6,10]	[15,30]	[1620,8102]	313.455	4.601	-1594.8	-1307.9	92.000 %	0.0075

Tiempo Promedio Total H_2: 232.388 seg.

Tiempo Promedio Total H_1: 4.654 seg.

Rendimiento Promedio Total: 93.003 %

Tabla de Experimentos

$n : 10, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	50	[1,10]	[1,10]	[5,55]	0.021	0.010	2.0	2.0	100.000 %	0.0000
10	10	50	[1,10]	[1,10]	[10,55]	0.022	0.014	-0.8	1.0	93.425 %	0.1356
10	10	50	[1,10]	[5,10]	[5,57]	0.019	0.011	0.9	0.9	100.000 %	0.0000
10	10	50	[1,10]	[5,10]	[10,57]	0.019	0.011	-2.9	-1.5	95.556 %	0.1333
10	10	50	[1,10]	[1,30]	[6,65]	0.020	0.010	12.2	13.5	96.789 %	0.0757
10	10	50	[1,10]	[1,30]	[12,65]	0.019	0.009	4.7	6.4	96.210 %	0.0765
10	10	50	[1,10]	[15,30]	[7,72]	0.018	0.011	18.5	18.5	100.000 %	0.0000
10	10	50	[1,10]	[15,30]	[14,72]	0.020	0.012	11.5	11.5	100.000 %	0.0000
10	10	50	[3,10]	[1,10]	[6,65]	0.020	0.015	0.2	0.2	100.000 %	0.0000
10	10	50	[3,10]	[1,10]	[12,65]	0.022	0.014	-4.1	-4.1	100.000 %	0.0000
10	10	50	[3,10]	[5,10]	[6,67]	0.032	0.019	1.3	1.3	100.000 %	0.0000
10	10	50	[3,10]	[5,10]	[12,67]	0.024	0.013	-10.7	-6.3	90.349 %	0.2726
10	10	50	[3,10]	[1,30]	[7,75]	0.022	0.010	13.9	13.9	100.000 %	0.0000
10	10	50	[3,10]	[1,30]	[14,75]	0.040	0.076	4.5	5.1	98.477 %	0.0457
10	10	50	[3,10]	[15,30]	[8,82]	0.022	0.011	10.6	10.6	100.000 %	0.0000
10	10	50	[3,10]	[15,30]	[16,82]	0.020	0.014	7.2	7.2	100.000 %	0.0000
10	10	50	[6,10]	[1,10]	[8,85]	0.020	0.013	-4.0	-1.7	95.409 %	0.1377
10	10	50	[6,10]	[1,10]	[16,85]	0.022	0.011	-9.8	-7.5	95.536 %	0.0895
10	10	50	[6,10]	[5,10]	[8,87]	0.024	0.012	-0.3	0.3	98.778 %	0.0367
10	10	50	[6,10]	[5,10]	[16,87]	0.025	0.010	-9.3	-7.0	95.623 %	0.1213
10	10	50	[6,10]	[1,30]	[9,95]	0.022	0.013	9.6	10.9	97.118 %	0.0865
10	10	50	[6,10]	[1,30]	[18,95]	0.020	0.011	0.1	0.1	100.000 %	0.0000
10	10	50	[6,10]	[15,30]	[10,103]	0.038	0.055	15.7	15.7	100.000 %	0.0000
10	10	50	[6,10]	[15,30]	[20,103]	0.022	0.017	10.2	10.2	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.023 seg.

Tiempo Promedio Total H_1: 0.017 seg.

Rendimiento Promedio Total: 98.053 %

Tabla de Experimentos

$n : 20, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	50	[1,10]	[1,10]	[10,106]	0.028	0.013	-6.5	-2.5	93.206 %	0.1076
10	20	50	[1,10]	[1,10]	[20,106]	0.029	0.011	-10.2	-10.2	100.000 %	0.0000
10	20	50	[1,10]	[5,10]	[10,108]	0.029	0.015	-5.1	-2.9	96.559 %	0.0693
10	20	50	[1,10]	[5,10]	[20,108]	0.022	0.015	-11.6	-11.6	100.000 %	0.0000
10	20	50	[1,10]	[1,30]	[11,116]	0.032	0.019	9.2	9.2	100.000 %	0.0000
10	20	50	[1,10]	[1,30]	[22,116]	0.026	0.013	2.2	2.2	100.000 %	0.0000
10	20	50	[1,10]	[15,30]	[12,123]	0.027	0.014	9.1	9.1	100.000 %	0.0000
10	20	50	[1,10]	[15,30]	[24,123]	0.028	0.013	-2.2	-1.1	98.358 %	0.0493
10	20	50	[3,10]	[1,10]	[12,126]	0.031	0.015	-2.9	-2.9	100.000 %	0.0000
10	20	50	[3,10]	[1,10]	[24,126]	0.034	0.016	-18.5	-18.5	100.000 %	0.0000
10	20	50	[3,10]	[5,10]	[12,128]	0.031	0.012	-6.6	-0.8	91.939 %	0.1771
10	20	50	[3,10]	[5,10]	[24,128]	0.031	0.018	-15.1	-15.1	100.000 %	0.0000
10	20	50	[3,10]	[1,30]	[13,136]	0.031	0.011	-0.8	-0.8	100.000 %	0.0000
10	20	50	[3,10]	[1,30]	[26,136]	0.028	0.014	-4.6	-3.9	99.143 %	0.0257
10	20	50	[3,10]	[15,30]	[14,143]	0.028	0.013	8.9	8.9	100.000 %	0.0000
10	20	50	[3,10]	[15,30]	[28,143]	0.029	0.012	-0.3	-0.3	100.000 %	0.0000
10	20	50	[6,10]	[1,10]	[16,166]	0.041	0.014	-8.4	-8.4	100.000 %	0.0000
10	20	50	[6,10]	[1,10]	[32,166]	0.035	0.016	-23.6	-23.6	100.000 %	0.0000
10	20	50	[6,10]	[5,10]	[16,168]	0.035	0.018	-2.9	-2.9	100.000 %	0.0000
10	20	50	[6,10]	[5,10]	[32,168]	0.036	0.015	-23.0	-23.0	100.000 %	0.0000
10	20	50	[6,10]	[1,30]	[17,176]	0.060	0.033	3.7	3.7	100.000 %	0.0000
10	20	50	[6,10]	[1,30]	[34,176]	0.044	0.016	-16.1	-16.1	100.000 %	0.0000
10	20	50	[6,10]	[15,30]	[18,183]	0.030	0.014	7.7	7.7	100.000 %	0.0000
10	20	50	[6,10]	[15,30]	[36,183]	0.034	0.018	-10.1	-9.6	99.498 %	0.0151

Tiempo Promedio Total H_2: 0.032 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 99.113 %

Tabla de Experimentos

$n : 30, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	50	[1,10]	[1,10]	[15,156]	0.032	0.020	-8.0	-8.0	100.000 %	0.0000
10	30	50	[1,10]	[1,10]	[30,156]	0.035	0.019	-25.1	-25.1	100.000 %	0.0000
10	30	50	[1,10]	[5,10]	[15,158]	0.032	0.019	-9.0	-9.0	100.000 %	0.0000
10	30	50	[1,10]	[5,10]	[30,158]	0.033	0.020	-20.3	-20.3	100.000 %	0.0000
10	30	50	[1,10]	[1,30]	[16,166]	0.040	0.018	-0.3	-0.3	100.000 %	0.0000
10	30	50	[1,10]	[1,30]	[32,166]	0.035	0.019	-13.1	-13.1	100.000 %	0.0000
10	30	50	[1,10]	[15,30]	[17,173]	0.034	0.023	7.6	7.9	99.708 %	0.0088
10	30	50	[1,10]	[15,30]	[34,173]	0.033	0.020	-9.7	-9.7	100.000 %	0.0000
10	30	50	[3,10]	[1,10]	[18,186]	0.084	0.028	-8.9	-8.9	100.000 %	0.0000
10	30	50	[3,10]	[1,10]	[36,186]	0.042	0.023	-28.4	-28.4	100.000 %	0.0000
10	30	50	[3,10]	[5,10]	[18,188]	0.041	0.030	-10.2	-10.2	100.000 %	0.0000
10	30	50	[3,10]	[5,10]	[36,188]	0.064	0.021	-26.4	-26.4	100.000 %	0.0000
10	30	50	[3,10]	[1,30]	[19,196]	0.041	0.020	-2.7	-2.7	100.000 %	0.0000
10	30	50	[3,10]	[1,30]	[38,196]	0.045	0.021	-20.6	-20.6	100.000 %	0.0000
10	30	50	[3,10]	[15,30]	[20,204]	0.041	0.020	4.9	4.9	100.000 %	0.0000
10	30	50	[3,10]	[15,30]	[40,204]	0.041	0.021	-13.3	-13.3	100.000 %	0.0000
10	30	50	[6,10]	[1,10]	[24,247]	0.048	0.020	-19.0	-19.0	100.000 %	0.0000
10	30	50	[6,10]	[1,10]	[48,247]	0.058	0.023	-39.6	-39.6	100.000 %	0.0000
10	30	50	[6,10]	[5,10]	[24,249]	0.051	0.020	-19.9	-19.9	100.000 %	0.0000
10	30	50	[6,10]	[5,10]	[48,249]	0.054	0.020	-36.0	-36.0	100.000 %	0.0000
10	30	50	[6,10]	[1,30]	[25,257]	0.048	0.019	-5.3	-5.3	100.000 %	0.0000
10	30	50	[6,10]	[1,30]	[50,257]	0.051	0.020	-29.2	-29.2	100.000 %	0.0000
10	30	50	[6,10]	[15,30]	[26,264]	0.049	0.020	-1.4	-1.2	99.841 %	0.0048
10	30	50	[6,10]	[15,30]	[52,264]	0.049	0.020	-26.3	-26.3	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.045 seg.

Tiempo Promedio Total H_1: 0.021 seg.

Rendimiento Promedio Total: 99.981 %

Tabla de Experimentos

$n : 50, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	50	[1,10]	[1,10]	[25,257]	0.054	0.035	-16.8	-16.8	100.000 %	0.0000
10	50	50	[1,10]	[1,10]	[50,257]	0.046	0.030	-44.0	-44.0	100.000 %	0.0000
10	50	50	[1,10]	[5,10]	[25,259]	0.051	0.032	-14.5	-14.1	99.728 %	0.0082
10	50	50	[1,10]	[5,10]	[50,259]	0.050	0.034	-43.5	-43.5	100.000 %	0.0000
10	50	50	[1,10]	[1,30]	[26,267]	0.058	0.030	-9.6	-7.0	98.331 %	0.0408
10	50	50	[1,10]	[1,30]	[52,267]	0.060	0.036	-28.8	-28.0	99.424 %	0.0092
10	50	50	[1,10]	[15,30]	[27,274]	0.056	0.029	-3.0	-2.9	99.932 %	0.0020
10	50	50	[1,10]	[15,30]	[54,274]	0.053	0.030	-28.5	-28.1	99.727 %	0.0082
10	50	50	[3,10]	[1,10]	[30,308]	0.066	0.034	-22.1	-21.9	99.871 %	0.0039
10	50	50	[3,10]	[1,10]	[60,308]	0.089	0.047	-52.8	-52.7	99.912 %	0.0026
10	50	50	[3,10]	[5,10]	[31,310]	0.067	0.039	-22.8	-22.1	99.471 %	0.0159
10	50	50	[3,10]	[5,10]	[62,310]	0.068	0.031	-51.9	-51.9	100.000 %	0.0000
10	50	50	[3,10]	[1,30]	[31,318]	0.063	0.031	-10.0	-8.9	99.364 %	0.0135
10	50	50	[3,10]	[1,30]	[62,318]	0.067	0.031	-45.9	-45.1	99.473 %	0.0110
10	50	50	[3,10]	[15,30]	[32,325]	0.067	0.032	-7.5	-5.3	98.721 %	0.0346
10	50	50	[3,10]	[15,30]	[64,325]	0.061	0.032	-38.5	-37.8	99.548 %	0.0092
10	50	50	[6,10]	[1,10]	[40,409]	0.090	0.033	-33.1	-33.1	100.000 %	0.0000
10	50	50	[6,10]	[1,10]	[80,409]	0.085	0.033	-78.7	-78.7	100.000 %	0.0000
10	50	50	[6,10]	[5,10]	[41,411]	0.090	0.032	-30.2	-30.0	99.903 %	0.0029
10	50	50	[6,10]	[5,10]	[82,411]	0.114	0.035	-74.0	-74.0	100.000 %	0.0000
10	50	50	[6,10]	[1,30]	[41,419]	0.084	0.030	-22.4	-22.4	100.000 %	0.0000
10	50	50	[6,10]	[1,30]	[82,419]	0.082	0.031	-65.5	-65.1	99.806 %	0.0024
10	50	50	[6,10]	[15,30]	[42,426]	0.082	0.035	-18.7	-18.6	99.952 %	0.0014
10	50	50	[6,10]	[15,30]	[84,426]	0.080	0.030	-64.6	-63.5	99.459 %	0.0083

Tiempo Promedio Total H_2: 0.070 seg.

Tiempo Promedio Total H_1: 0.033 seg.

Rendimiento Promedio Total: 99.693 %

Tabla de Experimentos

$n : 100, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	50	[1,10]	[1,10]	[51,510]	0.103	0.081	-44.3	-44.3	100.000 %	0.0000
10	100	50	[1,10]	[1,10]	[102,510]	0.108	0.080	-94.4	-94.4	100.000 %	0.0000
10	100	50	[1,10]	[5,10]	[51,512]	0.135	0.095	-40.0	-40.0	100.000 %	0.0000
10	100	50	[1,10]	[5,10]	[102,512]	0.153	0.115	-95.0	-94.9	99.954 %	0.0014
10	100	50	[1,10]	[1,30]	[52,520]	0.102	0.080	-26.8	-26.7	99.962 %	0.0012
10	100	50	[1,10]	[1,30]	[104,520]	0.108	0.081	-83.1	-83.0	99.956 %	0.0013
10	100	50	[1,10]	[15,30]	[52,527]	0.098	0.081	-22.3	-21.9	99.841 %	0.0036
10	100	50	[1,10]	[15,30]	[104,527]	0.103	0.078	-78.4	-78.2	99.918 %	0.0025
10	100	50	[3,10]	[1,10]	[61,611]	0.164	0.088	-52.6	-52.1	99.826 %	0.0032
10	100	50	[3,10]	[1,10]	[122,611]	0.146	0.079	-113.4	-113.3	99.960 %	0.0012
10	100	50	[3,10]	[5,10]	[61,613]	0.182	0.080	-53.7	-53.1	99.794 %	0.0035
10	100	50	[3,10]	[5,10]	[122,613]	0.251	0.097	-112.4	-111.0	99.451 %	0.0026
10	100	50	[3,10]	[1,30]	[62,621]	0.132	0.081	-45.9	-45.7	99.932 %	0.0014
10	100	50	[3,10]	[1,30]	[124,621]	0.130	0.079	-104.2	-104.2	100.000 %	0.0000
10	100	50	[3,10]	[15,30]	[62,628]	0.137	0.080	-36.7	-36.5	99.932 %	0.0014
10	100	50	[3,10]	[15,30]	[124,628]	0.139	0.080	-95.8	-95.8	100.000 %	0.0000
10	100	50	[6,10]	[1,10]	[81,813]	0.252	0.083	-72.9	-71.5	99.628 %	0.0021
10	100	50	[6,10]	[1,10]	[162,813]	0.249	0.082	-157.5	-156.7	99.758 %	0.0033
10	100	50	[6,10]	[5,10]	[81,815]	0.286	0.085	-68.7	-66.8	99.504 %	0.0051
10	100	50	[6,10]	[5,10]	[162,815]	0.280	0.082	-157.1	-154.4	99.221 %	0.0043
10	100	50	[6,10]	[1,30]	[82,823]	0.166	0.076	-60.6	-60.2	99.897 %	0.0017
10	100	50	[6,10]	[1,30]	[164,823]	0.189	0.080	-138.4	-138.3	99.971 %	0.0009
10	100	50	[6,10]	[15,30]	[83,830]	0.191	0.080	-56.5	-56.5	100.000 %	0.0000
10	100	50	[6,10]	[15,30]	[166,830]	0.231	0.079	-138.0	-137.9	99.972 %	0.0008

Tiempo Promedio Total H_2: 0.168 seg.

Tiempo Promedio Total H_1: 0.083 seg.

Rendimiento Promedio Total: 99.853 %

Tabla de Experimentos

$n : 200, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	50	[1,10]	[1,10]	[101,1015]	0.417	0.240	-95.8	-94.4	99.699 %	0.0031
10	200	50	[1,10]	[1,10]	[202,1015]	0.389	0.287	-194.1	-192.7	99.665 %	0.0027
10	200	50	[1,10]	[5,10]	[101,1017]	0.496	0.243	-92.0	-87.8	99.117 %	0.0033
10	200	50	[1,10]	[5,10]	[202,1017]	0.531	0.243	-192.8	-188.7	99.048 %	0.0042
10	200	50	[1,10]	[1,30]	[102,1025]	0.215	0.234	-81.2	-81.2	100.000 %	0.0000
10	200	50	[1,10]	[1,30]	[204,1025]	0.225	0.241	-180.0	-180.0	100.000 %	0.0000
10	200	50	[1,10]	[15,30]	[103,1032]	0.230	0.237	-84.3	-84.3	100.000 %	0.0000
10	200	50	[1,10]	[15,30]	[206,1032]	0.225	0.240	-181.1	-181.0	99.977 %	0.0007
10	200	50	[3,10]	[1,10]	[121,1217]	0.681	0.237	-114.1	-109.2	99.104 %	0.0041
10	200	50	[3,10]	[1,10]	[242,1217]	0.655	0.240	-236.1	-231.1	99.000 %	0.0062
10	200	50	[3,10]	[5,10]	[121,1219]	0.860	0.242	-114.6	-109.1	99.025 %	0.0060
10	200	50	[3,10]	[5,10]	[242,1219]	0.870	0.243	-229.9	-223.6	98.796 %	0.0058
10	200	50	[3,10]	[1,30]	[122,1227]	0.276	0.230	-100.1	-100.1	100.000 %	0.0000
10	200	50	[3,10]	[1,30]	[244,1227]	0.287	0.237	-219.2	-219.2	100.000 %	0.0000
10	200	50	[3,10]	[15,30]	[123,1234]	0.438	0.238	-97.1	-94.5	99.556 %	0.0016
10	200	50	[3,10]	[15,30]	[246,1234]	0.499	0.237	-222.0	-220.2	99.657 %	0.0024
10	200	50	[6,10]	[1,10]	[162,1621]	1.118	0.238	-150.9	-140.9	98.672 %	0.0058
10	200	50	[6,10]	[1,10]	[324,1621]	1.142	0.240	-315.3	-306.1	98.631 %	0.0068
10	200	50	[6,10]	[5,10]	[162,1623]	1.294	0.249	-155.1	-143.8	98.472 %	0.0052
10	200	50	[6,10]	[5,10]	[324,1623]	1.372	0.242	-314.4	-303.9	98.426 %	0.0093
10	200	50	[6,10]	[1,30]	[163,1631]	0.413	0.245	-144.2	-144.0	99.972 %	0.0006
10	200	50	[6,10]	[1,30]	[326,1631]	0.421	0.234	-302.5	-302.2	99.953 %	0.0010
10	200	50	[6,10]	[15,30]	[163,1638]	0.901	0.235	-142.9	-137.9	99.342 %	0.0024
10	200	50	[6,10]	[15,30]	[326,1638]	0.846	0.238	-308.5	-302.9	99.186 %	0.0045

Tiempo Promedio Total H_2: 0.617 seg.

Tiempo Promedio Total H_1: 0.241 seg.

Rendimiento Promedio Total: 99.387 %

Tabla de Experimentos

$n : 300, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	50	[1,10]	[1,10]	[152,1520]	1.204	0.560	-143.3	-138.3	99.293 %	0.0036
10	300	50	[1,10]	[1,10]	[304,1520]	1.155	0.566	-293.1	-284.9	98.692 %	0.0031
10	300	50	[1,10]	[5,10]	[152,1522]	1.488	0.544	-146.7	-140.1	99.057 %	0.0058
10	300	50	[1,10]	[5,10]	[304,1522]	1.570	0.559	-295.4	-285.2	98.380 %	0.0036
10	300	50	[1,10]	[1,30]	[153,1530]	0.357	0.551	-130.6	-130.5	99.986 %	0.0004
10	300	50	[1,10]	[1,30]	[306,1530]	0.356	0.508	-278.9	-278.8	99.985 %	0.0005
10	300	50	[1,10]	[15,30]	[153,1537]	0.645	0.540	-130.6	-127.1	99.518 %	0.0017
10	300	50	[1,10]	[15,30]	[306,1537]	0.714	0.534	-281.4	-277.8	99.428 %	0.0027
10	300	50	[3,10]	[1,10]	[182,1823]	2.083	0.545	-173.6	-160.9	98.484 %	0.0047
10	300	50	[3,10]	[1,10]	[364,1823]	1.994	0.546	-360.4	-351.5	98.805 %	0.0071
10	300	50	[3,10]	[5,10]	[182,1825]	2.500	0.553	-171.4	-160.0	98.669 %	0.0054
10	300	50	[3,10]	[5,10]	[364,1825]	2.649	0.561	-352.6	-340.4	98.390 %	0.0051
10	300	50	[3,10]	[1,30]	[183,1833]	0.615	0.597	-162.4	-161.3	99.869 %	0.0011
10	300	50	[3,10]	[1,30]	[366,1833]	0.585	0.538	-343.4	-342.6	99.892 %	0.0013
10	300	50	[3,10]	[15,30]	[184,1840]	1.521	0.576	-156.2	-146.7	98.904 %	0.0026
10	300	50	[3,10]	[15,30]	[368,1840]	1.535	0.544	-341.2	-331.5	98.751 %	0.0038
10	300	50	[6,10]	[1,10]	[242,2429]	3.340	0.560	-234.2	-213.5	98.161 %	0.0054
10	300	50	[6,10]	[1,10]	[484,2429]	3.490	0.536	-474.1	-457.6	98.357 %	0.0056
10	300	50	[6,10]	[5,10]	[243,2431]	3.838	0.549	-236.1	-219.4	98.502 %	0.0048
10	300	50	[6,10]	[5,10]	[486,2431]	3.744	0.563	-475.8	-454.5	97.845 %	0.0080
10	300	50	[6,10]	[1,30]	[243,2439]	1.494	0.549	-222.9	-215.5	99.338 %	0.0032
10	300	50	[6,10]	[1,30]	[486,2439]	1.383	0.544	-465.3	-457.4	99.212 %	0.0020
10	300	50	[6,10]	[15,30]	[244,2446]	2.707	0.588	-215.9	-198.0	98.464 %	0.0046
10	300	50	[6,10]	[15,30]	[488,2446]	2.688	0.542	-460.6	-444.7	98.459 %	0.0046

Tiempo Promedio Total H_2: 1.819 seg.

Tiempo Promedio Total H_1: 0.552 seg.

Rendimiento Promedio Total: 98.935 %

Tabla de Experimentos

$n : 500, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	50	[1,10]	[1,10]	[253,2530]	5.908	1.294	-249.9	-235.3	98.751 %	0.0064
10	500	50	[1,10]	[1,10]	[506,2530]	5.927	1.248	-497.5	-477.6	98.089 %	0.0032
10	500	50	[1,10]	[5,10]	[253,2532]	7.381	1.276	-246.6	-228.0	98.421 %	0.0052
10	500	50	[1,10]	[5,10]	[506,2532]	7.190	1.290	-498.2	-482.4	98.496 %	0.0036
10	500	50	[1,10]	[1,30]	[254,2540]	1.604	1.243	-235.7	-231.0	99.597 %	0.0012
10	500	50	[1,10]	[1,30]	[508,2540]	1.536	1.231	-486.3	-480.8	99.469 %	0.0015
10	500	50	[1,10]	[15,30]	[254,2547]	4.333	1.229	-228.0	-211.5	98.638 %	0.0019
10	500	50	[1,10]	[15,30]	[508,2547]	4.025	1.244	-487.0	-473.0	98.684 %	0.0027
10	500	50	[3,10]	[1,10]	[303,3035]	9.912	1.247	-295.8	-268.2	98.030 %	0.0044
10	500	50	[3,10]	[1,10]	[606,3035]	9.970	1.234	-596.6	-566.1	97.601 %	0.0036
10	500	50	[3,10]	[5,10]	[303,3037]	11.130	1.273	-297.1	-269.8	98.037 %	0.0062
10	500	50	[3,10]	[5,10]	[606,3037]	11.143	1.262	-599.9	-572.9	97.833 %	0.0062
10	500	50	[3,10]	[1,30]	[304,3045]	3.959	1.222	-287.1	-274.8	99.132 %	0.0033
10	500	50	[3,10]	[1,30]	[608,3045]	4.171	1.238	-581.0	-563.2	98.599 %	0.0012
10	500	50	[3,10]	[15,30]	[305,3052]	7.650	1.245	-280.0	-256.5	98.370 %	0.0052
10	500	50	[3,10]	[15,30]	[610,3052]	7.818	1.242	-586.2	-566.5	98.447 %	0.0038
10	500	50	[6,10]	[1,10]	[404,4045]	15.282	1.247	-399.6	-358.3	97.777 %	0.0052
10	500	50	[6,10]	[1,10]	[808,4045]	15.115	1.239	-797.3	-751.5	97.283 %	0.0050
10	500	50	[6,10]	[5,10]	[404,4047]	16.478	1.280	-395.0	-354.0	97.813 %	0.0042
10	500	50	[6,10]	[5,10]	[808,4047]	16.588	1.276	-801.2	-764.2	97.803 %	0.0066
10	500	50	[6,10]	[1,30]	[405,4055]	8.675	1.227	-382.9	-355.1	98.510 %	0.0034
10	500	50	[6,10]	[1,30]	[810,4055]	8.566	1.243	-789.1	-760.7	98.293 %	0.0042
10	500	50	[6,10]	[15,30]	[406,4062]	12.892	1.239	-383.2	-346.5	98.078 %	0.0049
10	500	50	[6,10]	[15,30]	[812,4062]	12.876	1.249	-783.9	-741.4	97.516 %	0.0046

Tiempo Promedio Total H_2: 8.755 seg.

Tiempo Promedio Total H_1: 1.251 seg.

Rendimiento Promedio Total: 98.303 %

Tabla de Experimentos

$n : 750, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	50	[1,10]	[1,10]	[379,3792]	23.462	2.689	-369.2	-338.2	98.232 %	0.0048
10	750	50	[1,10]	[1,10]	[758,3792]	23.273	2.699	-754.1	-723.3	98.028 %	0.0041
10	750	50	[1,10]	[5,10]	[379,3794]	26.281	2.760	-371.6	-337.5	98.056 %	0.0049
10	750	50	[1,10]	[5,10]	[758,3794]	26.883	2.773	-750.5	-712.8	97.614 %	0.0030
10	750	50	[1,10]	[1,30]	[380,3802]	9.156	2.629	-362.2	-341.5	98.819 %	0.0022
10	750	50	[1,10]	[1,30]	[760,3802]	9.029	2.621	-742.0	-720.7	98.631 %	0.0022
10	750	50	[1,10]	[15,30]	[380,3809]	17.817	2.645	-353.5	-326.7	98.495 %	0.0046
10	750	50	[1,10]	[15,30]	[760,3809]	18.132	2.644	-735.0	-707.8	98.273 %	0.0049
10	750	50	[3,10]	[1,10]	[455,4550]	35.528	2.701	-446.7	-399.0	97.719 %	0.0046
10	750	50	[3,10]	[1,10]	[910,4550]	34.886	2.708	-903.1	-859.7	97.672 %	0.0062
10	750	50	[3,10]	[5,10]	[455,4552]	39.415	2.757	-449.1	-400.1	97.660 %	0.0046
10	750	50	[3,10]	[5,10]	[910,4552]	39.497	2.802	-902.9	-861.3	97.782 %	0.0043
10	750	50	[3,10]	[1,30]	[456,4560]	19.010	2.635	-436.4	-400.9	98.316 %	0.0027
10	750	50	[3,10]	[1,30]	[912,4560]	19.712	2.623	-892.6	-855.8	98.040 %	0.0043
10	750	50	[3,10]	[15,30]	[456,4567]	29.929	2.672	-431.6	-386.9	97.899 %	0.0035
10	750	50	[3,10]	[15,30]	[912,4567]	30.234	2.626	-885.2	-837.4	97.472 %	0.0026
10	750	50	[6,10]	[1,10]	[606,6065]	52.991	2.679	-598.6	-523.7	97.340 %	0.0040
10	750	50	[6,10]	[1,10]	[1212,6065]	52.576	2.686	-1201.9	-1133.9	97.285 %	0.0052
10	750	50	[6,10]	[5,10]	[606,6067]	56.109	2.743	-601.8	-537.2	97.695 %	0.0046
10	750	50	[6,10]	[5,10]	[1212,6067]	56.212	2.766	-1200.8	-1130.8	97.194 %	0.0063
10	750	50	[6,10]	[1,30]	[607,6075]	35.781	2.641	-586.6	-529.9	98.001 %	0.0033
10	750	50	[6,10]	[1,30]	[1214,6075]	35.856	2.619	-1190.9	-1127.4	97.462 %	0.0037
10	750	50	[6,10]	[15,30]	[608,6082]	47.903	2.651	-583.2	-521.6	97.817 %	0.0063
10	750	50	[6,10]	[15,30]	[1216,6082]	47.835	2.656	-1184.7	-1114.7	97.259 %	0.0054

Tiempo Promedio Total H_2: 32.813 seg.

Tiempo Promedio Total H_1: 2.684 seg.

Rendimiento Promedio Total: 97.865 %

Tabla de Experimentos

$n : 1000, m : 50, p_{max} : 10$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	50	[1,10]	[1,10]	[505,5055]	59.216	4.767	-499.2	-452.1	97.971 %	0.0030
10	1000	50	[1,10]	[1,10]	[1010,5055]	59.205	4.751	-1003.8	-958.1	97.820 %	0.0032
10	1000	50	[1,10]	[5,10]	[505,5057]	67.038	4.828	-495.3	-451.6	98.134 %	0.0057
10	1000	50	[1,10]	[5,10]	[1010,5057]	65.993	4.863	-1001.6	-957.4	97.858 %	0.0052
10	1000	50	[1,10]	[1,30]	[506,5065]	31.409	4.619	-488.3	-452.0	98.440 %	0.0019
10	1000	50	[1,10]	[1,30]	[1012,5065]	31.198	4.595	-987.4	-951.4	98.293 %	0.0015
10	1000	50	[1,10]	[15,30]	[507,5072]	50.319	4.632	-486.8	-446.0	98.276 %	0.0037
10	1000	50	[1,10]	[15,30]	[1014,5072]	50.705	4.620	-987.1	-939.8	97.754 %	0.0039
10	1000	50	[3,10]	[1,10]	[606,6065]	88.837	4.727	-599.9	-534.6	97.671 %	0.0058
10	1000	50	[3,10]	[1,10]	[1212,6065]	88.986	4.742	-1205.0	-1136.4	97.238 %	0.0034
10	1000	50	[3,10]	[5,10]	[606,6067]	94.927	4.846	-597.3	-529.0	97.562 %	0.0031
10	1000	50	[3,10]	[5,10]	[1212,6067]	95.288	4.871	-1203.3	-1134.7	97.294 %	0.0029
10	1000	50	[3,10]	[1,30]	[607,6075]	56.644	4.580	-588.1	-531.0	97.963 %	0.0030
10	1000	50	[3,10]	[1,30]	[1214,6075]	57.086	4.615	-1190.6	-1133.1	97.739 %	0.0048
10	1000	50	[3,10]	[15,30]	[608,6082]	79.194	4.610	-580.6	-521.8	97.915 %	0.0059
10	1000	50	[3,10]	[15,30]	[1216,6082]	79.216	4.633	-1190.7	-1132.0	97.682 %	0.0029
10	1000	50	[6,10]	[1,10]	[808,8085]	130.815	4.722	-800.4	-704.4	97.438 %	0.0041
10	1000	50	[6,10]	[1,10]	[1616,8085]	130.395	4.714	-1609.7	-1512.7	97.106 %	0.0047
10	1000	50	[6,10]	[5,10]	[808,8087]	137.182	4.844	-800.2	-716.9	97.769 %	0.0055
10	1000	50	[6,10]	[5,10]	[1616,8087]	137.458	4.850	-1610.9	-1527.0	97.495 %	0.0058
10	1000	50	[6,10]	[1,30]	[809,8095]	97.971	4.581	-793.7	-705.4	97.657 %	0.0054
10	1000	50	[6,10]	[1,30]	[1618,8095]	98.594	4.607	-1598.6	-1512.6	97.435 %	0.0036
10	1000	50	[6,10]	[15,30]	[810,8102]	120.063	4.627	-786.0	-681.8	97.241 %	0.0024
10	1000	50	[6,10]	[15,30]	[1620,8102]	120.328	4.631	-1594.4	-1502.8	97.288 %	0.0062

Tiempo Promedio Total H_2: 84.503 seg.

Tiempo Promedio Total H_1: 4.703 seg.

Rendimiento Promedio Total: 97.710 %

Tabla de Experimentos

$n : 10, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	2	[1,20]	[1,10]	[10,106]	0.019	0.011	-4.8	11.1	78.343 %	0.1021
10	10	2	[1,20]	[1,10]	[20,106]	0.015	0.008	-11.1	4.3	77.757 %	0.1132
10	10	2	[1,20]	[5,10]	[10,108]	0.015	0.012	-9.0	9.6	75.651 %	0.1337
10	10	2	[1,20]	[5,10]	[20,108]	0.019	0.003	-11.7	4.6	76.658 %	0.0938
10	10	2	[1,20]	[1,30]	[11,116]	0.014	0.012	6.7	12.5	91.986 %	0.0659
10	10	2	[1,20]	[1,30]	[22,116]	0.017	0.007	-7.4	4.4	85.302 %	0.0997
10	10	2	[1,20]	[15,30]	[12,123]	0.020	0.010	11.2	32.3	78.823 %	0.0831
10	10	2	[1,20]	[15,30]	[24,123]	0.019	0.005	1.3	18.0	82.483 %	0.0609
10	10	2	[6,20]	[1,10]	[13,136]	0.016	0.007	-7.8	16.9	75.018 %	0.0892
10	10	2	[6,20]	[1,10]	[26,136]	0.018	0.007	-21.2	11.8	65.367 %	0.0933
10	10	2	[6,20]	[5,10]	[13,138]	0.018	0.013	-0.5	28.3	70.736 %	0.0611
10	10	2	[6,20]	[5,10]	[26,138]	0.020	0.012	-17.6	10.5	70.866 %	0.1627
10	10	2	[6,20]	[1,30]	[14,146]	0.016	0.008	12.9	31.5	82.886 %	0.0598
10	10	2	[6,20]	[1,30]	[28,146]	0.016	0.009	-8.3	6.9	85.102 %	0.0735
10	10	2	[6,20]	[15,30]	[15,153]	0.050	0.015	10.6	33.7	80.396 %	0.0634
10	10	2	[6,20]	[15,30]	[30,153]	0.023	0.011	-3.8	22.7	76.671 %	0.0545
10	10	2	[12,20]	[1,10]	[16,166]	0.017	0.008	-4.7	25.9	74.673 %	0.0791
10	10	2	[12,20]	[1,10]	[32,166]	0.017	0.014	-20.7	11.5	70.728 %	0.0581
10	10	2	[12,20]	[5,10]	[16,168]	0.015	0.010	-11.7	26.4	68.145 %	0.0908
10	10	2	[12,20]	[5,10]	[32,168]	0.019	0.009	-18.6	8.3	76.809 %	0.1382
10	10	2	[12,20]	[1,30]	[17,176]	0.029	0.010	10.6	43.1	75.819 %	0.0766
10	10	2	[12,20]	[1,30]	[34,176]	0.020	0.006	-9.2	20.1	75.547 %	0.0370
10	10	2	[12,20]	[15,30]	[18,183]	0.018	0.007	10.8	45.7	76.612 %	0.0961
10	10	2	[12,20]	[15,30]	[36,183]	0.026	0.013	-12.8	22.6	74.749 %	0.0859

Tiempo Promedio Total H_2: 0.020 seg.

Tiempo Promedio Total H_1: 0.009 seg.

Rendimiento Promedio Total: 76.964 %

Tabla de Experimentos

$n : 20, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	2	[1,20]	[1,10]	[20,207]	0.029	0.011	-11.1	24.2	74.722 %	0.0695
10	20	2	[1,20]	[1,10]	[40,207]	0.033	0.012	-33.4	19.9	65.002 %	0.0752
10	20	2	[1,20]	[5,10]	[20,209]	0.029	0.011	-9.2	43.9	66.738 %	0.0654
10	20	2	[1,20]	[5,10]	[40,209]	0.030	0.009	-30.3	6.1	71.626 %	0.0742
10	20	2	[1,20]	[1,30]	[21,217]	0.038	0.011	-10.1	20.3	78.367 %	0.0708
10	20	2	[1,20]	[1,30]	[42,217]	0.033	0.007	-23.7	15.5	74.398 %	0.0731
10	20	2	[1,20]	[15,30]	[22,224]	0.035	0.010	-0.7	44.4	73.711 %	0.0641
10	20	2	[1,20]	[15,30]	[44,224]	0.032	0.011	-24.4	22.2	72.030 %	0.0667
10	20	2	[6,20]	[1,10]	[26,267]	0.042	0.011	-13.2	61.3	64.069 %	0.0860
10	20	2	[6,20]	[1,10]	[52,267]	0.034	0.010	-46.1	34.5	58.590 %	0.0404
10	20	2	[6,20]	[5,10]	[26,269]	0.033	0.010	-21.9	46.5	66.959 %	0.0805
10	20	2	[6,20]	[5,10]	[52,269]	0.032	0.012	-40.7	15.8	69.593 %	0.0972
10	20	2	[6,20]	[1,30]	[27,277]	0.036	0.010	-19.7	53.0	64.914 %	0.2139
10	20	2	[6,20]	[1,30]	[54,277]	0.037	0.012	-34.9	29.8	65.801 %	0.0699
10	20	2	[6,20]	[15,30]	[28,284]	0.040	0.011	-13.6	60.7	66.681 %	0.0617
10	20	2	[6,20]	[15,30]	[56,284]	0.035	0.010	-30.9	39.6	65.648 %	0.0545
10	20	2	[12,20]	[1,10]	[32,328]	0.034	0.011	-21.9	70.7	63.361 %	0.0808
10	20	2	[12,20]	[1,10]	[64,328]	0.035	0.009	-57.5	46.9	58.262 %	0.0659
10	20	2	[12,20]	[5,10]	[33,330]	0.036	0.014	-19.6	81.4	62.322 %	0.0885
10	20	2	[12,20]	[5,10]	[66,330]	0.032	0.011	-49.3	31.9	64.242 %	0.0845
10	20	2	[12,20]	[1,30]	[33,338]	0.037	0.009	-14.6	71.8	67.960 %	0.0844
10	20	2	[12,20]	[1,30]	[66,338]	0.038	0.009	-45.6	43.8	65.095 %	0.0514
10	20	2	[12,20]	[15,30]	[34,345]	0.037	0.012	-13.6	83.0	64.649 %	0.0468
10	20	2	[12,20]	[15,30]	[68,345]	0.039	0.008	-40.8	44.8	65.877 %	0.0432

Tiempo Promedio Total H_2: 0.035 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 67.109 %

Tabla de Experimentos

$n : 30, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	2	[1,20]	[1,10]	[30,308]	0.056	0.014	-16.8	61.5	65.186 %	0.0777
10	30	2	[1,20]	[1,10]	[60,308]	0.062	0.017	-51.5	26.6	64.046 %	0.0679
10	30	2	[1,20]	[5,10]	[31,310]	0.053	0.014	-19.4	47.4	69.626 %	0.0710
10	30	2	[1,20]	[5,10]	[62,310]	0.056	0.014	-47.6	23.9	67.014 %	0.1062
10	30	2	[1,20]	[1,30]	[31,318]	0.064	0.014	-11.9	67.9	67.466 %	0.0542
10	30	2	[1,20]	[1,30]	[62,318]	0.060	0.011	-38.5	36.0	67.556 %	0.0497
10	30	2	[1,20]	[15,30]	[32,325]	0.062	0.013	-6.3	74.6	68.419 %	0.0483
10	30	2	[1,20]	[15,30]	[64,325]	0.059	0.013	-39.0	41.3	65.984 %	0.0830
10	30	2	[6,20]	[1,10]	[39,398]	0.097	0.022	-29.9	82.9	62.900 %	0.0584
10	30	2	[6,20]	[1,10]	[78,398]	0.062	0.014	-73.2	30.8	61.665 %	0.0599
10	30	2	[6,20]	[5,10]	[40,400]	0.057	0.011	-25.3	72.6	67.858 %	0.0651
10	30	2	[6,20]	[5,10]	[80,400]	0.075	0.021	-68.4	40.0	60.139 %	0.0503
10	30	2	[6,20]	[1,30]	[40,409]	0.071	0.014	-23.5	91.5	62.909 %	0.0436
10	30	2	[6,20]	[1,30]	[80,409]	0.065	0.015	-63.9	32.5	64.531 %	0.0350
10	30	2	[6,20]	[15,30]	[41,416]	0.066	0.014	-20.5	110.5	61.067 %	0.0586
10	30	2	[6,20]	[15,30]	[82,416]	0.062	0.015	-58.0	59.2	62.037 %	0.0499
10	30	2	[12,20]	[1,10]	[48,489]	0.064	0.014	-53.4	111.8	57.134 %	0.0363
10	30	2	[12,20]	[1,10]	[96,489]	0.063	0.012	-85.4	64.9	59.349 %	0.0448
10	30	2	[12,20]	[5,10]	[49,491]	0.064	0.018	-36.8	105.6	63.440 %	0.0575
10	30	2	[12,20]	[5,10]	[98,491]	0.056	0.012	-85.1	73.3	56.094 %	0.0491
10	30	2	[12,20]	[1,30]	[49,499]	0.074	0.013	-35.0	122.4	60.739 %	0.0366
10	30	2	[12,20]	[1,30]	[98,499]	0.078	0.013	-74.3	80.5	60.308 %	0.0502
10	30	2	[12,20]	[15,30]	[50,507]	0.070	0.015	-28.4	110.4	63.765 %	0.0464
10	30	2	[12,20]	[15,30]	[100,507]	0.076	0.019	-72.3	80.5	61.458 %	0.0586

Tiempo Promedio Total H_2: 0.065 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 63.362 %

Tabla de Experimentos

$n : 50, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	2	[1,20]	[1,10]	[51,510]	0.157	0.024	-40.7	97.9	63.397 %	0.0485
10	50	2	[1,20]	[1,10]	[102,510]	0.156	0.023	-91.8	52.6	59.964 %	0.0381
10	50	2	[1,20]	[5,10]	[51,512]	0.147	0.023	-44.7	81.7	66.556 %	0.0541
10	50	2	[1,20]	[5,10]	[102,512]	0.152	0.023	-98.3	40.7	60.035 %	0.0737
10	50	2	[1,20]	[1,30]	[52,520]	0.196	0.053	-33.2	100.8	66.050 %	0.0460
10	50	2	[1,20]	[1,30]	[104,520]	0.165	0.022	-82.8	47.2	64.075 %	0.0475
10	50	2	[1,20]	[15,30]	[52,527]	0.165	0.023	-22.5	109.2	66.601 %	0.0586
10	50	2	[1,20]	[15,30]	[104,527]	0.173	0.025	-77.2	63.0	62.721 %	0.0609
10	50	2	[6,20]	[1,10]	[66,661]	0.171	0.021	-61.6	161.3	57.804 %	0.0411
10	50	2	[6,20]	[1,10]	[132,661]	0.179	0.023	-126.9	93.4	55.631 %	0.0345
10	50	2	[6,20]	[5,10]	[66,663]	0.155	0.022	-55.0	121.3	64.063 %	0.0389
10	50	2	[6,20]	[5,10]	[132,663]	0.153	0.025	-119.4	87.3	58.797 %	0.0515
10	50	2	[6,20]	[1,30]	[67,671]	0.185	0.021	-52.9	143.0	62.217 %	0.0440
10	50	2	[6,20]	[1,30]	[134,671]	0.203	0.024	-122.8	72.2	59.621 %	0.0511
10	50	2	[6,20]	[15,30]	[67,678]	0.180	0.023	-43.1	151.0	62.665 %	0.0587
10	50	2	[6,20]	[15,30]	[134,678]	0.184	0.022	-103.6	108.1	58.803 %	0.0481
10	50	2	[12,20]	[1,10]	[81,813]	0.171	0.020	-62.5	214.6	57.621 %	0.0440
10	50	2	[12,20]	[1,10]	[162,813]	0.173	0.024	-150.5	116.1	54.474 %	0.0382
10	50	2	[12,20]	[5,10]	[81,815]	0.160	0.023	-71.4	181.5	60.756 %	0.0584
10	50	2	[12,20]	[5,10]	[162,815]	0.166	0.022	-151.6	95.8	57.874 %	0.0434
10	50	2	[12,20]	[1,30]	[82,823]	0.201	0.025	-56.8	221.9	57.987 %	0.0523
10	50	2	[12,20]	[1,30]	[164,823]	0.211	0.023	-145.8	131.7	57.388 %	0.0334
10	50	2	[12,20]	[15,30]	[83,830]	0.187	0.023	-54.3	221.1	59.315 %	0.0418
10	50	2	[12,20]	[15,30]	[166,830]	0.189	0.022	-139.2	176.4	52.625 %	0.0244

Tiempo Promedio Total H_2: 0.174 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 60.293 %

Tabla de Experimentos

$n : 100, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	2	[1,20]	[1,10]	[101,1015]	0.935	0.073	-94.0	224.7	59.994 %	0.0403
10	100	2	[1,20]	[1,10]	[202,1015]	0.959	0.073	-194.6	123.1	56.414 %	0.0331
10	100	2	[1,20]	[5,10]	[101,1017]	0.911	0.064	-98.7	203.6	61.278 %	0.0229
10	100	2	[1,20]	[5,10]	[202,1017]	0.902	0.066	-188.5	110.8	57.957 %	0.0370
10	100	2	[1,20]	[1,30]	[102,1025]	0.981	0.061	-82.9	224.0	61.185 %	0.0377
10	100	2	[1,20]	[1,30]	[204,1025]	1.044	0.072	-184.6	118.7	57.959 %	0.0248
10	100	2	[1,20]	[15,30]	[103,1032]	0.979	0.064	-87.7	224.9	61.379 %	0.0306
10	100	2	[1,20]	[15,30]	[206,1032]	1.041	0.066	-184.8	110.5	59.763 %	0.0498
10	100	2	[6,20]	[1,10]	[131,1318]	0.955	0.061	-121.8	301.9	58.498 %	0.0244
10	100	2	[6,20]	[1,10]	[262,1318]	0.950	0.065	-252.8	211.9	53.584 %	0.0194
10	100	2	[6,20]	[5,10]	[132,1320]	0.939	0.066	-129.4	289.1	59.271 %	0.0335
10	100	2	[6,20]	[5,10]	[264,1320]	0.937	0.061	-250.5	183.1	55.708 %	0.0176
10	100	2	[6,20]	[1,30]	[132,1328]	1.064	0.060	-109.9	347.0	57.745 %	0.0183
10	100	2	[6,20]	[1,30]	[264,1328]	1.054	0.059	-246.2	192.3	55.835 %	0.0454
10	100	2	[6,20]	[15,30]	[133,1335]	0.990	0.060	-106.1	364.4	57.241 %	0.0273
10	100	2	[6,20]	[15,30]	[266,1335]	1.015	0.059	-240.4	243.1	54.027 %	0.0303
10	100	2	[12,20]	[1,10]	[162,1621]	1.002	0.059	-153.3	457.9	55.221 %	0.0344
10	100	2	[12,20]	[1,10]	[324,1621]	0.997	0.059	-309.8	275.5	53.474 %	0.0275
10	100	2	[12,20]	[5,10]	[162,1623]	0.943	0.060	-154.9	440.9	55.136 %	0.0275
10	100	2	[12,20]	[5,10]	[324,1623]	0.961	0.068	-307.2	285.3	53.508 %	0.0159
10	100	2	[12,20]	[1,30]	[163,1631]	1.119	0.059	-139.7	494.6	54.774 %	0.0217
10	100	2	[12,20]	[1,30]	[326,1631]	1.095	0.060	-305.7	337.5	50.530 %	0.0171
10	100	2	[12,20]	[15,30]	[163,1638]	1.051	0.063	-145.4	454.1	56.212 %	0.0362
10	100	2	[12,20]	[15,30]	[326,1638]	1.028	0.060	-299.6	361.2	50.454 %	0.0210

Tiempo Promedio Total H_2: 0.994 seg.

Tiempo Promedio Total H_1: 0.063 seg.

Rendimiento Promedio Total: 56.548 %

Tabla de Experimentos

$n : 200, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	2	[1,20]	[1,10]	[202,2025]	6.877	0.207	-196.4	471.4	58.087 %	0.0333
10	200	2	[1,20]	[1,10]	[404,2025]	6.665	0.202	-397.4	290.2	54.521 %	0.0233
10	200	2	[1,20]	[5,10]	[202,2027]	6.521	0.208	-198.3	427.0	59.741 %	0.0277
10	200	2	[1,20]	[5,10]	[404,2027]	6.685	0.212	-393.6	249.6	55.941 %	0.0210
10	200	2	[1,20]	[1,30]	[203,2035]	7.081	0.211	-178.5	484.6	59.404 %	0.0245
10	200	2	[1,20]	[1,30]	[406,2035]	6.873	0.205	-385.4	282.1	55.860 %	0.0260
10	200	2	[1,20]	[15,30]	[204,2042]	6.682	0.198	-181.6	515.9	57.545 %	0.0267
10	200	2	[1,20]	[15,30]	[408,2042]	6.751	0.203	-384.4	274.6	55.803 %	0.0161
10	200	2	[6,20]	[1,10]	[263,2631]	6.899	0.200	-257.0	691.2	56.092 %	0.0297
10	200	2	[6,20]	[1,10]	[526,2631]	6.860	0.201	-510.6	455.1	52.167 %	0.0222
10	200	2	[6,20]	[5,10]	[263,2633]	6.768	0.207	-252.9	655.6	56.955 %	0.0199
10	200	2	[6,20]	[5,10]	[526,2633]	6.843	0.209	-513.9	388.4	53.571 %	0.0285
10	200	2	[6,20]	[1,30]	[264,2641]	7.260	0.202	-248.5	728.2	55.308 %	0.0198
10	200	2	[6,20]	[1,30]	[528,2641]	7.621	0.230	-506.2	481.3	52.466 %	0.0187
10	200	2	[6,20]	[15,30]	[264,2648]	7.021	0.209	-245.4	732.5	55.026 %	0.0202
10	200	2	[6,20]	[15,30]	[528,2648]	6.951	0.196	-506.5	474.4	52.517 %	0.0259
10	200	2	[12,20]	[1,10]	[323,3237]	6.948	0.200	-317.7	994.5	53.465 %	0.0195
10	200	2	[12,20]	[1,10]	[646,3237]	6.922	0.205	-640.8	652.2	50.279 %	0.0156
10	200	2	[12,20]	[5,10]	[323,3239]	6.743	0.208	-309.2	867.9	55.847 %	0.0234
10	200	2	[12,20]	[5,10]	[646,3239]	6.819	0.204	-641.6	574.4	52.020 %	0.0348
10	200	2	[12,20]	[1,30]	[324,3247]	7.321	0.198	-302.0	1063.9	52.205 %	0.0220
10	200	2	[12,20]	[1,30]	[648,3247]	7.565	0.202	-625.2	730.5	49.625 %	0.0172
10	200	2	[12,20]	[15,30]	[325,3254]	7.121	0.197	-300.9	1045.5	52.204 %	0.0272
10	200	2	[12,20]	[15,30]	[650,3254]	7.187	0.197	-626.3	716.3	49.430 %	0.0127

Tiempo Promedio Total H_2: 6.958 seg.

Tiempo Promedio Total H_1: 0.205 seg.

Rendimiento Promedio Total: 54.420 %

Tabla de Experimentos

$n : 300, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	2	[1,20]	[1,10]	[303,3035]	21.923	0.433	-296.0	691.8	58.561 %	0.0212
10	300	2	[1,20]	[1,10]	[606,3035]	21.614	0.432	-597.1	422.5	54.222 %	0.0286
10	300	2	[1,20]	[5,10]	[303,3037]	21.557	0.444	-301.1	638.8	59.223 %	0.0183
10	300	2	[1,20]	[5,10]	[606,3037]	21.449	0.445	-599.7	373.3	55.772 %	0.0180
10	300	2	[1,20]	[1,30]	[304,3045]	22.648	0.437	-283.9	805.8	56.190 %	0.0195
10	300	2	[1,20]	[1,30]	[608,3045]	22.382	0.445	-591.8	464.5	53.737 %	0.0110
10	300	2	[1,20]	[15,30]	[305,3052]	21.952	0.489	-283.0	725.1	58.536 %	0.0173
10	300	2	[1,20]	[15,30]	[610,3052]	21.887	0.429	-583.1	513.9	53.496 %	0.0187
10	300	2	[6,20]	[1,10]	[394,3944]	22.116	0.431	-394.6	1082.8	54.374 %	0.0137
10	300	2	[6,20]	[1,10]	[788,3944]	21.879	0.436	-779.6	680.0	52.194 %	0.0163
10	300	2	[6,20]	[5,10]	[394,3946]	21.995	0.447	-381.2	1052.0	55.327 %	0.0088
10	300	2	[6,20]	[5,10]	[788,3946]	21.865	0.445	-773.3	587.3	53.597 %	0.0142
10	300	2	[6,20]	[1,30]	[395,3954]	23.176	0.427	-374.2	1172.2	53.727 %	0.0160
10	300	2	[6,20]	[1,30]	[790,3954]	23.132	0.426	-769.0	811.6	50.398 %	0.0119
10	300	2	[6,20]	[15,30]	[396,3961]	22.248	0.424	-367.0	1091.1	55.803 %	0.0249
10	300	2	[6,20]	[15,30]	[792,3961]	22.523	0.427	-768.2	696.0	52.268 %	0.0148
10	300	2	[12,20]	[1,10]	[485,4853]	22.528	0.434	-472.9	1529.3	52.271 %	0.0123
10	300	2	[12,20]	[1,10]	[970,4853]	22.522	0.432	-956.6	1038.5	49.181 %	0.0129
10	300	2	[12,20]	[5,10]	[485,4855]	22.208	0.443	-471.1	1432.2	53.501 %	0.0150
10	300	2	[12,20]	[5,10]	[970,4855]	22.342	0.450	-959.3	894.3	51.107 %	0.0115
10	300	2	[12,20]	[1,30]	[486,4863]	23.523	0.426	-457.6	1564.6	51.946 %	0.0130
10	300	2	[12,20]	[1,30]	[972,4863]	23.546	0.423	-958.3	1127.8	48.652 %	0.0118
10	300	2	[12,20]	[15,30]	[487,4870]	22.830	0.437	-462.7	1550.3	52.349 %	0.0131
10	300	2	[12,20]	[15,30]	[974,4870]	22.801	0.430	-942.5	1097.4	49.022 %	0.0172

Tiempo Promedio Total H_2: 22.360 seg.

Tiempo Promedio Total H_1: 0.437 seg.

Rendimiento Promedio Total: 53.561 %

Tabla de Experimentos

$n : 500, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	2	[1,20]	[1,10]	[505,5055]	104.718	1.183	-502.2	1249.1	56.516 %	0.0181
10	500	2	[1,20]	[1,10]	[1010,5055]	103.484	1.141	-1005.7	748.1	53.568 %	0.0119
10	500	2	[1,20]	[5,10]	[505,5057]	101.406	1.183	-501.1	1142.1	58.172 %	0.0133
10	500	2	[1,20]	[5,10]	[1010,5057]	102.540	1.168	-996.2	645.9	55.434 %	0.0087
10	500	2	[1,20]	[1,30]	[506,5065]	102.473	1.114	-492.9	1350.5	55.144 %	0.0133
10	500	2	[1,20]	[1,30]	[1012,5065]	104.852	1.148	-989.6	846.0	52.762 %	0.0171
10	500	2	[1,20]	[15,30]	[507,5072]	102.862	1.121	-481.3	1274.9	56.795 %	0.0144
10	500	2	[1,20]	[15,30]	[1014,5072]	101.987	1.130	-989.3	784.7	53.419 %	0.0128
10	500	2	[6,20]	[1,10]	[657,6570]	104.027	1.147	-655.5	1907.4	53.852 %	0.0053
10	500	2	[6,20]	[1,10]	[1314,6570]	103.616	1.143	-1304.6	1229.0	51.120 %	0.0111
10	500	2	[6,20]	[5,10]	[657,6572]	102.622	1.167	-653.1	1684.5	56.072 %	0.0146
10	500	2	[6,20]	[5,10]	[1314,6572]	102.881	1.169	-1297.0	1115.2	52.311 %	0.0062
10	500	2	[6,20]	[1,30]	[658,6580]	106.822	1.118	-642.6	1916.6	53.580 %	0.0137
10	500	2	[6,20]	[1,30]	[1316,6580]	107.171	1.116	-1292.6	1269.8	50.942 %	0.0093
10	500	2	[6,20]	[15,30]	[658,6587]	105.134	1.138	-630.8	2066.3	52.596 %	0.0067
10	500	2	[6,20]	[15,30]	[1316,6587]	105.232	1.131	-1291.9	1291.2	50.779 %	0.0112
10	500	2	[12,20]	[1,10]	[808,8085]	105.238	1.153	-807.2	2451.1	53.210 %	0.0179
10	500	2	[12,20]	[1,10]	[1616,8085]	105.630	1.145	-1605.6	1774.2	49.245 %	0.0109
10	500	2	[12,20]	[5,10]	[808,8087]	105.008	1.185	-792.6	2342.1	53.602 %	0.0155
10	500	2	[12,20]	[5,10]	[1616,8087]	105.053	1.177	-1601.8	1522.4	50.850 %	0.0183
10	500	2	[12,20]	[1,30]	[809,8095]	109.001	1.137	-793.6	2765.0	50.547 %	0.0131
10	500	2	[12,20]	[1,30]	[1618,8095]	109.943	1.111	-1591.5	1925.7	48.289 %	0.0147
10	500	2	[12,20]	[15,30]	[810,8102]	106.001	1.143	-780.8	2663.3	51.532 %	0.0095
10	500	2	[12,20]	[15,30]	[1620,8102]	106.666	1.128	-1589.9	1915.8	48.308 %	0.0117

Tiempo Promedio Total H_2: 104.765 seg.

Tiempo Promedio Total H_1: 1.146 seg.

Rendimiento Promedio Total: 52.860 %

Tabla de Experimentos

$n : 750, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	2	[1,20]	[1,10]	[758,7580]	361.127	2.590	-749.7	1908.7	56.388 %	0.0187
10	750	2	[1,20]	[1,10]	[1516,7580]	357.668	2.554	-1505.8	1169.7	53.349 %	0.0104
10	750	2	[1,20]	[5,10]	[758,7582]	356.717	2.618	-752.6	1725.7	58.082 %	0.0091
10	750	2	[1,20]	[5,10]	[1516,7582]	357.688	2.612	-1502.3	1034.2	54.407 %	0.0093
10	750	2	[1,20]	[1,30]	[759,7590]	364.059	2.485	-735.3	2031.9	55.527 %	0.0126
10	750	2	[1,20]	[1,30]	[1518,7590]	363.649	2.473	-1499.0	1225.1	52.616 %	0.0133
10	750	2	[1,20]	[15,30]	[759,7597]	362.221	2.507	-737.3	1985.1	55.800 %	0.0147
10	750	2	[1,20]	[15,30]	[1518,7597]	360.469	2.531	-1495.2	1284.6	52.342 %	0.0114
10	750	2	[6,20]	[1,10]	[985,9852]	364.444	2.553	-978.6	2899.9	53.343 %	0.0073
10	750	2	[6,20]	[1,10]	[1970,9852]	366.100	2.545	-1968.0	1870.4	50.867 %	0.0081
10	750	2	[6,20]	[5,10]	[985,9854]	363.397	2.616	-975.5	2641.4	54.985 %	0.0079
10	750	2	[6,20]	[5,10]	[1970,9854]	364.589	2.646	-1950.1	1603.0	52.592 %	0.0099
10	750	2	[6,20]	[1,30]	[986,9862]	372.686	2.487	-973.0	2956.9	53.297 %	0.0144
10	750	2	[6,20]	[1,30]	[1972,9862]	374.022	2.469	-1949.9	2078.2	49.601 %	0.0100
10	750	2	[6,20]	[15,30]	[986,9869]	368.865	2.502	-961.3	2914.9	53.336 %	0.0080
10	750	2	[6,20]	[15,30]	[1972,9869]	368.011	2.532	-1942.2	2025.4	50.009 %	0.0074
10	750	2	[12,20]	[1,10]	[1212,12125]	372.397	2.539	-1202.4	3964.7	51.377 %	0.0084
10	750	2	[12,20]	[1,10]	[2424,12125]	370.389	2.565	-2416.3	2723.2	48.988 %	0.0076
10	750	2	[12,20]	[5,10]	[1212,12127]	365.894	2.628	-1204.3	3603.4	53.060 %	0.0040
10	750	2	[12,20]	[5,10]	[2424,12127]	367.519	2.663	-2409.7	2391.4	50.137 %	0.0064
10	750	2	[12,20]	[1,30]	[1213,12135]	379.269	2.490	-1189.3	4172.8	50.607 %	0.0085
10	750	2	[12,20]	[1,30]	[2426,12135]	379.262	2.480	-2399.7	3012.8	47.034 %	0.0079
10	750	2	[12,20]	[15,30]	[1214,12142]	374.569	2.475	-1179.6	4069.5	51.105 %	0.0097
10	750	2	[12,20]	[15,30]	[2428,12142]	374.045	2.528	-2395.6	2877.3	47.966 %	0.0101

Tiempo Promedio Total H_2: 367.044 seg.

Tiempo Promedio Total H_1: 2.545 seg.

Rendimiento Promedio Total: 52.367 %

Tabla de Experimentos

$n : 1000, m : 2, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	2	[1,20]	[1,10]	[1010,10105]	887.303	4.819	-1002.3	2596.4	55.872 %	0.0084
10	1000	2	[1,20]	[1,10]	[2020,10105]	886.127	4.586	-2020.7	1566.5	52.948 %	0.0132
10	1000	2	[1,20]	[5,10]	[1010,10107]	885.510	4.728	-1011.0	2287.6	57.921 %	0.0088
10	1000	2	[1,20]	[5,10]	[2020,10107]	888.505	4.813	-2010.5	1334.1	54.627 %	0.0074
10	1000	2	[1,20]	[1,30]	[1011,10115]	892.613	4.469	-999.1	2730.8	54.835 %	0.0084
10	1000	2	[1,20]	[1,30]	[2022,10115]	896.320	4.513	-1995.6	1719.1	52.383 %	0.0119
10	1000	2	[1,20]	[15,30]	[1012,10122]	892.306	4.534	-982.6	2663.4	55.577 %	0.0099
10	1000	2	[1,20]	[15,30]	[2024,10122]	887.130	4.630	-2000.1	1686.7	52.596 %	0.0075
10	1000	2	[6,20]	[1,10]	[1313,13135]	908.518	4.625	-1312.9	3797.6	53.563 %	0.0063
10	1000	2	[6,20]	[1,10]	[2626,13135]	901.490	4.605	-2619.5	2479.0	50.693 %	0.0083
10	1000	2	[6,20]	[5,10]	[1313,13137]	902.672	4.741	-1310.8	3457.0	55.221 %	0.0058
10	1000	2	[6,20]	[5,10]	[2626,13137]	902.400	4.703	-2615.3	2205.7	52.292 %	0.0069
10	1000	2	[6,20]	[1,30]	[1314,13145]	919.500	4.549	-1298.9	3996.5	52.934 %	0.0077
10	1000	2	[6,20]	[1,30]	[2628,13145]	916.160	4.472	-2599.7	2847.7	49.068 %	0.0071
10	1000	2	[6,20]	[15,30]	[1315,13152]	909.342	4.598	-1289.0	3936.8	53.326 %	0.0084
10	1000	2	[6,20]	[15,30]	[2630,13152]	904.223	4.611	-2603.7	2723.8	49.803 %	0.0054
10	1000	2	[12,20]	[1,10]	[1616,16165]	917.823	4.579	-1609.4	5172.5	51.666 %	0.0072
10	1000	2	[12,20]	[1,10]	[3232,16165]	921.333	4.616	-3217.1	3623.4	48.636 %	0.0074
10	1000	2	[12,20]	[5,10]	[1616,16167]	916.530	4.776	-1614.7	4774.4	53.273 %	0.0073
10	1000	2	[12,20]	[5,10]	[3232,16167]	903.067	4.721	-3216.1	3191.0	50.086 %	0.0070
10	1000	2	[12,20]	[1,30]	[1617,16175]	922.920	4.467	-1590.6	5642.4	50.170 %	0.0088
10	1000	2	[12,20]	[1,30]	[3234,16175]	922.078	4.452	-3210.3	4009.0	47.421 %	0.0081
10	1000	2	[12,20]	[15,30]	[1618,16182]	911.251	4.531	-1591.7	5491.9	51.024 %	0.0065
10	1000	2	[12,20]	[15,30]	[3236,16182]	921.979	4.546	-3210.6	3818.4	47.878 %	0.0085

Tiempo Promedio Total H_2: 904.879 seg.

Tiempo Promedio Total H_1: 4.612 seg.

Rendimiento Promedio Total: 52.242 %

Tabla de Experimentos

$n : 10, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	4	[1,20]	[1,10]	[10,106]	0.016	0.010	-1.3	1.2	95.825 %	0.0437
10	10	4	[1,20]	[1,10]	[20,106]	0.017	0.008	-14.3	-11.7	95.363 %	0.0433
10	10	4	[1,20]	[5,10]	[10,108]	0.015	0.008	-6.7	-2.3	92.875 %	0.0751
10	10	4	[1,20]	[5,10]	[20,108]	0.020	0.004	-12.9	-9.0	93.865 %	0.0694
10	10	4	[1,20]	[1,30]	[11,116]	0.014	0.006	3.4	5.6	97.099 %	0.0329
10	10	4	[1,20]	[1,30]	[22,116]	0.014	0.008	-4.5	-3.3	98.205 %	0.0334
10	10	4	[1,20]	[15,30]	[12,123]	0.026	0.012	9.4	12.5	96.100 %	0.0475
10	10	4	[1,20]	[15,30]	[24,123]	0.017	0.007	-1.3	2.8	95.197 %	0.0655
10	10	4	[6,20]	[1,10]	[13,136]	0.020	0.008	-4.7	4.5	88.470 %	0.0887
10	10	4	[6,20]	[1,10]	[26,136]	0.020	0.007	-14.4	-4.0	86.146 %	0.0446
10	10	4	[6,20]	[5,10]	[13,138]	0.018	0.007	-7.9	6.3	83.538 %	0.1358
10	10	4	[6,20]	[5,10]	[26,138]	0.016	0.008	-15.8	-8.6	90.613 %	0.0903
10	10	4	[6,20]	[1,30]	[14,146]	0.018	0.005	-1.7	1.0	96.574 %	0.0313
10	10	4	[6,20]	[1,30]	[28,146]	0.016	0.007	-3.3	-0.3	96.611 %	0.0402
10	10	4	[6,20]	[15,30]	[15,153]	0.019	0.008	5.6	12.8	92.398 %	0.0570
10	10	4	[6,20]	[15,30]	[30,153]	0.017	0.008	-8.6	0.9	90.103 %	0.0444
10	10	4	[12,20]	[1,10]	[16,166]	0.023	0.011	-10.3	3.1	85.822 %	0.0661
10	10	4	[12,20]	[1,10]	[32,166]	0.025	0.010	-29.9	-19.4	87.824 %	0.0855
10	10	4	[12,20]	[5,10]	[16,168]	0.090	0.018	-6.2	8.2	85.619 %	0.0838
10	10	4	[12,20]	[5,10]	[32,168]	0.030	0.012	-24.8	-9.9	83.810 %	0.0893
10	10	4	[12,20]	[1,30]	[17,176]	0.017	0.007	2.2	8.8	94.211 %	0.0434
10	10	4	[12,20]	[1,30]	[34,176]	0.028	0.018	-23.0	-11.5	88.182 %	0.2117
10	10	4	[12,20]	[15,30]	[18,183]	0.022	0.013	4.0	16.1	89.234 %	0.0509
10	10	4	[12,20]	[15,30]	[36,183]	0.030	0.009	-13.5	-4.6	91.346 %	0.0420

Tiempo Promedio Total H_2: 0.023 seg.

Tiempo Promedio Total H_1: 0.009 seg.

Rendimiento Promedio Total: 91.460 %

Tabla de Experimentos

$n : 20, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	4	[1,20]	[1,10]	[20,207]	0.034	0.013	-15.2	-1.9	88.916 %	0.0928
10	20	4	[1,20]	[1,10]	[40,207]	0.034	0.009	-31.7	-19.6	89.146 %	0.0736
10	20	4	[1,20]	[5,10]	[20,209]	0.029	0.010	-15.9	1.0	85.794 %	0.0762
10	20	4	[1,20]	[5,10]	[40,209]	0.029	0.011	-33.3	-17.0	84.367 %	0.0598
10	20	4	[1,20]	[1,30]	[21,217]	0.028	0.011	-14.2	-9.3	95.985 %	0.0315
10	20	4	[1,20]	[1,30]	[42,217]	0.032	0.010	-28.8	-21.3	93.107 %	0.0331
10	20	4	[1,20]	[15,30]	[22,224]	0.032	0.009	-7.0	6.3	90.478 %	0.0489
10	20	4	[1,20]	[15,30]	[44,224]	0.030	0.010	-16.9	-3.9	89.703 %	0.0336
10	20	4	[6,20]	[1,10]	[26,267]	0.037	0.011	-23.7	0.5	84.056 %	0.0520
10	20	4	[6,20]	[1,10]	[52,267]	0.037	0.010	-46.7	-17.6	79.569 %	0.0391
10	20	4	[6,20]	[5,10]	[26,269]	0.056	0.019	-20.5	-1.6	88.010 %	0.0882
10	20	4	[6,20]	[5,10]	[52,269]	0.034	0.010	-41.7	-10.9	79.308 %	0.0479
10	20	4	[6,20]	[1,30]	[27,277]	0.043	0.015	-14.8	0.8	89.894 %	0.0564
10	20	4	[6,20]	[1,30]	[54,277]	0.046	0.017	-39.1	-26.5	91.357 %	0.0407
10	20	4	[6,20]	[15,30]	[28,284]	0.038	0.009	-7.1	16.8	86.168 %	0.0684
10	20	4	[6,20]	[15,30]	[56,284]	0.039	0.011	-32.9	-7.4	84.965 %	0.0564
10	20	4	[12,20]	[1,10]	[32,328]	0.040	0.012	-19.4	21.0	80.726 %	0.0365
10	20	4	[12,20]	[1,10]	[64,328]	0.037	0.011	-55.6	-18.8	79.266 %	0.0861
10	20	4	[12,20]	[5,10]	[33,330]	0.037	0.014	-20.8	17.5	81.403 %	0.0625
10	20	4	[12,20]	[5,10]	[66,330]	0.033	0.012	-48.4	-10.6	79.710 %	0.0782
10	20	4	[12,20]	[1,30]	[33,338]	0.043	0.011	-15.3	9.6	87.128 %	0.0516
10	20	4	[12,20]	[1,30]	[66,338]	0.043	0.009	-52.3	-30.2	88.043 %	0.0679
10	20	4	[12,20]	[15,30]	[34,345]	0.043	0.014	-17.2	12.5	85.343 %	0.0744
10	20	4	[12,20]	[15,30]	[68,345]	0.068	0.019	-42.0	-5.5	81.343 %	0.0426

Tiempo Promedio Total H_2: 0.038 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 85.991 %

Tabla de Experimentos

$n : 30, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	4	[1,20]	[1,10]	[30,308]	0.065	0.013	-28.6	-5.9	86.943 %	0.0591
10	30	4	[1,20]	[1,10]	[60,308]	0.052	0.016	-54.0	-32.3	86.701 %	0.0779
10	30	4	[1,20]	[5,10]	[31,310]	0.053	0.015	-26.4	-2.9	86.047 %	0.0445
10	30	4	[1,20]	[5,10]	[62,310]	0.052	0.012	-53.3	-20.3	80.089 %	0.0611
10	30	4	[1,20]	[1,30]	[31,318]	0.052	0.014	-27.8	-7.8	89.106 %	0.0704
10	30	4	[1,20]	[1,30]	[62,318]	0.050	0.012	-40.3	-28.2	92.947 %	0.0392
10	30	4	[1,20]	[15,30]	[32,325]	0.080	0.021	-9.3	14.7	88.041 %	0.0514
10	30	4	[1,20]	[15,30]	[64,325]	0.073	0.021	-40.8	-17.1	86.661 %	0.0433
10	30	4	[6,20]	[1,10]	[39,398]	0.126	0.024	-31.8	10.2	82.241 %	0.0647
10	30	4	[6,20]	[1,10]	[78,398]	0.066	0.016	-68.5	-34.0	82.873 %	0.0781
10	30	4	[6,20]	[5,10]	[40,400]	0.073	0.015	-31.6	11.4	81.208 %	0.0511
10	30	4	[6,20]	[5,10]	[80,400]	0.070	0.017	-67.1	-18.9	77.608 %	0.0395
10	30	4	[6,20]	[1,30]	[40,409]	0.063	0.014	-27.3	0.0	87.919 %	0.0550
10	30	4	[6,20]	[1,30]	[80,409]	0.067	0.014	-57.8	-22.8	84.463 %	0.0317
10	30	4	[6,20]	[15,30]	[41,416]	0.075	0.014	-17.4	31.5	80.582 %	0.0273
10	30	4	[6,20]	[15,30]	[82,416]	0.067	0.013	-66.6	-23.0	81.951 %	0.0465
10	30	4	[12,20]	[1,10]	[48,489]	0.067	0.012	-41.8	25.1	78.321 %	0.0586
10	30	4	[12,20]	[1,10]	[96,489]	0.073	0.015	-86.6	-20.5	76.022 %	0.0559
10	30	4	[12,20]	[5,10]	[49,491]	0.063	0.012	-33.7	20.7	81.231 %	0.0788
10	30	4	[12,20]	[5,10]	[98,491]	0.061	0.012	-87.8	-26.6	77.098 %	0.0423
10	30	4	[12,20]	[1,30]	[49,499]	0.080	0.018	-32.3	22.4	81.679 %	0.0461
10	30	4	[12,20]	[1,30]	[98,499]	0.072	0.014	-72.7	-8.5	77.381 %	0.0442
10	30	4	[12,20]	[15,30]	[50,507]	0.086	0.017	-25.3	31.7	82.285 %	0.0634
10	30	4	[12,20]	[15,30]	[100,507]	0.085	0.019	-74.0	-6.2	77.293 %	0.0213

Tiempo Promedio Total H_2: 0.070 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 82.779 %

Tabla de Experimentos

$n : 50, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	4	[1,20]	[1,10]	[51,510]	0.142	0.021	-48.7	15.1	79.098 %	0.0283
10	50	4	[1,20]	[1,10]	[102,510]	0.143	0.026	-95.2	-38.3	79.036 %	0.0391
10	50	4	[1,20]	[5,10]	[51,512]	0.150	0.022	-41.7	16.4	80.999 %	0.0371
10	50	4	[1,20]	[5,10]	[102,512]	0.136	0.022	-90.2	-38.8	81.828 %	0.0548
10	50	4	[1,20]	[1,30]	[52,520]	0.162	0.027	-37.5	3.9	85.779 %	0.0255
10	50	4	[1,20]	[1,30]	[104,520]	0.135	0.021	-84.1	-38.6	83.999 %	0.0478
10	50	4	[1,20]	[15,30]	[52,527]	0.143	0.023	-28.4	22.9	83.717 %	0.0558
10	50	4	[1,20]	[15,30]	[104,527]	0.132	0.022	-88.6	-37.2	81.844 %	0.0243
10	50	4	[6,20]	[1,10]	[66,661]	0.171	0.024	-63.1	15.6	80.373 %	0.0410
10	50	4	[6,20]	[1,10]	[132,661]	0.154	0.024	-127.7	-37.3	74.832 %	0.0488
10	50	4	[6,20]	[5,10]	[66,663]	0.161	0.022	-55.4	17.2	80.738 %	0.0659
10	50	4	[6,20]	[5,10]	[132,663]	0.154	0.025	-130.7	-41.5	75.132 %	0.0452
10	50	4	[6,20]	[1,30]	[67,671]	0.179	0.022	-46.3	28.8	81.117 %	0.0431
10	50	4	[6,20]	[1,30]	[134,671]	0.179	0.022	-107.4	-27.0	78.951 %	0.0452
10	50	4	[6,20]	[15,30]	[67,678]	0.183	0.023	-45.8	38.2	79.576 %	0.0415
10	50	4	[6,20]	[15,30]	[134,678]	0.170	0.023	-107.7	-31.9	80.038 %	0.0556
10	50	4	[12,20]	[1,10]	[81,813]	0.172	0.024	-80.7	33.2	77.458 %	0.0544
10	50	4	[12,20]	[1,10]	[162,813]	0.163	0.025	-151.6	-34.2	74.872 %	0.0655
10	50	4	[12,20]	[5,10]	[81,815]	0.164	0.022	-66.7	33.1	79.194 %	0.0567
10	50	4	[12,20]	[5,10]	[162,815]	0.162	0.025	-155.8	-30.7	73.043 %	0.0488
10	50	4	[12,20]	[1,30]	[82,823]	0.207	0.027	-63.7	57.4	75.750 %	0.0229
10	50	4	[12,20]	[1,30]	[164,823]	0.195	0.023	-139.3	-9.2	73.483 %	0.0393
10	50	4	[12,20]	[15,30]	[83,830]	0.186	0.024	-52.0	70.5	77.140 %	0.0466
10	50	4	[12,20]	[15,30]	[166,830]	0.188	0.022	-141.9	-22.3	75.196 %	0.0477

Tiempo Promedio Total H_2: 0.164 seg.

Tiempo Promedio Total H_1: 0.023 seg.

Rendimiento Promedio Total: 78.883 %

Tabla de Experimentos

$n : 100, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	4	[1,20]	[1,10]	[101,1015]	0.809	0.062	-98.0	25.3	79.270 %	0.0558
10	100	4	[1,20]	[1,10]	[202,1015]	0.867	0.063	-197.2	-83.4	79.044 %	0.0422
10	100	4	[1,20]	[5,10]	[101,1017]	0.799	0.063	-91.7	29.8	79.780 %	0.0482
10	100	4	[1,20]	[5,10]	[202,1017]	0.802	0.062	-188.0	-56.2	75.746 %	0.0380
10	100	4	[1,20]	[1,30]	[102,1025]	0.776	0.061	-82.9	52.5	77.826 %	0.0260
10	100	4	[1,20]	[1,30]	[204,1025]	0.809	0.062	-184.1	-43.4	75.388 %	0.0291
10	100	4	[1,20]	[15,30]	[103,1032]	0.783	0.061	-83.8	54.0	77.760 %	0.0367
10	100	4	[1,20]	[15,30]	[206,1032]	0.790	0.060	-187.9	-64.7	77.830 %	0.0458
10	100	4	[6,20]	[1,10]	[131,1318]	0.877	0.063	-122.1	77.9	74.814 %	0.0331
10	100	4	[6,20]	[1,10]	[262,1318]	0.902	0.059	-258.4	-71.7	74.148 %	0.0211
10	100	4	[6,20]	[5,10]	[132,1320]	0.869	0.064	-121.0	75.2	75.156 %	0.0271
10	100	4	[6,20]	[5,10]	[264,1320]	0.877	0.063	-257.5	-76.2	75.321 %	0.0445
10	100	4	[6,20]	[1,30]	[132,1328]	0.920	0.058	-113.5	79.8	75.655 %	0.0337
10	100	4	[6,20]	[1,30]	[264,1328]	0.970	0.060	-241.2	-43.7	74.076 %	0.0347
10	100	4	[6,20]	[15,30]	[133,1335]	0.896	0.063	-106.5	92.3	76.395 %	0.0334
10	100	4	[6,20]	[15,30]	[266,1335]	0.918	0.060	-243.4	-46.5	73.449 %	0.0203
10	100	4	[12,20]	[1,10]	[162,1621]	0.943	0.059	-153.2	143.8	71.096 %	0.0303
10	100	4	[12,20]	[1,10]	[324,1621]	0.950	0.061	-317.9	-22.8	68.612 %	0.0467
10	100	4	[12,20]	[5,10]	[162,1623]	0.917	0.062	-152.7	108.6	74.212 %	0.0314
10	100	4	[12,20]	[5,10]	[324,1623]	0.880	0.063	-312.4	-49.8	71.036 %	0.0430
10	100	4	[12,20]	[1,30]	[163,1631]	1.008	0.061	-145.7	140.9	71.936 %	0.0281
10	100	4	[12,20]	[1,30]	[326,1631]	1.037	0.059	-307.5	-45.7	72.119 %	0.0292
10	100	4	[12,20]	[15,30]	[163,1638]	0.973	0.064	-139.1	136.7	74.015 %	0.0527
10	100	4	[12,20]	[15,30]	[326,1638]	1.003	0.065	-300.9	-17.3	70.341 %	0.0362

Tiempo Promedio Total H_2: 0.891 seg.

Tiempo Promedio Total H_1: 0.062 seg.

Rendimiento Promedio Total: 74.793 %

Tabla de Experimentos

$n : 200, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	4	[1,20]	[1,10]	[202,2025]	6.042	0.203	-191.9	95.6	76.317 %	0.0185
10	200	4	[1,20]	[1,10]	[404,2025]	5.952	0.199	-399.7	-100.1	73.353 %	0.0225
10	200	4	[1,20]	[5,10]	[202,2027]	6.070	0.210	-192.5	100.2	75.763 %	0.0224
10	200	4	[1,20]	[5,10]	[404,2027]	5.834	0.211	-400.0	-104.6	73.256 %	0.0217
10	200	4	[1,20]	[1,30]	[203,2035]	5.677	0.198	-184.0	97.8	76.848 %	0.0318
10	200	4	[1,20]	[1,30]	[406,2035]	5.627	0.195	-383.4	-86.9	74.342 %	0.0262
10	200	4	[1,20]	[15,30]	[204,2042]	5.787	0.199	-177.8	113.0	76.531 %	0.0202
10	200	4	[1,20]	[15,30]	[408,2042]	5.663	0.200	-383.9	-96.6	74.474 %	0.0246
10	200	4	[6,20]	[1,10]	[263,2631]	6.230	0.211	-256.7	156.5	74.332 %	0.0377
10	200	4	[6,20]	[1,10]	[526,2631]	6.250	0.212	-522.6	-96.3	71.421 %	0.0249
10	200	4	[6,20]	[5,10]	[263,2633]	6.127	0.207	-255.0	143.2	75.317 %	0.0166
10	200	4	[6,20]	[5,10]	[526,2633]	6.608	0.216	-512.7	-99.2	72.121 %	0.0171
10	200	4	[6,20]	[1,30]	[264,2641]	6.364	0.203	-249.6	197.8	73.128 %	0.0244
10	200	4	[6,20]	[1,30]	[528,2641]	6.595	0.199	-504.8	-56.5	70.338 %	0.0188
10	200	4	[6,20]	[15,30]	[264,2648]	6.489	0.202	-238.2	214.0	72.395 %	0.0206
10	200	4	[6,20]	[15,30]	[528,2648]	6.430	0.201	-507.9	-58.8	70.205 %	0.0198
10	200	4	[12,20]	[1,10]	[323,3237]	6.590	0.205	-316.3	310.0	70.253 %	0.0130
10	200	4	[12,20]	[1,10]	[646,3237]	6.637	0.205	-641.0	-83.3	70.066 %	0.0320
10	200	4	[12,20]	[5,10]	[323,3239]	6.479	0.220	-318.1	254.2	71.810 %	0.0134
10	200	4	[12,20]	[5,10]	[646,3239]	6.705	0.207	-640.8	-72.7	70.029 %	0.0302
10	200	4	[12,20]	[1,30]	[324,3247]	6.971	0.204	-299.1	342.5	69.451 %	0.0130
10	200	4	[12,20]	[1,30]	[648,3247]	7.023	0.200	-622.7	32.1	66.830 %	0.0130
10	200	4	[12,20]	[15,30]	[325,3254]	6.913	0.201	-299.0	293.1	71.298 %	0.0356
10	200	4	[12,20]	[15,30]	[650,3254]	6.832	0.208	-619.4	11.2	68.003 %	0.0212

Tiempo Promedio Total H_2: 6.329 seg.

Tiempo Promedio Total H_1: 0.205 seg.

Rendimiento Promedio Total: 72.412 %

Tabla de Experimentos

$n : 300, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	4	[1,20]	[1,10]	[303,3035]	18.651	0.435	-294.3	158.1	75.310 %	0.0171
10	300	4	[1,20]	[1,10]	[606,3035]	18.831	0.441	-598.5	-128.2	72.319 %	0.0174
10	300	4	[1,20]	[5,10]	[303,3037]	19.267	0.455	-292.0	145.8	75.917 %	0.0347
10	300	4	[1,20]	[5,10]	[606,3037]	18.883	0.448	-599.9	-153.8	73.160 %	0.0162
10	300	4	[1,20]	[1,30]	[304,3045]	18.310	0.427	-281.0	155.9	76.288 %	0.0193
10	300	4	[1,20]	[1,30]	[608,3045]	18.583	0.425	-586.8	-121.4	72.621 %	0.0177
10	300	4	[1,20]	[15,30]	[305,3052]	18.752	0.435	-277.3	205.7	74.184 %	0.0153
10	300	4	[1,20]	[15,30]	[610,3052]	18.397	0.435	-585.3	-118.4	72.509 %	0.0176
10	300	4	[6,20]	[1,10]	[394,3944]	20.050	0.435	-390.8	281.6	72.092 %	0.0191
10	300	4	[6,20]	[1,10]	[788,3944]	20.229	0.449	-779.6	-88.5	69.581 %	0.0135
10	300	4	[6,20]	[5,10]	[394,3946]	20.131	0.451	-387.2	229.2	74.470 %	0.0193
10	300	4	[6,20]	[5,10]	[788,3946]	20.550	0.451	-780.2	-131.1	71.001 %	0.0183
10	300	4	[6,20]	[1,30]	[395,3954]	20.469	0.425	-377.7	323.4	72.182 %	0.0163
10	300	4	[6,20]	[1,30]	[790,3954]	20.747	0.433	-777.3	-62.4	68.805 %	0.0106
10	300	4	[6,20]	[15,30]	[396,3961]	20.689	0.430	-375.5	337.2	71.645 %	0.0288
10	300	4	[6,20]	[15,30]	[792,3961]	20.753	0.428	-763.5	-80.9	70.217 %	0.0271
10	300	4	[12,20]	[1,10]	[485,4853]	21.164	0.437	-479.9	444.3	70.153 %	0.0174
10	300	4	[12,20]	[1,10]	[970,4853]	21.136	0.441	-956.8	-11.1	67.467 %	0.0189
10	300	4	[12,20]	[5,10]	[485,4855]	20.549	0.446	-475.7	411.3	71.730 %	0.0163
10	300	4	[12,20]	[5,10]	[970,4855]	20.818	0.445	-953.6	-83.0	69.330 %	0.0122
10	300	4	[12,20]	[1,30]	[486,4863]	21.871	0.436	-467.4	462.6	70.268 %	0.0155
10	300	4	[12,20]	[1,30]	[972,4863]	21.989	0.434	-951.3	32.8	66.413 %	0.0138
10	300	4	[12,20]	[15,30]	[487,4870]	21.558	0.428	-467.1	446.0	70.602 %	0.0206
10	300	4	[12,20]	[15,30]	[974,4870]	21.380	0.432	-946.0	-31.2	68.425 %	0.0150

Tiempo Promedio Total H_2: 20.157 seg.

Tiempo Promedio Total H_1: 0.438 seg.

Rendimiento Promedio Total: 71.529 %

Tabla de Experimentos

$n : 500, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	4	[1,20]	[1,10]	[505,5055]	90.529	1.169	-497.0	363.6	72.615 %	0.0132
10	500	4	[1,20]	[1,10]	[1010,5055]	88.045	1.172	-1001.1	-196.9	71.971 %	0.0145
10	500	4	[1,20]	[5,10]	[505,5057]	88.587	1.203	-497.9	228.1	75.635 %	0.0174
10	500	4	[1,20]	[5,10]	[1010,5057]	88.110	1.203	-1000.3	-244.9	72.632 %	0.0153
10	500	4	[1,20]	[1,30]	[506,5065]	89.617	1.149	-494.7	309.2	73.985 %	0.0184
10	500	4	[1,20]	[1,30]	[1012,5065]	89.248	1.154	-987.2	-170.6	71.691 %	0.0139
10	500	4	[1,20]	[15,30]	[507,5072]	88.711	1.158	-486.8	305.9	74.376 %	0.0238
10	500	4	[1,20]	[15,30]	[1014,5072]	88.490	1.175	-995.3	-174.1	71.502 %	0.0165
10	500	4	[6,20]	[1,10]	[657,6570]	95.851	1.166	-650.0	506.9	72.224 %	0.0180
10	500	4	[6,20]	[1,10]	[1314,6570]	94.908	1.172	-1312.2	-126.4	69.050 %	0.0119
10	500	4	[6,20]	[5,10]	[657,6572]	94.717	1.208	-643.1	462.3	73.013 %	0.0152
10	500	4	[6,20]	[5,10]	[1314,6572]	94.677	1.202	-1302.1	-210.6	70.740 %	0.0103
10	500	4	[6,20]	[1,30]	[658,6580]	96.754	1.139	-641.3	602.2	70.420 %	0.0118
10	500	4	[6,20]	[1,30]	[1316,6580]	98.214	1.147	-1295.7	-59.2	68.352 %	0.0128
10	500	4	[6,20]	[15,30]	[658,6587]	97.227	1.170	-629.2	587.7	71.258 %	0.0158
10	500	4	[6,20]	[15,30]	[1316,6587]	95.787	1.156	-1293.3	-118.9	69.086 %	0.0134
10	500	4	[12,20]	[1,10]	[808,8085]	100.308	1.180	-800.6	835.2	68.973 %	0.0120
10	500	4	[12,20]	[1,10]	[1616,8085]	100.328	1.175	-1604.6	14.7	66.771 %	0.0138
10	500	4	[12,20]	[5,10]	[808,8087]	100.279	1.202	-798.4	733.9	70.726 %	0.0109
10	500	4	[12,20]	[5,10]	[1616,8087]	97.622	1.217	-1609.8	-66.2	67.976 %	0.0093
10	500	4	[12,20]	[1,30]	[809,8095]	102.851	1.150	-792.4	857.6	68.905 %	0.0158
10	500	4	[12,20]	[1,30]	[1618,8095]	102.745	1.142	-1596.0	63.1	66.501 %	0.0132
10	500	4	[12,20]	[15,30]	[810,8102]	100.293	1.165	-786.7	873.6	68.739 %	0.0164
10	500	4	[12,20]	[15,30]	[1620,8102]	101.246	1.161	-1590.7	0.7	67.362 %	0.0067

Tiempo Promedio Total H_2: 95.214 seg.

Tiempo Promedio Total H_1: 1.172 seg.

Rendimiento Promedio Total: 70.604 %

Tabla de Experimentos

$n : 750, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	4	[1,20]	[1,10]	[758,7580]	316.095	2.513	-744.5	487.8	73.594 %	0.0090
10	750	4	[1,20]	[1,10]	[1516,7580]	319.148	2.602	-1503.1	-238.2	70.627 %	0.0089
10	750	4	[1,20]	[5,10]	[758,7582]	319.821	2.551	-758.8	392.2	74.891 %	0.0088
10	750	4	[1,20]	[5,10]	[1516,7582]	318.175	2.549	-1503.1	-339.5	72.473 %	0.0054
10	750	4	[1,20]	[1,30]	[759,7590]	317.733	2.404	-738.6	496.1	73.594 %	0.0136
10	750	4	[1,20]	[1,30]	[1518,7590]	312.079	2.396	-1498.7	-224.5	70.428 %	0.0076
10	750	4	[1,20]	[15,30]	[759,7597]	313.859	2.425	-734.3	543.8	72.947 %	0.0104
10	750	4	[1,20]	[15,30]	[1518,7597]	319.384	2.445	-1489.1	-285.7	72.011 %	0.0177
10	750	4	[6,20]	[1,10]	[985,9852]	339.753	2.472	-978.9	849.0	70.722 %	0.0076
10	750	4	[6,20]	[1,10]	[1970,9852]	341.295	2.472	-1959.5	-168.7	68.792 %	0.0076
10	750	4	[6,20]	[5,10]	[985,9854]	336.830	2.577	-977.8	721.5	72.352 %	0.0086
10	750	4	[6,20]	[5,10]	[1970,9854]	339.378	2.566	-1979.1	-285.9	70.178 %	0.0094
10	750	4	[6,20]	[1,30]	[986,9862]	341.362	2.411	-975.0	891.7	70.440 %	0.0058
10	750	4	[6,20]	[1,30]	[1972,9862]	340.354	2.399	-1951.2	-70.6	68.008 %	0.0105
10	750	4	[6,20]	[15,30]	[986,9869]	339.205	2.486	-969.2	823.2	71.525 %	0.0180
10	750	4	[6,20]	[15,30]	[1972,9869]	337.673	2.426	-1945.8	-123.2	68.661 %	0.0087
10	750	4	[12,20]	[1,10]	[1212,12125]	357.938	2.472	-1208.6	1204.8	69.503 %	0.0130
10	750	4	[12,20]	[1,10]	[2424,12125]	352.350	2.493	-2413.1	102.9	65.759 %	0.0042
10	750	4	[12,20]	[5,10]	[1212,12127]	350.222	2.558	-1204.2	1190.2	69.718 %	0.0057
10	750	4	[12,20]	[5,10]	[2424,12127]	348.684	2.546	-2410.2	-156.2	68.543 %	0.0137
10	750	4	[12,20]	[1,30]	[1213,12135]	358.495	2.419	-1196.3	1362.3	68.023 %	0.0082
10	750	4	[12,20]	[1,30]	[2426,12135]	357.040	2.429	-2416.0	190.0	65.103 %	0.0055
10	750	4	[12,20]	[15,30]	[1214,12142]	354.361	2.459	-1188.6	1360.3	68.356 %	0.0107
10	750	4	[12,20]	[15,30]	[2428,12142]	351.767	2.434	-2403.9	111.8	65.909 %	0.0099

Tiempo Promedio Total H_2: 336.792 seg.

Tiempo Promedio Total H_1: 2.479 seg.

Rendimiento Promedio Total: 70.090 %

Tabla de Experimentos

$n : 1000, m : 4, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	4	[1,20]	[1,10]	[1010,10105]	777.088	4.547	-1006.0	620.8	73.540 %	0.0135
10	1000	4	[1,20]	[1,10]	[2020,10105]	777.341	4.627	-2015.0	-360.2	71.130 %	0.0131
10	1000	4	[1,20]	[5,10]	[1010,10107]	778.126	4.674	-999.3	572.9	74.278 %	0.0080
10	1000	4	[1,20]	[5,10]	[2020,10107]	785.332	5.007	-2010.6	-430.8	72.002 %	0.0049
10	1000	4	[1,20]	[1,30]	[1011,10115]	776.975	4.520	-993.8	759.7	72.218 %	0.0113
10	1000	4	[1,20]	[1,30]	[2022,10115]	786.029	4.462	-2002.2	-251.3	70.070 %	0.0052
10	1000	4	[1,20]	[15,30]	[1012,10122]	778.875	4.485	-987.8	703.3	73.033 %	0.0113
10	1000	4	[1,20]	[15,30]	[2024,10122]	778.176	4.597	-2007.2	-334.7	70.877 %	0.0109
10	1000	4	[6,20]	[1,10]	[1313,13135]	827.526	4.953	-1313.5	1061.7	71.204 %	0.0075
10	1000	4	[6,20]	[1,10]	[2626,13135]	823.675	4.651	-2614.7	-255.1	69.018 %	0.0146
10	1000	4	[6,20]	[5,10]	[1313,13137]	826.826	4.739	-1310.3	933.7	72.401 %	0.0067
10	1000	4	[6,20]	[5,10]	[2626,13137]	830.011	4.872	-2620.3	-380.9	70.270 %	0.0064
10	1000	4	[6,20]	[1,30]	[1314,13145]	840.343	4.463	-1295.9	1216.7	70.099 %	0.0104
10	1000	4	[6,20]	[1,30]	[2628,13145]	839.201	4.520	-2604.3	-119.3	67.758 %	0.0088
10	1000	4	[6,20]	[15,30]	[1315,13152]	827.310	4.493	-1285.3	1170.3	70.824 %	0.0063
10	1000	4	[6,20]	[15,30]	[2630,13152]	841.611	4.548	-2601.3	-109.4	68.191 %	0.0107
10	1000	4	[12,20]	[1,10]	[1616,16165]	856.107	4.604	-1609.9	1765.4	68.399 %	0.0055
10	1000	4	[12,20]	[1,10]	[3232,16165]	857.884	4.654	-3228.5	76.9	65.957 %	0.0092
10	1000	4	[12,20]	[5,10]	[1616,16167]	855.645	4.921	-1611.8	1502.3	69.775 %	0.0059
10	1000	4	[12,20]	[5,10]	[3232,16167]	852.713	4.779	-3220.2	-79.8	67.258 %	0.0056
10	1000	4	[12,20]	[1,30]	[1617,16175]	858.838	4.453	-1594.6	1917.8	67.467 %	0.0091
10	1000	4	[12,20]	[1,30]	[3234,16175]	875.066	4.506	-3223.3	289.4	64.810 %	0.0107
10	1000	4	[12,20]	[15,30]	[1618,16182]	862.370	4.508	-1592.3	1815.5	68.301 %	0.0114
10	1000	4	[12,20]	[15,30]	[3236,16182]	855.811	4.562	-3210.4	121.9	66.069 %	0.0206

Tiempo Promedio Total H_2: 823.703 seg.

Tiempo Promedio Total H_1: 4.631 seg.

Rendimiento Promedio Total: 69.789 %

Tabla de Experimentos

$n : 10, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	6	[1,20]	[1,10]	[10,106]	0.019	0.009	-2.4	0.1	95.576 %	0.0617
10	10	6	[1,20]	[1,10]	[20,106]	0.020	0.008	-9.0	-8.7	99.483 %	0.0114
10	10	6	[1,20]	[5,10]	[10,108]	0.017	0.009	-3.1	-2.8	99.372 %	0.0188
10	10	6	[1,20]	[5,10]	[20,108]	0.019	0.011	-14.2	-8.5	90.484 %	0.0568
10	10	6	[1,20]	[1,30]	[11,116]	0.021	0.007	4.0	8.7	93.569 %	0.1606
10	10	6	[1,20]	[1,30]	[22,116]	0.016	0.009	-4.0	-3.1	98.781 %	0.0247
10	10	6	[1,20]	[15,30]	[12,123]	0.018	0.009	11.0	11.6	99.190 %	0.0243
10	10	6	[1,20]	[15,30]	[24,123]	0.019	0.010	-2.0	-1.3	98.948 %	0.0272
10	10	6	[6,20]	[1,10]	[13,136]	0.021	0.010	-10.2	-7.6	96.420 %	0.0411
10	10	6	[6,20]	[1,10]	[26,136]	0.020	0.012	-22.6	-20.2	96.510 %	0.0441
10	10	6	[6,20]	[5,10]	[13,138]	0.019	0.008	-3.1	0.5	95.087 %	0.0502
10	10	6	[6,20]	[5,10]	[26,138]	0.025	0.010	-17.4	-13.5	94.929 %	0.0518
10	10	6	[6,20]	[1,30]	[14,146]	0.025	0.014	1.9	2.7	99.196 %	0.0163
10	10	6	[6,20]	[1,30]	[28,146]	0.025	0.009	-12.7	-10.8	97.520 %	0.0318
10	10	6	[6,20]	[15,30]	[15,153]	0.025	0.009	6.9	7.9	98.931 %	0.0257
10	10	6	[6,20]	[15,30]	[30,153]	0.024	0.012	-5.8	-0.2	94.704 %	0.1040
10	10	6	[12,20]	[1,10]	[16,166]	0.022	0.012	-12.7	-8.7	95.763 %	0.0507
10	10	6	[12,20]	[1,10]	[32,166]	0.030	0.014	-23.1	-18.6	94.790 %	0.0494
10	10	6	[12,20]	[5,10]	[16,168]	0.025	0.009	-8.8	-5.1	96.334 %	0.0434
10	10	6	[12,20]	[5,10]	[32,168]	0.023	0.013	-22.7	-19.6	96.185 %	0.0502
10	10	6	[12,20]	[1,30]	[17,176]	0.023	0.009	6.7	6.8	99.908 %	0.0028
10	10	6	[12,20]	[1,30]	[34,176]	0.034	0.014	-21.6	-6.7	83.856 %	0.4081
10	10	6	[12,20]	[15,30]	[18,183]	0.025	0.012	5.8	9.8	96.677 %	0.0348
10	10	6	[12,20]	[15,30]	[36,183]	0.025	0.010	-6.0	-1.0	95.560 %	0.0448

Tiempo Promedio Total H_2: 0.022 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 96.157 %

Tabla de Experimentos

$n : 20, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	6	[1,20]	[1,10]	[20,207]	0.030	0.010	-19.4	-14.9	96.104 %	0.0409
10	20	6	[1,20]	[1,10]	[40,207]	0.034	0.009	-30.1	-24.0	93.793 %	0.0483
10	20	6	[1,20]	[5,10]	[20,209]	0.030	0.010	-17.0	-11.2	94.547 %	0.0408
10	20	6	[1,20]	[5,10]	[40,209]	0.034	0.014	-34.5	-26.5	91.929 %	0.0493
10	20	6	[1,20]	[1,30]	[21,217]	0.032	0.007	-3.0	0.0	97.576 %	0.0220
10	20	6	[1,20]	[1,30]	[42,217]	0.029	0.009	-26.0	-24.6	98.833 %	0.0244
10	20	6	[1,20]	[15,30]	[22,224]	0.031	0.011	0.8	5.8	95.886 %	0.0272
10	20	6	[1,20]	[15,30]	[44,224]	0.033	0.011	-20.6	-15.8	95.829 %	0.0262
10	20	6	[6,20]	[1,10]	[26,267]	0.039	0.010	-19.7	-5.3	90.666 %	0.0362
10	20	6	[6,20]	[1,10]	[52,267]	0.049	0.016	-46.8	-36.7	91.665 %	0.0470
10	20	6	[6,20]	[5,10]	[26,269]	0.034	0.008	-20.6	-12.5	93.636 %	0.0642
10	20	6	[6,20]	[5,10]	[52,269]	0.054	0.014	-50.1	-38.8	91.167 %	0.0449
10	20	6	[6,20]	[1,30]	[27,277]	0.045	0.013	-17.7	-7.1	92.936 %	0.1115
10	20	6	[6,20]	[1,30]	[54,277]	0.035	0.010	-38.0	-34.0	97.130 %	0.0263
10	20	6	[6,20]	[15,30]	[28,284]	0.042	0.011	-12.9	10.3	84.725 %	0.2391
10	20	6	[6,20]	[15,30]	[56,284]	0.042	0.009	-32.4	-22.7	93.703 %	0.0439
10	20	6	[12,20]	[1,10]	[32,328]	0.040	0.013	-20.6	1.8	87.450 %	0.0470
10	20	6	[12,20]	[1,10]	[64,328]	0.042	0.011	-51.3	-26.4	84.518 %	0.0519
10	20	6	[12,20]	[5,10]	[33,330]	0.037	0.011	-22.8	0.5	87.568 %	0.0392
10	20	6	[12,20]	[5,10]	[66,330]	0.037	0.010	-50.3	-28.6	87.056 %	0.0451
10	20	6	[12,20]	[1,30]	[33,338]	0.042	0.011	-11.6	2.1	92.819 %	0.0554
10	20	6	[12,20]	[1,30]	[66,338]	0.042	0.011	-54.1	-44.1	93.428 %	0.0482
10	20	6	[12,20]	[15,30]	[34,345]	0.093	0.026	-6.3	9.1	91.669 %	0.0401
10	20	6	[12,20]	[15,30]	[68,345]	0.042	0.009	-43.9	-25.9	90.636 %	0.0408

Tiempo Promedio Total H_2: 0.040 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 92.303 %

Tabla de Experimentos

$n : 30, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	6	[1,20]	[1,10]	[30,308]	0.053	0.014	-28.0	-14.9	91.787 %	0.0566
10	30	6	[1,20]	[1,10]	[60,308]	0.050	0.014	-51.4	-33.0	88.182 %	0.0291
10	30	6	[1,20]	[5,10]	[31,310]	0.051	0.011	-23.5	-13.5	93.529 %	0.0516
10	30	6	[1,20]	[5,10]	[62,310]	0.052	0.013	-56.9	-44.4	90.961 %	0.0434
10	30	6	[1,20]	[1,30]	[31,318]	0.052	0.015	-17.3	-7.3	94.187 %	0.0212
10	30	6	[1,20]	[1,30]	[62,318]	0.048	0.011	-45.8	-41.9	97.521 %	0.0255
10	30	6	[1,20]	[15,30]	[32,325]	0.055	0.018	-11.4	-4.2	95.781 %	0.0304
10	30	6	[1,20]	[15,30]	[64,325]	0.054	0.010	-45.1	-34.8	94.000 %	0.0413
10	30	6	[6,20]	[1,10]	[39,398]	0.094	0.022	-36.2	-13.7	89.517 %	0.0450
10	30	6	[6,20]	[1,10]	[78,398]	0.066	0.016	-71.3	-52.0	90.176 %	0.0625
10	30	6	[6,20]	[5,10]	[40,400]	0.060	0.015	-30.0	-7.7	89.346 %	0.0378
10	30	6	[6,20]	[5,10]	[80,400]	0.099	0.023	-73.5	-48.5	87.815 %	0.0519
10	30	6	[6,20]	[1,30]	[40,409]	0.064	0.013	-22.7	-12.8	95.184 %	0.0401
10	30	6	[6,20]	[1,30]	[80,409]	0.063	0.014	-65.9	-51.9	92.731 %	0.0355
10	30	6	[6,20]	[15,30]	[41,416]	0.066	0.017	-14.5	0.5	93.583 %	0.0335
10	30	6	[6,20]	[15,30]	[82,416]	0.065	0.014	-53.5	-32.9	90.090 %	0.0417
10	30	6	[12,20]	[1,10]	[48,489]	0.069	0.016	-53.3	-25.5	89.422 %	0.0679
10	30	6	[12,20]	[1,10]	[96,489]	0.070	0.016	-89.6	-57.2	87.171 %	0.0585
10	30	6	[12,20]	[5,10]	[49,491]	0.064	0.013	-37.4	-10.9	90.288 %	0.0590
10	30	6	[12,20]	[5,10]	[98,491]	0.060	0.015	-98.7	-63.6	85.517 %	0.0277
10	30	6	[12,20]	[1,30]	[49,499]	0.077	0.014	-32.6	-14.8	93.006 %	0.0464
10	30	6	[12,20]	[1,30]	[98,499]	0.078	0.014	-74.4	-48.0	89.830 %	0.0302
10	30	6	[12,20]	[15,30]	[50,507]	0.076	0.015	-25.3	14.7	87.212 %	0.0140
10	30	6	[12,20]	[15,30]	[100,507]	0.076	0.013	-72.5	-41.2	88.515 %	0.0482

Tiempo Promedio Total H_2: 0.065 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 91.056 %

Tabla de Experimentos

$n : 50, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	6	[1,20]	[1,10]	[51,510]	0.130	0.025	-50.1	-24.1	89.866 %	0.0308
10	50	6	[1,20]	[1,10]	[102,510]	0.133	0.023	-96.1	-63.2	86.227 %	0.0389
10	50	6	[1,20]	[5,10]	[51,512]	0.133	0.025	-46.4	-9.5	86.274 %	0.0479
10	50	6	[1,20]	[5,10]	[102,512]	0.130	0.022	-89.8	-50.2	84.209 %	0.0297
10	50	6	[1,20]	[1,30]	[52,520]	0.132	0.035	-31.7	-12.2	92.843 %	0.0237
10	50	6	[1,20]	[1,30]	[104,520]	0.106	0.023	-83.9	-62.8	91.472 %	0.0256
10	50	6	[1,20]	[15,30]	[52,527]	0.136	0.024	-25.5	5.1	89.618 %	0.0314
10	50	6	[1,20]	[15,30]	[104,527]	0.128	0.023	-79.3	-48.9	88.823 %	0.0364
10	50	6	[6,20]	[1,10]	[66,661]	0.174	0.025	-64.4	-10.6	84.614 %	0.0389
10	50	6	[6,20]	[1,10]	[132,661]	0.168	0.027	-119.8	-70.1	85.081 %	0.0455
10	50	6	[6,20]	[5,10]	[66,663]	0.158	0.024	-54.7	-6.8	87.019 %	0.0516
10	50	6	[6,20]	[5,10]	[132,663]	0.160	0.024	-122.1	-78.6	87.151 %	0.0386
10	50	6	[6,20]	[1,30]	[67,671]	0.157	0.028	-47.6	-8.7	89.597 %	0.0250
10	50	6	[6,20]	[1,30]	[134,671]	0.155	0.024	-118.4	-76.2	87.117 %	0.0428
10	50	6	[6,20]	[15,30]	[67,678]	0.173	0.022	-46.3	2.3	87.357 %	0.0348
10	50	6	[6,20]	[15,30]	[134,678]	0.167	0.022	-108.2	-70.1	88.981 %	0.0398
10	50	6	[12,20]	[1,10]	[81,813]	0.181	0.024	-71.6	-2.3	85.120 %	0.0556
10	50	6	[12,20]	[1,10]	[162,813]	0.172	0.023	-150.2	-70.8	80.428 %	0.0356
10	50	6	[12,20]	[5,10]	[81,815]	0.169	0.023	-74.5	-12.5	86.145 %	0.0550
10	50	6	[12,20]	[5,10]	[162,815]	0.162	0.024	-151.3	-76.2	81.894 %	0.0477
10	50	6	[12,20]	[1,30]	[82,823]	0.201	0.024	-57.9	8.0	85.348 %	0.0201
10	50	6	[12,20]	[1,30]	[164,823]	0.197	0.022	-147.2	-90.7	85.888 %	0.0449
10	50	6	[12,20]	[15,30]	[83,830]	0.200	0.022	-59.2	19.1	83.963 %	0.0291
10	50	6	[12,20]	[15,30]	[166,830]	0.192	0.023	-143.1	-58.1	80.118 %	0.0259

Tiempo Promedio Total H_2: 0.159 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 86.465 %

Tabla de Experimentos

$n : 100, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	6	[1,20]	[1,10]	[101,1015]	0.719	0.061	-95.1	-12.4	84.764 %	0.0227
10	100	6	[1,20]	[1,10]	[202,1015]	0.754	0.062	-196.6	-118.7	84.108 %	0.0240
10	100	6	[1,20]	[5,10]	[101,1017]	0.739	0.066	-91.2	-29.6	88.548 %	0.0292
10	100	6	[1,20]	[5,10]	[202,1017]	0.715	0.063	-190.7	-109.6	83.615 %	0.0260
10	100	6	[1,20]	[1,30]	[102,1025]	0.631	0.063	-79.5	-8.1	87.134 %	0.0293
10	100	6	[1,20]	[1,30]	[204,1025]	0.630	0.060	-182.9	-119.2	86.917 %	0.0282
10	100	6	[1,20]	[15,30]	[103,1032]	0.662	0.061	-79.2	3.1	85.601 %	0.0257
10	100	6	[1,20]	[15,30]	[206,1032]	0.664	0.062	-183.2	-109.5	85.643 %	0.0454
10	100	6	[6,20]	[1,10]	[131,1318]	0.865	0.063	-119.4	2.5	83.649 %	0.0419
10	100	6	[6,20]	[1,10]	[262,1318]	0.841	0.061	-252.5	-120.6	80.050 %	0.0300
10	100	6	[6,20]	[5,10]	[132,1320]	0.830	0.063	-121.6	-4.5	83.999 %	0.0374
10	100	6	[6,20]	[5,10]	[264,1320]	0.856	0.064	-269.6	-142.8	80.474 %	0.0297
10	100	6	[6,20]	[1,30]	[132,1328]	0.824	0.065	-121.5	-5.8	84.156 %	0.0345
10	100	6	[6,20]	[1,30]	[264,1328]	0.845	0.061	-241.9	-120.6	82.079 %	0.0270
10	100	6	[6,20]	[15,30]	[133,1335]	0.918	0.060	-107.0	14.3	84.045 %	0.0165
10	100	6	[6,20]	[15,30]	[266,1335]	0.873	0.061	-241.9	-135.7	84.314 %	0.0443
10	100	6	[12,20]	[1,10]	[162,1621]	0.912	0.061	-150.9	21.2	81.436 %	0.0304
10	100	6	[12,20]	[1,10]	[324,1621]	0.924	0.064	-314.7	-149.3	79.956 %	0.0313
10	100	6	[12,20]	[5,10]	[162,1623]	0.896	0.063	-161.6	6.0	81.136 %	0.0282
10	100	6	[12,20]	[5,10]	[324,1623]	0.871	0.067	-311.4	-163.3	81.598 %	0.0318
10	100	6	[12,20]	[1,30]	[163,1631]	0.962	0.059	-145.8	24.9	81.779 %	0.0255
10	100	6	[12,20]	[1,30]	[326,1631]	0.958	0.059	-311.8	-129.4	79.118 %	0.0155
10	100	6	[12,20]	[15,30]	[163,1638]	0.983	0.062	-140.4	46.9	80.203 %	0.0234
10	100	6	[12,20]	[15,30]	[326,1638]	0.962	0.063	-300.7	-117.6	78.754 %	0.0244

Tiempo Promedio Total H_2: 0.826 seg.

Tiempo Promedio Total H_1: 0.062 seg.

Rendimiento Promedio Total: 83.045 %

Tabla de Experimentos

$n : 200, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	6	[1,20]	[1,10]	[202,2025]	5.167	0.215	-200.0	-35.9	84.633 %	0.0242
10	200	6	[1,20]	[1,10]	[404,2025]	5.088	0.206	-398.8	-218.1	81.960 %	0.0239
10	200	6	[1,20]	[5,10]	[202,2027]	4.907	0.213	-192.3	-48.2	86.832 %	0.0219
10	200	6	[1,20]	[5,10]	[404,2027]	5.032	0.211	-394.6	-209.7	81.357 %	0.0171
10	200	6	[1,20]	[1,30]	[203,2035]	4.382	0.201	-186.9	-9.6	84.311 %	0.0225
10	200	6	[1,20]	[1,30]	[406,2035]	4.365	0.200	-383.3	-212.2	83.303 %	0.0327
10	200	6	[1,20]	[15,30]	[204,2042]	4.637	0.205	-184.0	-1.2	83.410 %	0.0161
10	200	6	[1,20]	[15,30]	[408,2042]	4.589	0.212	-382.3	-227.3	84.171 %	0.0302
10	200	6	[6,20]	[1,10]	[263,2631]	5.744	0.205	-260.1	8.5	81.474 %	0.0141
10	200	6	[6,20]	[1,10]	[526,2631]	5.698	0.204	-514.5	-251.0	80.642 %	0.0198
10	200	6	[6,20]	[5,10]	[263,2633]	5.479	0.211	-254.3	14.8	81.491 %	0.0180
10	200	6	[6,20]	[5,10]	[526,2633]	5.563	0.212	-518.3	-262.1	80.341 %	0.0175
10	200	6	[6,20]	[1,30]	[264,2641]	5.497	0.200	-251.9	5.0	82.278 %	0.0233
10	200	6	[6,20]	[1,30]	[528,2641]	5.553	0.201	-512.1	-242.6	79.821 %	0.0282
10	200	6	[6,20]	[15,30]	[264,2648]	5.741	0.202	-235.9	38.7	81.647 %	0.0226
10	200	6	[6,20]	[15,30]	[528,2648]	5.729	0.204	-500.8	-204.2	78.475 %	0.0126
10	200	6	[12,20]	[1,10]	[323,3237]	5.902	0.205	-316.6	46.4	80.060 %	0.0165
10	200	6	[12,20]	[1,10]	[646,3237]	6.048	0.205	-650.2	-284.5	77.745 %	0.0182
10	200	6	[12,20]	[5,10]	[323,3239]	6.143	0.215	-308.7	31.2	81.426 %	0.0268
10	200	6	[12,20]	[5,10]	[646,3239]	6.217	0.219	-641.5	-275.9	78.281 %	0.0250
10	200	6	[12,20]	[1,30]	[324,3247]	6.401	0.215	-299.4	108.1	78.223 %	0.0113
10	200	6	[12,20]	[1,30]	[648,3247]	6.386	0.199	-622.3	-236.1	77.240 %	0.0237
10	200	6	[12,20]	[15,30]	[325,3254]	6.292	0.208	-300.1	103.8	78.407 %	0.0209
10	200	6	[12,20]	[15,30]	[650,3254]	6.276	0.204	-619.8	-246.1	78.422 %	0.0244

Tiempo Promedio Total H_2: 5.535 seg.

Tiempo Promedio Total H_1: 0.207 seg.

Rendimiento Promedio Total: 81.081 %

Tabla de Experimentos

$n : 300, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	6	[1,20]	[1,10]	[303,3035]	16.548	0.437	-294.5	-15.6	83.161 %	0.0199
10	300	6	[1,20]	[1,10]	[606,3035]	16.832	0.455	-598.2	-307.1	80.853 %	0.0137
10	300	6	[1,20]	[5,10]	[303,3037]	16.843	0.470	-295.4	-4.8	82.438 %	0.0194
10	300	6	[1,20]	[5,10]	[606,3037]	16.580	0.442	-597.1	-339.4	82.586 %	0.0126
10	300	6	[1,20]	[1,30]	[304,3045]	15.617	0.427	-290.7	-7.1	83.233 %	0.0168
10	300	6	[1,20]	[1,30]	[608,3045]	15.293	0.419	-586.4	-316.6	82.258 %	0.0182
10	300	6	[1,20]	[15,30]	[305,3052]	16.170	0.424	-279.6	23.9	82.262 %	0.0146
10	300	6	[1,20]	[15,30]	[610,3052]	16.220	0.427	-587.8	-283.6	80.454 %	0.0207
10	300	6	[6,20]	[1,10]	[394,3944]	18.315	0.443	-387.9	33.1	80.772 %	0.0246
10	300	6	[6,20]	[1,10]	[788,3944]	18.308	0.439	-783.2	-350.0	78.459 %	0.0126
10	300	6	[6,20]	[5,10]	[394,3946]	18.154	0.441	-396.0	-18.3	82.631 %	0.0189
10	300	6	[6,20]	[5,10]	[788,3946]	17.907	0.443	-779.0	-371.8	79.371 %	0.0244
10	300	6	[6,20]	[1,30]	[395,3954]	18.286	0.420	-383.2	40.6	80.809 %	0.0226
10	300	6	[6,20]	[1,30]	[790,3954]	18.086	0.421	-765.4	-294.8	77.559 %	0.0148
10	300	6	[6,20]	[15,30]	[396,3961]	18.486	0.431	-372.7	64.3	80.685 %	0.0199
10	300	6	[6,20]	[15,30]	[792,3961]	18.574	0.424	-763.8	-343.2	79.108 %	0.0127
10	300	6	[12,20]	[1,10]	[485,4853]	19.790	0.440	-474.9	98.4	79.699 %	0.0218
10	300	6	[12,20]	[1,10]	[970,4853]	19.325	0.439	-960.9	-385.1	77.312 %	0.0203
10	300	6	[12,20]	[5,10]	[485,4855]	19.191	0.451	-475.6	76.0	79.924 %	0.0253
10	300	6	[12,20]	[5,10]	[970,4855]	19.174	0.442	-960.0	-395.3	77.775 %	0.0161
10	300	6	[12,20]	[1,30]	[486,4863]	20.307	0.439	-463.6	151.2	77.893 %	0.0192
10	300	6	[12,20]	[1,30]	[972,4863]	20.246	0.428	-958.2	-345.6	76.488 %	0.0173
10	300	6	[12,20]	[15,30]	[487,4870]	20.462	0.451	-461.7	123.5	78.907 %	0.0158
10	300	6	[12,20]	[15,30]	[974,4870]	20.192	0.438	-950.0	-354.8	77.070 %	0.0186

Tiempo Promedio Total H_2: 18.121 seg.

Tiempo Promedio Total H_1: 0.437 seg.

Rendimiento Promedio Total: 80.071 %

Tabla de Experimentos

$n : 500, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	6	[1,20]	[1,10]	[505,5055]	77.869	1.160	-495.1	1.7	82.224 %	0.0138
10	500	6	[1,20]	[1,10]	[1010,5055]	77.907	1.167	-1000.3	-496.2	80.073 %	0.0185
10	500	6	[1,20]	[5,10]	[505,5057]	79.710	1.209	-497.1	-5.0	82.216 %	0.0110
10	500	6	[1,20]	[5,10]	[1010,5057]	78.401	1.188	-1005.3	-533.2	81.039 %	0.0207
10	500	6	[1,20]	[1,30]	[506,5065]	75.576	1.126	-487.3	7.5	82.051 %	0.0103
10	500	6	[1,20]	[1,30]	[1012,5065]	77.880	1.130	-992.4	-456.7	79.279 %	0.0108
10	500	6	[1,20]	[15,30]	[507,5072]	77.343	1.183	-483.7	20.1	81.935 %	0.0159
10	500	6	[1,20]	[15,30]	[1014,5072]	78.314	1.155	-993.2	-498.4	80.653 %	0.0141
10	500	6	[6,20]	[1,10]	[657,6570]	87.777	1.169	-648.2	103.4	79.906 %	0.0120
10	500	6	[6,20]	[1,10]	[1314,6570]	87.363	1.165	-1304.1	-537.7	77.617 %	0.0101
10	500	6	[6,20]	[5,10]	[657,6572]	86.341	1.199	-648.3	82.6	79.996 %	0.0122
10	500	6	[6,20]	[5,10]	[1314,6572]	88.068	1.194	-1303.8	-595.3	79.049 %	0.0145
10	500	6	[6,20]	[1,30]	[658,6580]	87.486	1.136	-641.8	132.7	79.308 %	0.0138
10	500	6	[6,20]	[1,30]	[1316,6580]	86.657	1.137	-1292.3	-502.2	76.911 %	0.0116
10	500	6	[6,20]	[15,30]	[658,6587]	87.909	1.155	-636.4	147.8	79.282 %	0.0074
10	500	6	[6,20]	[15,30]	[1316,6587]	87.180	1.141	-1284.6	-530.9	77.938 %	0.0123
10	500	6	[12,20]	[1,10]	[808,8085]	93.116	1.162	-798.5	236.6	77.852 %	0.0127
10	500	6	[12,20]	[1,10]	[1616,8085]	93.529	1.253	-1614.0	-592.3	76.126 %	0.0160
10	500	6	[12,20]	[5,10]	[808,8087]	92.156	1.208	-801.3	163.5	79.117 %	0.0134
10	500	6	[12,20]	[5,10]	[1616,8087]	91.555	1.190	-1614.0	-620.8	76.655 %	0.0099
10	500	6	[12,20]	[1,30]	[809,8095]	93.480	1.133	-789.5	289.7	77.175 %	0.0125
10	500	6	[12,20]	[1,30]	[1618,8095]	95.786	1.125	-1593.2	-492.3	74.612 %	0.0127
10	500	6	[12,20]	[15,30]	[810,8102]	96.041	1.158	-791.4	214.8	78.454 %	0.0110
10	500	6	[12,20]	[15,30]	[1620,8102]	92.639	1.147	-1590.1	-556.2	75.957 %	0.0214

Tiempo Promedio Total H_2: 86.253 seg.

Tiempo Promedio Total H_1: 1.166 seg.

Rendimiento Promedio Total: 78.976 %

Tabla de Experimentos

$n : 750, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	6	[1,20]	[1,10]	[758,7580]	278.676	2.567	-744.5	55.4	81.174 %	0.0087
10	750	6	[1,20]	[1,10]	[1516,7580]	275.114	2.569	-1506.6	-800.4	81.307 %	0.0127
10	750	6	[1,20]	[5,10]	[758,7582]	277.314	2.625	-750.5	-12.0	82.353 %	0.0075
10	750	6	[1,20]	[5,10]	[1516,7582]	279.288	2.652	-1508.2	-735.9	79.777 %	0.0078
10	750	6	[1,20]	[1,30]	[759,7590]	270.094	2.517	-740.5	54.1	81.155 %	0.0141
10	750	6	[1,20]	[1,30]	[1518,7590]	268.093	2.507	-1495.5	-672.8	78.831 %	0.0085
10	750	6	[1,20]	[15,30]	[759,7597]	276.561	2.540	-736.2	43.3	81.597 %	0.0144
10	750	6	[1,20]	[15,30]	[1518,7597]	277.132	2.528	-1499.8	-722.4	79.612 %	0.0102
10	750	6	[6,20]	[1,10]	[985,9852]	311.002	2.612	-978.3	151.6	79.770 %	0.0131
10	750	6	[6,20]	[1,10]	[1970,9852]	307.099	2.576	-1966.8	-833.1	77.372 %	0.0132
10	750	6	[6,20]	[5,10]	[985,9854]	306.338	2.646	-977.3	121.3	80.189 %	0.0077
10	750	6	[6,20]	[5,10]	[1970,9854]	304.292	2.643	-1958.5	-848.3	78.018 %	0.0055
10	750	6	[6,20]	[1,30]	[986,9862]	306.852	2.547	-970.7	151.8	80.032 %	0.0123
10	750	6	[6,20]	[1,30]	[1972,9862]	305.117	2.513	-1955.3	-761.0	76.869 %	0.0149
10	750	6	[6,20]	[15,30]	[986,9869]	308.328	2.556	-957.4	222.3	78.762 %	0.0107
10	750	6	[6,20]	[15,30]	[1972,9869]	305.671	2.536	-1950.3	-798.0	77.438 %	0.0132
10	750	6	[12,20]	[1,10]	[1212,12125]	327.058	2.578	-1207.7	363.2	77.673 %	0.0127
10	750	6	[12,20]	[1,10]	[2424,12125]	322.796	2.585	-2412.6	-871.6	75.994 %	0.0151
10	750	6	[12,20]	[5,10]	[1212,12127]	325.069	2.673	-1202.6	302.0	78.449 %	0.0086
10	750	6	[12,20]	[5,10]	[2424,12127]	327.641	2.630	-2414.0	-922.4	76.609 %	0.0093
10	750	6	[12,20]	[1,30]	[1213,12135]	328.082	2.488	-1208.7	480.8	76.614 %	0.0147
10	750	6	[12,20]	[1,30]	[2426,12135]	331.807	2.502	-2408.7	-747.6	74.662 %	0.0132
10	750	6	[12,20]	[15,30]	[1214,12142]	328.949	2.539	-1185.0	460.3	77.038 %	0.0078
10	750	6	[12,20]	[15,30]	[2428,12142]	329.314	2.543	-2413.9	-837.0	75.577 %	0.0160

Tiempo Promedio Total H_2: 303.237 seg.

Tiempo Promedio Total H_1: 2.570 seg.

Rendimiento Promedio Total: 78.620 %

Tabla de Experimentos

$n : 1000, m : 6, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	6	[1,20]	[1,10]	[1010,10105]	686.449	4.557	-1005.8	43.5	81.253 %	0.0092
10	1000	6	[1,20]	[1,10]	[2020,10105]	681.290	4.570	-2010.1	-950.7	79.251 %	0.0106
10	1000	6	[1,20]	[5,10]	[1010,10107]	681.946	4.764	-1012.7	-16.6	82.031 %	0.0111
10	1000	6	[1,20]	[5,10]	[2020,10107]	701.257	4.681	-2012.8	-999.5	80.036 %	0.0048
10	1000	6	[1,20]	[1,30]	[1011,10115]	676.300	4.452	-992.5	118.3	80.245 %	0.0072
10	1000	6	[1,20]	[1,30]	[2022,10115]	677.724	4.448	-2003.2	-903.7	78.717 %	0.0100
10	1000	6	[1,20]	[15,30]	[1012,10122]	693.564	4.503	-990.5	118.6	80.459 %	0.0091
10	1000	6	[1,20]	[15,30]	[2024,10122]	692.411	4.518	-2001.5	-865.2	78.230 %	0.0067
10	1000	6	[6,20]	[1,10]	[1313,13135]	769.075	4.756	-1304.6	278.6	78.778 %	0.0080
10	1000	6	[6,20]	[1,10]	[2626,13135]	760.344	4.591	-2621.4	-1051.3	77.069 %	0.0105
10	1000	6	[6,20]	[5,10]	[1313,13137]	768.544	4.672	-1303.4	148.4	80.071 %	0.0111
10	1000	6	[6,20]	[5,10]	[2626,13137]	769.799	4.746	-2619.2	-1145.6	78.316 %	0.0071
10	1000	6	[6,20]	[1,30]	[1314,13145]	766.682	4.524	-1290.3	347.2	78.326 %	0.0095
10	1000	6	[6,20]	[1,30]	[2628,13145]	749.509	4.451	-2613.8	-999.5	76.814 %	0.0086
10	1000	6	[6,20]	[15,30]	[1315,13152]	766.903	4.613	-1293.9	302.7	78.823 %	0.0118
10	1000	6	[6,20]	[15,30]	[2630,13152]	757.016	4.543	-2606.9	-1014.2	76.798 %	0.0098
10	1000	6	[12,20]	[1,10]	[1616,16165]	814.913	4.595	-1609.1	575.6	76.799 %	0.0095
10	1000	6	[12,20]	[1,10]	[3232,16165]	809.077	4.637	-3222.0	-1123.1	75.507 %	0.0105
10	1000	6	[12,20]	[5,10]	[1616,16167]	805.969	4.754	-1611.9	434.9	78.161 %	0.0067
10	1000	6	[12,20]	[5,10]	[3232,16167]	796.349	4.705	-3223.2	-1206.3	76.349 %	0.0063
10	1000	6	[12,20]	[1,30]	[1617,16175]	820.990	4.493	-1593.9	579.8	76.949 %	0.0089
10	1000	6	[12,20]	[1,30]	[3234,16175]	812.893	4.504	-3219.8	-1008.5	74.669 %	0.0072
10	1000	6	[12,20]	[15,30]	[1618,16182]	821.294	4.574	-1594.9	578.6	76.999 %	0.0099
10	1000	6	[12,20]	[15,30]	[3236,16182]	818.745	4.502	-3204.9	-1027.9	75.028 %	0.0137

Tiempo Promedio Total H_2: 754.127 seg.

Tiempo Promedio Total H_1: 4.590 seg.

Rendimiento Promedio Total: 78.153 %

Tabla de Experimentos

$n : 10, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	10	[1,20]	[1,10]	[10,106]	0.017	0.008	-2.0	-0.1	96.919 %	0.0613
10	10	10	[1,20]	[1,10]	[20,106]	0.017	0.007	-13.6	-13.6	100.000 %	0.0000
10	10	10	[1,20]	[5,10]	[10,108]	0.017	0.008	-0.5	4.3	92.360 %	0.2099
10	10	10	[1,20]	[5,10]	[20,108]	0.016	0.009	-16.1	-16.1	100.000 %	0.0000
10	10	10	[1,20]	[1,30]	[11,116]	0.016	0.009	6.6	7.9	98.092 %	0.0319
10	10	10	[1,20]	[1,30]	[22,116]	0.017	0.010	-8.3	-8.1	99.701 %	0.0090
10	10	10	[1,20]	[15,30]	[12,123]	0.016	0.009	8.0	8.1	99.847 %	0.0046
10	10	10	[1,20]	[15,30]	[24,123]	0.019	0.009	-1.5	-0.3	98.335 %	0.0265
10	10	10	[6,20]	[1,10]	[13,136]	0.019	0.004	-6.5	-5.4	98.418 %	0.0266
10	10	10	[6,20]	[1,10]	[26,136]	0.027	0.012	-17.6	-17.6	100.000 %	0.0000
10	10	10	[6,20]	[5,10]	[13,138]	0.020	0.009	-8.4	-7.8	99.178 %	0.0247
10	10	10	[6,20]	[5,10]	[26,138]	0.017	0.008	-14.7	-14.0	98.891 %	0.0333
10	10	10	[6,20]	[1,30]	[14,146]	0.020	0.011	-0.1	-0.1	100.000 %	0.0000
10	10	10	[6,20]	[1,30]	[28,146]	0.018	0.007	-13.8	-13.6	99.772 %	0.0046
10	10	10	[6,20]	[15,30]	[15,153]	0.027	0.010	1.5	2.1	99.399 %	0.0149
10	10	10	[6,20]	[15,30]	[30,153]	0.025	0.012	-3.0	-3.0	100.000 %	0.0000
10	10	10	[12,20]	[1,10]	[16,166]	0.037	0.016	-5.3	-4.8	99.329 %	0.0201
10	10	10	[12,20]	[1,10]	[32,166]	0.018	0.009	-21.6	-21.0	99.272 %	0.0183
10	10	10	[12,20]	[5,10]	[16,168]	0.018	0.008	-5.5	-5.5	100.000 %	0.0000
10	10	10	[12,20]	[5,10]	[32,168]	0.018	0.010	-24.2	-23.4	99.176 %	0.0208
10	10	10	[12,20]	[1,30]	[17,176]	0.055	0.021	-8.1	-6.8	98.843 %	0.0235
10	10	10	[12,20]	[1,30]	[34,176]	0.021	0.011	-5.9	-5.1	99.224 %	0.0107
10	10	10	[12,20]	[15,30]	[18,183]	0.021	0.011	-7.8	5.8	88.657 %	0.3403
10	10	10	[12,20]	[15,30]	[36,183]	0.022	0.006	-13.8	-13.8	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.022 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 98.559 %

Tabla de Experimentos

$n : 20, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	10	[1,20]	[1,10]	[20,207]	0.042	0.017	-19.1	-17.4	98.114 %	0.0217
10	20	10	[1,20]	[1,10]	[40,207]	0.042	0.009	-28.9	-28.8	99.904 %	0.0029
10	20	10	[1,20]	[5,10]	[20,209]	0.041	0.014	-11.8	-10.5	98.800 %	0.0160
10	20	10	[1,20]	[5,10]	[40,209]	0.036	0.012	-28.1	-25.4	97.014 %	0.0423
10	20	10	[1,20]	[1,30]	[21,217]	0.045	0.014	0.2	1.7	98.724 %	0.0199
10	20	10	[1,20]	[1,30]	[42,217]	0.032	0.012	-22.9	-22.6	99.727 %	0.0057
10	20	10	[1,20]	[15,30]	[22,224]	0.030	0.017	6.5	6.8	99.723 %	0.0083
10	20	10	[1,20]	[15,30]	[44,224]	0.036	0.013	-22.0	-19.0	97.557 %	0.0429
10	20	10	[6,20]	[1,10]	[26,267]	0.050	0.019	-19.9	-15.5	96.757 %	0.0250
10	20	10	[6,20]	[1,10]	[52,267]	0.052	0.018	-50.7	-46.7	96.352 %	0.0356
10	20	10	[6,20]	[5,10]	[26,269]	0.040	0.010	-16.0	-12.0	97.042 %	0.0302
10	20	10	[6,20]	[5,10]	[52,269]	0.049	0.014	-42.2	-37.9	96.563 %	0.0298
10	20	10	[6,20]	[1,30]	[27,277]	0.061	0.040	-6.5	-5.4	99.257 %	0.0109
10	20	10	[6,20]	[1,30]	[54,277]	0.037	0.012	-31.9	-30.6	99.081 %	0.0131
10	20	10	[6,20]	[15,30]	[28,284]	0.048	0.013	-7.4	-4.9	98.462 %	0.0173
10	20	10	[6,20]	[15,30]	[56,284]	0.047	0.017	-38.2	-36.4	98.602 %	0.0188
10	20	10	[12,20]	[1,10]	[32,328]	0.043	0.013	-19.8	-12.7	95.796 %	0.0288
10	20	10	[12,20]	[1,10]	[64,328]	0.044	0.011	-55.1	-51.8	97.614 %	0.0258
10	20	10	[12,20]	[5,10]	[33,330]	0.038	0.016	-23.1	-16.4	96.271 %	0.0330
10	20	10	[12,20]	[5,10]	[66,330]	0.044	0.011	-54.2	-46.4	95.053 %	0.0335
10	20	10	[12,20]	[1,30]	[33,338]	0.041	0.014	-17.9	-15.4	98.528 %	0.0146
10	20	10	[12,20]	[1,30]	[66,338]	0.050	0.011	-42.9	-39.6	97.852 %	0.0161
10	20	10	[12,20]	[15,30]	[34,345]	0.053	0.011	-6.8	-1.2	97.034 %	0.0234
10	20	10	[12,20]	[15,30]	[68,345]	0.053	0.016	-40.5	-36.9	97.969 %	0.0143

Tiempo Promedio Total H_2: 0.044 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 97.825 %

Tabla de Experimentos

$n : 30, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	10	[1,20]	[1,10]	[30,308]	0.049	0.016	-20.2	-17.2	97.853 %	0.0226
10	30	10	[1,20]	[1,10]	[60,308]	0.057	0.017	-55.8	-52.5	97.543 %	0.0245
10	30	10	[1,20]	[5,10]	[31,310]	0.049	0.013	-20.2	-16.2	97.460 %	0.0276
10	30	10	[1,20]	[5,10]	[62,310]	0.062	0.018	-51.7	-47.2	96.651 %	0.0317
10	30	10	[1,20]	[1,30]	[31,318]	0.051	0.020	-14.7	-14.5	99.881 %	0.0024
10	30	10	[1,20]	[1,30]	[62,318]	0.052	0.017	-40.6	-39.9	99.558 %	0.0080
10	30	10	[1,20]	[15,30]	[32,325]	0.050	0.016	-9.0	-7.0	98.818 %	0.0120
10	30	10	[1,20]	[15,30]	[64,325]	0.056	0.017	-41.0	-37.2	97.529 %	0.0228
10	30	10	[6,20]	[1,10]	[39,398]	0.070	0.017	-23.8	-14.2	95.107 %	0.0241
10	30	10	[6,20]	[1,10]	[78,398]	0.074	0.014	-67.8	-57.2	93.845 %	0.0330
10	30	10	[6,20]	[5,10]	[40,400]	0.070	0.016	-30.9	-19.6	94.497 %	0.0264
10	30	10	[6,20]	[5,10]	[80,400]	0.116	0.024	-66.4	-55.3	94.104 %	0.0363
10	30	10	[6,20]	[1,30]	[40,409]	0.062	0.018	-24.7	-22.4	98.883 %	0.0117
10	30	10	[6,20]	[1,30]	[80,409]	0.063	0.015	-64.5	-62.2	98.694 %	0.0161
10	30	10	[6,20]	[15,30]	[41,416]	0.066	0.016	-12.4	-6.3	97.056 %	0.0232
10	30	10	[6,20]	[15,30]	[82,416]	0.068	0.014	-60.8	-55.8	97.737 %	0.0240
10	30	10	[12,20]	[1,10]	[48,489]	0.093	0.019	-39.0	-20.1	92.403 %	0.0332
10	30	10	[12,20]	[1,10]	[96,489]	0.095	0.018	-86.1	-71.5	93.224 %	0.0362
10	30	10	[12,20]	[5,10]	[49,491]	0.095	0.023	-46.3	-34.8	95.311 %	0.0280
10	30	10	[12,20]	[5,10]	[98,491]	0.066	0.016	-91.1	-76.5	93.464 %	0.0358
10	30	10	[12,20]	[1,30]	[49,499]	0.078	0.018	-30.5	-21.2	96.548 %	0.0167
10	30	10	[12,20]	[1,30]	[98,499]	0.081	0.016	-80.7	-72.6	96.427 %	0.0219
10	30	10	[12,20]	[15,30]	[50,507]	0.079	0.018	-20.8	-6.2	94.281 %	0.0259
10	30	10	[12,20]	[15,30]	[100,507]	0.081	0.017	-73.3	-61.9	95.260 %	0.0323

Tiempo Promedio Total H_2: 0.070 seg.

Tiempo Promedio Total H_1: 0.017 seg.

Rendimiento Promedio Total: 96.339 %

Tabla de Experimentos

$n : 50, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	10	[1,20]	[1,10]	[51,510]	0.112	0.022	-43.0	-33.2	96.045 %	0.0325
10	50	10	[1,20]	[1,10]	[102,510]	0.121	0.021	-92.3	-77.9	93.802 %	0.0289
10	50	10	[1,20]	[5,10]	[51,512]	0.123	0.028	-47.2	-36.2	95.746 %	0.0317
10	50	10	[1,20]	[5,10]	[102,512]	0.121	0.027	-90.2	-74.4	92.769 %	0.0389
10	50	10	[1,20]	[1,30]	[52,520]	0.122	0.033	-35.7	-29.7	97.703 %	0.0133
10	50	10	[1,20]	[1,30]	[104,520]	0.087	0.028	-82.6	-78.6	98.300 %	0.0096
10	50	10	[1,20]	[15,30]	[52,527]	0.105	0.024	-23.3	-11.4	95.440 %	0.0144
10	50	10	[1,20]	[15,30]	[104,527]	0.101	0.024	-81.7	-73.3	96.596 %	0.0277
10	50	10	[6,20]	[1,10]	[66,661]	0.165	0.023	-66.9	-48.1	94.025 %	0.0360
10	50	10	[6,20]	[1,10]	[132,661]	0.175	0.023	-124.5	-102.2	92.581 %	0.0340
10	50	10	[6,20]	[5,10]	[66,663]	0.158	0.024	-58.5	-33.8	92.654 %	0.0307
10	50	10	[6,20]	[5,10]	[132,663]	0.143	0.027	-120.9	-93.9	91.114 %	0.0348
10	50	10	[6,20]	[1,30]	[67,671]	0.140	0.023	-46.1	-33.2	96.173 %	0.0180
10	50	10	[6,20]	[1,30]	[134,671]	0.137	0.024	-108.8	-93.8	95.134 %	0.0162
10	50	10	[6,20]	[15,30]	[67,678]	0.157	0.023	-47.8	-29.0	94.284 %	0.0310
10	50	10	[6,20]	[15,30]	[134,678]	0.153	0.023	-112.1	-94.9	94.567 %	0.0289
10	50	10	[12,20]	[1,10]	[81,813]	0.187	0.024	-71.1	-34.4	90.898 %	0.0226
10	50	10	[12,20]	[1,10]	[162,813]	0.176	0.023	-157.3	-123.2	90.461 %	0.0297
10	50	10	[12,20]	[5,10]	[81,815]	0.171	0.027	-77.2	-49.4	93.043 %	0.0282
10	50	10	[12,20]	[5,10]	[162,815]	0.159	0.024	-157.4	-137.1	94.603 %	0.0320
10	50	10	[12,20]	[1,30]	[82,823]	0.172	0.026	-61.3	-37.3	94.006 %	0.0183
10	50	10	[12,20]	[1,30]	[164,823]	0.174	0.022	-141.7	-113.0	92.499 %	0.0252
10	50	10	[12,20]	[15,30]	[83,830]	0.196	0.027	-57.1	-23.8	92.161 %	0.0210
10	50	10	[12,20]	[15,30]	[166,830]	0.184	0.023	-137.3	-107.7	92.767 %	0.0350

Tiempo Promedio Total H_2: 0.147 seg.

Tiempo Promedio Total H_1: 0.025 seg.

Rendimiento Promedio Total: 94.057 %

Tabla de Experimentos

$n : 100, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	10	[1,20]	[1,10]	[101,1015]	0.604	0.068	-92.2	-50.8	91.832 %	0.0293
10	100	10	[1,20]	[1,10]	[202,1015]	0.613	0.078	-191.4	-148.4	90.829 %	0.0193
10	100	10	[1,20]	[5,10]	[101,1017]	0.570	0.067	-92.8	-60.4	93.426 %	0.0195
10	100	10	[1,20]	[5,10]	[202,1017]	0.587	0.065	-191.4	-146.1	90.348 %	0.0117
10	100	10	[1,20]	[1,30]	[102,1025]	0.432	0.061	-84.0	-58.2	95.029 %	0.0207
10	100	10	[1,20]	[1,30]	[204,1025]	0.437	0.063	-180.5	-143.3	92.137 %	0.0125
10	100	10	[1,20]	[15,30]	[103,1032]	0.514	0.062	-80.3	-38.8	92.072 %	0.0189
10	100	10	[1,20]	[15,30]	[206,1032]	0.538	0.064	-181.4	-146.6	92.826 %	0.0245
10	100	10	[6,20]	[1,10]	[131,1318]	0.810	0.066	-123.1	-58.0	90.391 %	0.0186
10	100	10	[6,20]	[1,10]	[262,1318]	0.743	0.065	-252.9	-189.5	89.549 %	0.0302
10	100	10	[6,20]	[5,10]	[132,1320]	0.748	0.065	-124.4	-73.1	92.468 %	0.0164
10	100	10	[6,20]	[5,10]	[264,1320]	0.741	0.065	-252.8	-193.3	90.215 %	0.0347
10	100	10	[6,20]	[1,30]	[132,1328]	0.678	0.069	-113.3	-64.0	92.650 %	0.0195
10	100	10	[6,20]	[1,30]	[264,1328]	0.698	0.064	-247.1	-193.4	91.021 %	0.0151
10	100	10	[6,20]	[15,30]	[133,1335]	0.716	0.063	-108.5	-42.8	90.691 %	0.0203
10	100	10	[6,20]	[15,30]	[266,1335]	0.750	0.063	-243.4	-180.7	89.956 %	0.0345
10	100	10	[12,20]	[1,10]	[162,1621]	0.842	0.063	-161.2	-73.2	89.187 %	0.0335
10	100	10	[12,20]	[1,10]	[324,1621]	0.832	0.064	-321.2	-234.9	88.806 %	0.0346
10	100	10	[12,20]	[5,10]	[162,1623]	0.797	0.066	-149.3	-58.8	89.221 %	0.0175
10	100	10	[12,20]	[5,10]	[324,1623]	0.844	0.063	-313.2	-212.5	86.849 %	0.0227
10	100	10	[12,20]	[1,30]	[163,1631]	0.846	0.062	-139.0	-50.1	89.602 %	0.0137
10	100	10	[12,20]	[1,30]	[326,1631]	0.844	0.061	-301.3	-224.6	89.850 %	0.0355
10	100	10	[12,20]	[15,30]	[163,1638]	0.868	0.063	-139.5	-37.8	88.219 %	0.0111
10	100	10	[12,20]	[15,30]	[326,1638]	0.882	0.062	-295.8	-201.1	88.013 %	0.0201

Tiempo Promedio Total H_2: 0.706 seg.

Tiempo Promedio Total H_1: 0.065 seg.

Rendimiento Promedio Total: 90.633 %

Tabla de Experimentos

$n : 200, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	10	[1,20]	[1,10]	[202,2025]	3.964	0.212	-191.4	-105.2	91.281 %	0.0253
10	200	10	[1,20]	[1,10]	[404,2025]	4.007	0.208	-396.4	-303.9	89.821 %	0.0240
10	200	10	[1,20]	[5,10]	[202,2027]	4.138	0.209	-194.8	-101.0	90.776 %	0.0164
10	200	10	[1,20]	[5,10]	[404,2027]	4.078	0.214	-395.9	-299.1	89.470 %	0.0187
10	200	10	[1,20]	[1,30]	[203,2035]	3.224	0.211	-186.7	-103.8	91.750 %	0.0196
10	200	10	[1,20]	[1,30]	[406,2035]	3.431	0.203	-383.9	-280.8	88.971 %	0.0141
10	200	10	[1,20]	[15,30]	[204,2042]	3.724	0.210	-176.4	-80.5	90.758 %	0.0184
10	200	10	[1,20]	[15,30]	[408,2042]	3.735	0.207	-383.7	-293.1	90.289 %	0.0150
10	200	10	[6,20]	[1,10]	[263,2631]	5.153	0.208	-252.5	-104.7	88.898 %	0.0166
10	200	10	[6,20]	[1,10]	[526,2631]	4.820	0.204	-522.4	-380.1	88.263 %	0.0149
10	200	10	[6,20]	[5,10]	[263,2633]	4.934	0.222	-254.4	-119.5	89.880 %	0.0168
10	200	10	[6,20]	[5,10]	[526,2633]	5.080	0.210	-515.8	-373.8	88.329 %	0.0176
10	200	10	[6,20]	[1,30]	[264,2641]	4.511	0.200	-252.1	-115.2	89.745 %	0.0151
10	200	10	[6,20]	[1,30]	[528,2641]	4.443	0.206	-505.9	-360.0	88.058 %	0.0187
10	200	10	[6,20]	[15,30]	[264,2648]	4.875	0.204	-245.8	-100.4	89.382 %	0.0153
10	200	10	[6,20]	[15,30]	[528,2648]	4.826	0.219	-500.6	-351.5	87.930 %	0.0254
10	200	10	[12,20]	[1,10]	[323,3237]	5.710	0.205	-310.8	-92.5	87.073 %	0.0125
10	200	10	[12,20]	[1,10]	[646,3237]	5.605	0.206	-642.0	-444.0	86.838 %	0.0241
10	200	10	[12,20]	[5,10]	[323,3239]	5.290	0.214	-315.8	-129.0	88.538 %	0.0197
10	200	10	[12,20]	[5,10]	[646,3239]	5.665	0.221	-633.2	-416.4	85.795 %	0.0154
10	200	10	[12,20]	[1,30]	[324,3247]	5.704	0.212	-312.3	-110.2	87.957 %	0.0166
10	200	10	[12,20]	[1,30]	[648,3247]	5.519	0.209	-626.1	-423.0	86.963 %	0.0192
10	200	10	[12,20]	[15,30]	[325,3254]	5.660	0.208	-299.8	-110.2	88.859 %	0.0229
10	200	10	[12,20]	[15,30]	[650,3254]	5.701	0.208	-626.7	-408.7	85.556 %	0.0187

Tiempo Promedio Total H_2: 4.742 seg.

Tiempo Promedio Total H_1: 0.210 seg.

Rendimiento Promedio Total: 88.799 %

Tabla de Experimentos

$n : 300, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	10	[1,20]	[1,10]	[303,3035]	14.176	0.466	-295.6	-151.8	90.581 %	0.0147
10	300	10	[1,20]	[1,10]	[606,3035]	12.959	0.446	-594.5	-435.1	88.261 %	0.0153
10	300	10	[1,20]	[5,10]	[303,3037]	12.927	0.448	-293.9	-144.4	90.095 %	0.0193
10	300	10	[1,20]	[5,10]	[606,3037]	13.213	0.460	-600.3	-459.8	89.687 %	0.0193
10	300	10	[1,20]	[1,30]	[304,3045]	10.764	0.430	-286.4	-133.7	90.132 %	0.0089
10	300	10	[1,20]	[1,30]	[608,3045]	10.607	0.430	-590.7	-454.8	90.212 %	0.0200
10	300	10	[1,20]	[15,30]	[305,3052]	12.139	0.437	-278.6	-126.2	90.209 %	0.0124
10	300	10	[1,20]	[15,30]	[610,3052]	12.572	0.446	-583.4	-419.0	88.338 %	0.0136
10	300	10	[6,20]	[1,10]	[394,3944]	16.350	0.463	-392.5	-146.6	87.742 %	0.0133
10	300	10	[6,20]	[1,10]	[788,3944]	16.816	0.461	-780.2	-550.5	87.168 %	0.0140
10	300	10	[6,20]	[5,10]	[394,3946]	16.162	0.456	-386.1	-154.3	88.450 %	0.0116
10	300	10	[6,20]	[5,10]	[788,3946]	15.791	0.451	-778.5	-553.0	87.629 %	0.0085
10	300	10	[6,20]	[1,30]	[395,3954]	14.558	0.431	-377.2	-139.6	88.357 %	0.0118
10	300	10	[6,20]	[1,30]	[790,3954]	14.569	0.432	-774.4	-553.8	87.978 %	0.0214
10	300	10	[6,20]	[15,30]	[396,3961]	15.272	0.434	-373.4	-134.4	88.002 %	0.0117
10	300	10	[6,20]	[15,30]	[792,3961]	14.792	0.442	-771.9	-530.6	87.031 %	0.0168
10	300	10	[12,20]	[1,10]	[485,4853]	17.272	0.450	-477.6	-156.6	87.121 %	0.0129
10	300	10	[12,20]	[1,10]	[970,4853]	17.530	0.435	-959.3	-614.8	84.731 %	0.0170
10	300	10	[12,20]	[5,10]	[485,4855]	17.186	0.457	-475.7	-184.6	88.292 %	0.0191
10	300	10	[12,20]	[5,10]	[970,4855]	17.282	0.459	-956.9	-640.4	86.261 %	0.0117
10	300	10	[12,20]	[1,30]	[486,4863]	17.606	0.431	-467.9	-118.6	86.391 %	0.0119
10	300	10	[12,20]	[1,30]	[972,4863]	18.074	0.435	-947.6	-603.2	84.949 %	0.0198
10	300	10	[12,20]	[15,30]	[487,4870]	17.721	0.436	-459.1	-120.8	86.708 %	0.0138
10	300	10	[12,20]	[15,30]	[974,4870]	18.019	0.429	-947.9	-610.6	85.140 %	0.0177

Tiempo Promedio Total H_2: 15.182 seg.

Tiempo Promedio Total H_1: 0.444 seg.

Rendimiento Promedio Total: 87.894 %

Tabla de Experimentos

$n : 500, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	10	[1,20]	[1,10]	[505,5055]	59.982	1.190	-500.9	-209.9	88.710 %	0.0088
10	500	10	[1,20]	[1,10]	[1010,5055]	60.799	1.175	-1010.1	-735.5	88.112 %	0.0108
10	500	10	[1,20]	[5,10]	[505,5057]	61.567	1.191	-496.3	-223.5	89.242 %	0.0137
10	500	10	[1,20]	[5,10]	[1010,5057]	61.023	1.198	-1000.3	-731.6	88.395 %	0.0109
10	500	10	[1,20]	[1,30]	[506,5065]	55.873	1.129	-492.1	-200.2	88.616 %	0.0152
10	500	10	[1,20]	[1,30]	[1012,5065]	54.960	1.148	-984.8	-695.4	87.462 %	0.0105
10	500	10	[1,20]	[15,30]	[507,5072]	58.841	1.137	-486.9	-198.1	88.755 %	0.0113
10	500	10	[1,20]	[15,30]	[1014,5072]	58.735	1.145	-990.0	-715.2	88.223 %	0.0150
10	500	10	[6,20]	[1,10]	[657,6570]	72.894	1.160	-650.5	-250.6	87.989 %	0.0160
10	500	10	[6,20]	[1,10]	[1314,6570]	73.210	1.168	-1307.6	-915.5	87.078 %	0.0114
10	500	10	[6,20]	[5,10]	[657,6572]	74.481	1.196	-642.8	-251.6	88.332 %	0.0117
10	500	10	[6,20]	[5,10]	[1314,6572]	71.664	1.314	-1306.8	-918.0	87.011 %	0.0147
10	500	10	[6,20]	[1,30]	[658,6580]	70.464	1.139	-645.0	-224.9	87.832 %	0.0110
10	500	10	[6,20]	[1,30]	[1316,6580]	70.855	1.160	-1296.2	-887.5	86.642 %	0.0122
10	500	10	[6,20]	[15,30]	[658,6587]	73.324	1.144	-631.3	-214.7	87.756 %	0.0148
10	500	10	[6,20]	[15,30]	[1316,6587]	71.837	1.148	-1295.1	-857.7	85.774 %	0.0154
10	500	10	[12,20]	[1,10]	[808,8085]	80.659	1.188	-799.8	-226.1	86.520 %	0.0132
10	500	10	[12,20]	[1,10]	[1616,8085]	80.594	1.184	-1605.5	-1020.5	84.572 %	0.0168
10	500	10	[12,20]	[5,10]	[808,8087]	79.975	1.193	-806.7	-245.0	86.542 %	0.0108
10	500	10	[12,20]	[5,10]	[1616,8087]	81.619	1.185	-1618.4	-1086.1	85.972 %	0.0123
10	500	10	[12,20]	[1,30]	[809,8095]	81.295	1.147	-800.4	-222.9	86.327 %	0.0153
10	500	10	[12,20]	[1,30]	[1618,8095]	81.601	1.150	-1593.9	-994.9	84.483 %	0.0159
10	500	10	[12,20]	[15,30]	[810,8102]	81.737	1.179	-782.3	-210.2	86.668 %	0.0116
10	500	10	[12,20]	[15,30]	[1620,8102]	84.787	1.152	-1594.5	-984.9	84.163 %	0.0086

Tiempo Promedio Total H_2: 70.949 seg.

Tiempo Promedio Total H_1: 1.172 seg.

Rendimiento Promedio Total: 87.132 %

Tabla de Experimentos

$n : 750, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	10	[1,20]	[1,10]	[758,7580]	222.527	2.519	-750.5	-298.8	88.285 %	0.0068
10	750	10	[1,20]	[1,10]	[1516,7580]	222.147	2.521	-1512.6	-1070.5	87.333 %	0.0082
10	750	10	[1,20]	[5,10]	[758,7582]	222.385	2.607	-750.1	-343.4	89.382 %	0.0073
10	750	10	[1,20]	[5,10]	[1516,7582]	224.722	2.609	-1507.6	-1098.3	88.149 %	0.0136
10	750	10	[1,20]	[1,30]	[759,7590]	206.123	2.453	-740.2	-294.3	88.490 %	0.0097
10	750	10	[1,20]	[1,30]	[1518,7590]	211.047	2.451	-1500.6	-1051.6	87.054 %	0.0114
10	750	10	[1,20]	[15,30]	[759,7597]	212.989	2.489	-742.9	-296.7	88.510 %	0.0101
10	750	10	[1,20]	[15,30]	[1518,7597]	216.653	2.468	-1494.2	-1034.7	86.780 %	0.0070
10	750	10	[6,20]	[1,10]	[985,9852]	264.545	2.530	-980.6	-381.4	88.058 %	0.0125
10	750	10	[6,20]	[1,10]	[1970,9852]	268.853	2.518	-1967.5	-1309.8	85.700 %	0.0088
10	750	10	[6,20]	[5,10]	[985,9854]	265.566	2.593	-983.9	-393.3	88.295 %	0.0075
10	750	10	[6,20]	[5,10]	[1970,9854]	264.052	2.583	-1958.6	-1344.8	86.408 %	0.0069
10	750	10	[6,20]	[1,30]	[986,9862]	261.798	2.454	-960.8	-278.7	86.752 %	0.0111
10	750	10	[6,20]	[1,30]	[1972,9862]	259.227	2.478	-1949.3	-1266.7	85.475 %	0.0126
10	750	10	[6,20]	[15,30]	[986,9869]	268.987	2.511	-963.0	-275.0	86.635 %	0.0081
10	750	10	[6,20]	[15,30]	[1972,9869]	264.851	2.539	-1948.0	-1294.5	85.899 %	0.0143
10	750	10	[12,20]	[1,10]	[1212,12125]	293.168	2.561	-1199.9	-325.6	86.257 %	0.0098
10	750	10	[12,20]	[1,10]	[2424,12125]	297.654	2.550	-2416.9	-1483.6	83.922 %	0.0134
10	750	10	[12,20]	[5,10]	[1212,12127]	289.417	2.844	-1198.3	-366.4	86.747 %	0.0139
10	750	10	[12,20]	[5,10]	[2424,12127]	289.843	2.608	-2411.8	-1532.5	84.680 %	0.0079
10	750	10	[12,20]	[1,30]	[1213,12135]	294.637	2.455	-1191.6	-262.4	85.381 %	0.0101
10	750	10	[12,20]	[1,30]	[2426,12135]	295.498	2.492	-2406.6	-1514.2	84.535 %	0.0125
10	750	10	[12,20]	[15,30]	[1214,12142]	300.296	2.472	-1189.6	-281.0	85.830 %	0.0116
10	750	10	[12,20]	[15,30]	[2428,12142]	299.335	2.516	-2401.0	-1459.0	83.969 %	0.0092

Tiempo Promedio Total H_2: 259.013 seg.

Tiempo Promedio Total H_1: 2.534 seg.

Rendimiento Promedio Total: 86.605 %

Tabla de Experimentos

$n : 1000, m : 10, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	10	[1,20]	[1,10]	[1010,10105]	539.452	4.568	-1002.8	-402.5	88.483 %	0.0057
10	1000	10	[1,20]	[1,10]	[2020,10105]	537.388	4.559	-2015.7	-1428.4	87.435 %	0.0151
10	1000	10	[1,20]	[5,10]	[1010,10107]	534.825	4.668	-1005.0	-464.8	89.467 %	0.0100
10	1000	10	[1,20]	[5,10]	[2020,10107]	541.065	4.695	-2008.5	-1411.5	87.150 %	0.0062
10	1000	10	[1,20]	[1,30]	[1011,10115]	514.160	4.442	-996.0	-381.4	88.148 %	0.0061
10	1000	10	[1,20]	[1,30]	[2022,10115]	503.873	4.472	-2006.0	-1411.9	87.354 %	0.0097
10	1000	10	[1,20]	[15,30]	[1012,10122]	531.667	4.490	-990.7	-375.9	88.232 %	0.0086
10	1000	10	[1,20]	[15,30]	[2024,10122]	530.464	4.486	-1999.0	-1387.3	86.923 %	0.0059
10	1000	10	[6,20]	[1,10]	[1313,13135]	629.726	4.556	-1304.7	-410.0	86.902 %	0.0126
10	1000	10	[6,20]	[1,10]	[2626,13135]	638.822	4.535	-2620.3	-1735.8	85.682 %	0.0106
10	1000	10	[6,20]	[5,10]	[1313,13137]	629.330	4.727	-1300.5	-457.1	87.486 %	0.0037
10	1000	10	[6,20]	[5,10]	[2626,13137]	634.974	4.702	-2613.7	-1760.9	86.003 %	0.0093
10	1000	10	[6,20]	[1,30]	[1314,13145]	628.950	4.460	-1293.1	-381.3	86.630 %	0.0085
10	1000	10	[6,20]	[1,30]	[2628,13145]	620.672	4.438	-2611.1	-1718.2	85.505 %	0.0070
10	1000	10	[6,20]	[15,30]	[1315,13152]	632.924	4.472	-1293.3	-446.3	87.519 %	0.0104
10	1000	10	[6,20]	[15,30]	[2630,13152]	632.622	4.518	-2603.1	-1709.7	85.594 %	0.0072
10	1000	10	[12,20]	[1,10]	[1616,16165]	708.639	4.611	-1604.6	-373.3	85.445 %	0.0111
10	1000	10	[12,20]	[1,10]	[3232,16165]	694.468	4.562	-3228.6	-1987.7	84.040 %	0.0082
10	1000	10	[12,20]	[5,10]	[1616,16167]	697.419	4.726	-1601.9	-389.8	85.693 %	0.0030
10	1000	10	[12,20]	[5,10]	[3232,16167]	703.418	4.701	-3221.5	-2046.1	84.471 %	0.0100
10	1000	10	[12,20]	[1,30]	[1617,16175]	704.286	4.457	-1597.3	-317.8	85.041 %	0.0080
10	1000	10	[12,20]	[1,30]	[3234,16175]	695.911	4.455	-3211.2	-1949.5	83.759 %	0.0065
10	1000	10	[12,20]	[15,30]	[1618,16182]	705.866	4.501	-1587.2	-301.0	85.049 %	0.0068
10	1000	10	[12,20]	[15,30]	[3236,16182]	706.828	4.487	-3205.8	-1899.7	83.325 %	0.0091

Tiempo Promedio Total H_2: 620.740 seg.

Tiempo Promedio Total H_1: 4.554 seg.

Rendimiento Promedio Total: 86.306 %

Tabla de Experimentos

$n : 10, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	20	[1,20]	[1,10]	[10,106]	0.018	0.009	-12.6	-9.2	94.985 %	0.1504
10	10	20	[1,20]	[1,10]	[20,106]	0.015	0.010	-14.7	-14.7	100.000 %	0.0000
10	10	20	[1,20]	[5,10]	[10,108]	0.016	0.008	-12.0	-12.0	100.000 %	0.0000
10	10	20	[1,20]	[5,10]	[20,108]	0.018	0.008	-10.8	-9.3	97.222 %	0.0833
10	10	20	[1,20]	[1,30]	[11,116]	0.015	0.009	7.1	7.1	100.000 %	0.0000
10	10	20	[1,20]	[1,30]	[22,116]	0.020	0.012	-0.9	-0.9	100.000 %	0.0000
10	10	20	[1,20]	[15,30]	[12,123]	0.019	0.007	12.9	12.9	100.000 %	0.0000
10	10	20	[1,20]	[15,30]	[24,123]	0.014	0.009	4.7	4.7	100.000 %	0.0000
10	10	20	[6,20]	[1,10]	[13,136]	0.020	0.010	-6.3	-6.3	100.000 %	0.0000
10	10	20	[6,20]	[1,10]	[26,136]	0.022	0.007	-16.6	-16.6	100.000 %	0.0000
10	10	20	[6,20]	[5,10]	[13,138]	0.020	0.008	-9.8	-9.8	100.000 %	0.0000
10	10	20	[6,20]	[5,10]	[26,138]	0.017	0.010	-14.2	-14.2	100.000 %	0.0000
10	10	20	[6,20]	[1,30]	[14,146]	0.020	0.010	-9.2	-3.8	93.415 %	0.1976
10	10	20	[6,20]	[1,30]	[28,146]	0.016	0.009	-15.4	-11.5	95.820 %	0.1254
10	10	20	[6,20]	[15,30]	[15,153]	0.018	0.011	5.3	5.3	100.000 %	0.0000
10	10	20	[6,20]	[15,30]	[30,153]	0.023	0.008	-2.4	-2.4	100.000 %	0.0000
10	10	20	[12,20]	[1,10]	[16,166]	0.045	0.013	-22.7	-4.6	79.148 %	0.4828
10	10	20	[12,20]	[1,10]	[32,166]	0.027	0.012	-18.6	-18.6	100.000 %	0.0000
10	10	20	[12,20]	[5,10]	[16,168]	0.021	0.010	-18.2	-18.2	100.000 %	0.0000
10	10	20	[12,20]	[5,10]	[32,168]	0.038	0.024	-17.6	-17.6	100.000 %	0.0000
10	10	20	[12,20]	[1,30]	[17,176]	0.028	0.015	1.8	1.8	100.000 %	0.0000
10	10	20	[12,20]	[1,30]	[34,176]	0.020	0.009	-16.7	-16.7	100.000 %	0.0000
10	10	20	[12,20]	[15,30]	[18,183]	0.023	0.009	1.5	1.5	100.000 %	0.0000
10	10	20	[12,20]	[15,30]	[36,183]	0.020	0.010	-14.7	-9.2	95.339 %	0.1398

Tiempo Promedio Total H_2: 0.021 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 98.164 %

Tabla de Experimentos

$n : 20, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	20	[1,20]	[1,10]	[20,207]	0.033	0.011	-13.7	-13.7	100.000 %	0.0000
10	20	20	[1,20]	[1,10]	[40,207]	0.030	0.011	-34.2	-34.2	100.000 %	0.0000
10	20	20	[1,20]	[5,10]	[20,209]	0.032	0.011	-16.1	-16.0	99.893 %	0.0032
10	20	20	[1,20]	[5,10]	[40,209]	0.029	0.011	-37.1	-37.1	100.000 %	0.0000
10	20	20	[1,20]	[1,30]	[21,217]	0.030	0.011	-2.2	-1.8	99.663 %	0.0074
10	20	20	[1,20]	[1,30]	[42,217]	0.037	0.021	-22.2	-22.2	100.000 %	0.0000
10	20	20	[1,20]	[15,30]	[22,224]	0.033	0.015	-3.3	-2.8	99.644 %	0.0107
10	20	20	[1,20]	[15,30]	[44,224]	0.085	0.031	-20.0	-20.0	100.000 %	0.0000
10	20	20	[6,20]	[1,10]	[26,267]	0.044	0.013	-17.0	-17.0	100.000 %	0.0000
10	20	20	[6,20]	[1,10]	[52,267]	0.046	0.014	-44.6	-44.5	99.908 %	0.0028
10	20	20	[6,20]	[5,10]	[26,269]	0.084	0.016	-20.2	-20.1	99.904 %	0.0029
10	20	20	[6,20]	[5,10]	[52,269]	0.034	0.013	-48.0	-47.5	99.572 %	0.0128
10	20	20	[6,20]	[1,30]	[27,277]	0.039	0.011	-18.8	-17.4	99.120 %	0.0142
10	20	20	[6,20]	[1,30]	[54,277]	0.035	0.011	-34.5	-34.4	99.914 %	0.0026
10	20	20	[6,20]	[15,30]	[28,284]	0.039	0.015	-4.2	-4.2	100.000 %	0.0000
10	20	20	[6,20]	[15,30]	[56,284]	0.045	0.015	-28.2	-28.2	100.000 %	0.0000
10	20	20	[12,20]	[1,10]	[32,328]	0.049	0.011	-26.0	-26.0	100.000 %	0.0000
10	20	20	[12,20]	[1,10]	[64,328]	0.042	0.013	-64.4	-63.8	99.544 %	0.0137
10	20	20	[12,20]	[5,10]	[33,330]	0.037	0.013	-22.7	-22.7	100.000 %	0.0000
10	20	20	[12,20]	[5,10]	[66,330]	0.035	0.014	-53.7	-53.1	99.615 %	0.0115
10	20	20	[12,20]	[1,30]	[33,338]	0.049	0.014	-6.6	-5.7	99.495 %	0.0103
10	20	20	[12,20]	[1,30]	[66,338]	0.043	0.011	-48.5	-48.4	99.929 %	0.0021
10	20	20	[12,20]	[15,30]	[34,345]	0.050	0.010	-8.9	-6.3	98.775 %	0.0297
10	20	20	[12,20]	[15,30]	[68,345]	0.047	0.013	-37.7	-37.1	99.623 %	0.0113

Tiempo Promedio Total H_2: 0.043 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 99.775 %

Tabla de Experimentos

$n : 30, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	20	[1,20]	[1,10]	[30,308]	0.050	0.013	-20.8	-19.5	99.213 %	0.0111
10	30	20	[1,20]	[1,10]	[60,308]	0.046	0.017	-53.2	-53.1	99.926 %	0.0022
10	30	20	[1,20]	[5,10]	[31,310]	0.045	0.018	-24.0	-24.0	100.000 %	0.0000
10	30	20	[1,20]	[5,10]	[62,310]	0.046	0.016	-53.0	-52.4	99.573 %	0.0057
10	30	20	[1,20]	[1,30]	[31,318]	0.053	0.019	-14.1	-14.1	100.000 %	0.0000
10	30	20	[1,20]	[1,30]	[62,318]	0.052	0.019	-40.6	-40.2	99.765 %	0.0071
10	30	20	[1,20]	[15,30]	[32,325]	0.060	0.020	-29.8	-5.4	85.611 %	0.3954
10	30	20	[1,20]	[15,30]	[64,325]	0.048	0.020	-35.6	-35.6	100.000 %	0.0000
10	30	20	[6,20]	[1,10]	[39,398]	0.090	0.061	-28.3	-27.9	99.803 %	0.0033
10	30	20	[6,20]	[1,10]	[78,398]	0.069	0.018	-74.9	-73.8	99.331 %	0.0082
10	30	20	[6,20]	[5,10]	[40,400]	0.066	0.014	-28.2	-26.1	98.920 %	0.0123
10	30	20	[6,20]	[5,10]	[80,400]	0.079	0.024	-70.6	-68.5	98.744 %	0.0112
10	30	20	[6,20]	[1,30]	[40,409]	0.056	0.017	-22.9	-22.6	99.849 %	0.0032
10	30	20	[6,20]	[1,30]	[80,409]	0.056	0.016	-63.4	-62.7	99.652 %	0.0071
10	30	20	[6,20]	[15,30]	[41,416]	0.068	0.021	-10.5	-10.0	99.776 %	0.0040
10	30	20	[6,20]	[15,30]	[82,416]	0.066	0.017	-59.6	-58.8	99.600 %	0.0106
10	30	20	[12,20]	[1,10]	[48,489]	0.075	0.017	-33.6	-29.3	98.289 %	0.0150
10	30	20	[12,20]	[1,10]	[96,489]	0.072	0.016	-94.2	-89.6	97.777 %	0.0189
10	30	20	[12,20]	[5,10]	[49,491]	0.069	0.014	-44.7	-40.4	98.130 %	0.0181
10	30	20	[12,20]	[5,10]	[98,491]	0.063	0.020	-90.2	-87.9	98.820 %	0.0184
10	30	20	[12,20]	[1,30]	[49,499]	0.076	0.014	-29.9	-29.5	99.847 %	0.0046
10	30	20	[12,20]	[1,30]	[98,499]	0.071	0.014	-81.8	-81.6	99.903 %	0.0029
10	30	20	[12,20]	[15,30]	[50,507]	0.087	0.016	-29.6	-27.8	99.315 %	0.0097
10	30	20	[12,20]	[15,30]	[100,507]	0.085	0.016	-72.3	-71.0	99.446 %	0.0085

Tiempo Promedio Total H_2: 0.065 seg.

Tiempo Promedio Total H_1: 0.019 seg.

Rendimiento Promedio Total: 98.804 %

Tabla de Experimentos

$n : 50, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	20	[1,20]	[1,10]	[51,510]	0.094	0.027	-46.1	-44.8	99.427 %	0.0087
10	50	20	[1,20]	[1,10]	[102,510]	0.088	0.024	-92.4	-90.6	99.191 %	0.0075
10	50	20	[1,20]	[5,10]	[51,512]	0.096	0.028	-47.6	-44.4	98.671 %	0.0141
10	50	20	[1,20]	[5,10]	[102,512]	0.093	0.025	-93.1	-91.4	99.213 %	0.0080
10	50	20	[1,20]	[1,30]	[52,520]	0.075	0.026	-40.7	-40.5	99.920 %	0.0016
10	50	20	[1,20]	[1,30]	[104,520]	0.090	0.051	-83.6	-83.6	100.000 %	0.0000
10	50	20	[1,20]	[15,30]	[52,527]	0.113	0.024	-33.1	-32.5	99.754 %	0.0061
10	50	20	[1,20]	[15,30]	[104,527]	0.087	0.030	-80.6	-78.4	99.131 %	0.0122
10	50	20	[6,20]	[1,10]	[66,661]	0.133	0.027	-52.8	-46.7	98.134 %	0.0127
10	50	20	[6,20]	[1,10]	[132,661]	0.145	0.028	-123.3	-118.5	98.284 %	0.0151
10	50	20	[6,20]	[5,10]	[66,663]	0.134	0.028	-57.0	-52.6	98.658 %	0.0127
10	50	20	[6,20]	[5,10]	[132,663]	0.140	0.027	-123.4	-115.8	97.387 %	0.0183
10	50	20	[6,20]	[1,30]	[67,671]	0.106	0.027	-45.6	-45.0	99.813 %	0.0038
10	50	20	[6,20]	[1,30]	[134,671]	0.109	0.031	-109.5	-109.3	99.931 %	0.0014
10	50	20	[6,20]	[15,30]	[67,678]	0.125	0.025	-47.4	-44.4	99.078 %	0.0099
10	50	20	[6,20]	[15,30]	[134,678]	0.131	0.027	-105.6	-101.8	98.747 %	0.0108
10	50	20	[12,20]	[1,10]	[81,813]	0.162	0.027	-63.9	-50.8	96.724 %	0.0186
10	50	20	[12,20]	[1,10]	[162,813]	0.163	0.029	-153.3	-144.4	97.564 %	0.0182
10	50	20	[12,20]	[5,10]	[81,815]	0.141	0.028	-83.3	-72.6	97.322 %	0.0156
10	50	20	[12,20]	[5,10]	[162,815]	0.148	0.027	-148.2	-139.8	97.575 %	0.0213
10	50	20	[12,20]	[1,30]	[82,823]	0.150	0.025	-69.5	-67.0	99.365 %	0.0057
10	50	20	[12,20]	[1,30]	[164,823]	0.156	0.027	-139.8	-135.5	98.812 %	0.0054
10	50	20	[12,20]	[15,30]	[83,830]	0.172	0.028	-59.4	-55.5	99.004 %	0.0139
10	50	20	[12,20]	[15,30]	[166,830]	0.184	0.028	-133.5	-121.5	96.822 %	0.0110

Tiempo Promedio Total H_2: 0.126 seg.

Tiempo Promedio Total H_1: 0.028 seg.

Rendimiento Promedio Total: 98.689 %

Tabla de Experimentos

$n : 100, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	20	[1,20]	[1,10]	[101,1015]	0.349	0.067	-99.1	-87.6	97.601 %	0.0170
10	100	20	[1,20]	[1,10]	[202,1015]	0.348	0.065	-190.4	-180.2	97.554 %	0.0154
10	100	20	[1,20]	[5,10]	[101,1017]	0.392	0.071	-88.7	-75.4	97.270 %	0.0109
10	100	20	[1,20]	[5,10]	[202,1017]	0.388	0.068	-191.3	-177.9	96.863 %	0.0106
10	100	20	[1,20]	[1,30]	[102,1025]	0.213	0.065	-86.8	-83.5	99.274 %	0.0055
10	100	20	[1,20]	[1,30]	[204,1025]	0.218	0.066	-182.8	-177.7	98.812 %	0.0053
10	100	20	[1,20]	[15,30]	[103,1032]	0.330	0.067	-86.9	-79.3	98.446 %	0.0102
10	100	20	[1,20]	[15,30]	[206,1032]	0.285	0.065	-184.0	-173.8	97.742 %	0.0088
10	100	20	[6,20]	[1,10]	[131,1318]	0.551	0.066	-130.8	-103.1	95.565 %	0.0080
10	100	20	[6,20]	[1,10]	[262,1318]	0.564	0.065	-253.5	-234.7	96.704 %	0.0157
10	100	20	[6,20]	[5,10]	[132,1320]	0.582	0.068	-125.3	-100.8	96.135 %	0.0181
10	100	20	[6,20]	[5,10]	[264,1320]	0.569	0.068	-253.1	-224.2	94.793 %	0.0121
10	100	20	[6,20]	[1,30]	[132,1328]	0.379	0.068	-116.8	-104.1	97.979 %	0.0063
10	100	20	[6,20]	[1,30]	[264,1328]	0.434	0.066	-246.2	-232.4	97.515 %	0.0124
10	100	20	[6,20]	[15,30]	[133,1335]	0.525	0.068	-105.9	-85.4	96.869 %	0.0146
10	100	20	[6,20]	[15,30]	[266,1335]	0.535	0.068	-233.1	-209.8	95.925 %	0.0091
10	100	20	[12,20]	[1,10]	[162,1621]	0.669	0.065	-153.4	-125.5	96.425 %	0.0181
10	100	20	[12,20]	[1,10]	[324,1621]	0.684	0.067	-315.3	-287.4	95.944 %	0.0192
10	100	20	[12,20]	[5,10]	[162,1623]	0.682	0.071	-149.9	-118.1	95.973 %	0.0179
10	100	20	[12,20]	[5,10]	[324,1623]	0.625	0.067	-319.9	-285.4	95.077 %	0.0162
10	100	20	[12,20]	[1,30]	[163,1631]	0.588	0.066	-143.9	-123.4	97.278 %	0.0123
10	100	20	[12,20]	[1,30]	[326,1631]	0.614	0.069	-311.4	-290.7	97.029 %	0.0097
10	100	20	[12,20]	[15,30]	[163,1638]	0.726	0.064	-145.2	-111.9	95.679 %	0.0097
10	100	20	[12,20]	[15,30]	[326,1638]	0.691	0.065	-305.9	-277.9	96.113 %	0.0188

Tiempo Promedio Total H_2: 0.498 seg.

Tiempo Promedio Total H_1: 0.067 seg.

Rendimiento Promedio Total: 96.857 %

Tabla de Experimentos

$n : 200, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	20	[1,20]	[1,10]	[202,2025]	2.430	0.222	-194.5	-157.5	96.181 %	0.0083
10	200	20	[1,20]	[1,10]	[404,2025]	2.216	0.215	-396.1	-364.3	96.356 %	0.0196
10	200	20	[1,20]	[5,10]	[202,2027]	2.466	0.223	-191.3	-159.0	96.654 %	0.0140
10	200	20	[1,20]	[5,10]	[404,2027]	2.530	0.219	-393.8	-358.1	95.771 %	0.0093
10	200	20	[1,20]	[1,30]	[203,2035]	1.449	0.213	-184.6	-152.0	96.576 %	0.0081
10	200	20	[1,20]	[1,30]	[406,2035]	1.480	0.212	-384.0	-353.9	96.522 %	0.0061
10	200	20	[1,20]	[15,30]	[204,2042]	1.924	0.211	-174.4	-140.2	96.510 %	0.0107
10	200	20	[1,20]	[15,30]	[408,2042]	2.021	0.217	-383.3	-353.0	96.501 %	0.0103
10	200	20	[6,20]	[1,10]	[263,2631]	3.439	0.218	-256.0	-193.6	94.901 %	0.0121
10	200	20	[6,20]	[1,10]	[526,2631]	3.462	0.216	-521.8	-460.8	94.509 %	0.0137
10	200	20	[6,20]	[5,10]	[263,2633]	3.581	0.215	-256.0	-199.5	95.474 %	0.0153
10	200	20	[6,20]	[5,10]	[526,2633]	3.554	0.220	-518.5	-455.1	94.472 %	0.0117
10	200	20	[6,20]	[1,30]	[264,2641]	2.741	0.217	-247.7	-192.8	95.588 %	0.0091
10	200	20	[6,20]	[1,30]	[528,2641]	2.709	0.210	-511.4	-455.7	95.101 %	0.0115
10	200	20	[6,20]	[15,30]	[264,2648]	3.168	0.213	-247.7	-184.3	95.123 %	0.0088
10	200	20	[6,20]	[15,30]	[528,2648]	3.321	0.214	-497.1	-440.4	95.020 %	0.0178
10	200	20	[12,20]	[1,10]	[323,3237]	4.105	0.224	-323.0	-244.7	94.937 %	0.0212
10	200	20	[12,20]	[1,10]	[646,3237]	4.142	0.216	-632.5	-535.2	92.933 %	0.0143
10	200	20	[12,20]	[5,10]	[323,3239]	4.187	0.217	-313.8	-245.4	95.639 %	0.0130
10	200	20	[12,20]	[5,10]	[646,3239]	3.957	0.223	-638.1	-555.0	93.920 %	0.0120
10	200	20	[12,20]	[1,30]	[324,3247]	3.917	0.213	-313.4	-236.3	95.126 %	0.0113
10	200	20	[12,20]	[1,30]	[648,3247]	3.795	0.215	-625.0	-540.9	93.941 %	0.0105
10	200	20	[12,20]	[15,30]	[325,3254]	4.209	0.214	-307.2	-224.9	94.591 %	0.0152
10	200	20	[12,20]	[15,30]	[650,3254]	4.267	0.212	-625.4	-533.3	93.590 %	0.0117

Tiempo Promedio Total H_2: 3.128 seg.

Tiempo Promedio Total H_1: 0.216 seg.

Rendimiento Promedio Total: 95.247 %

Tabla de Experimentos

$n : 300, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	20	[1,20]	[1,10]	[303,3035]	7.404	0.469	-295.0	-236.0	95.840 %	0.0132
10	300	20	[1,20]	[1,10]	[606,3035]	7.676	0.484	-601.0	-538.4	95.108 %	0.0136
10	300	20	[1,20]	[5,10]	[303,3037]	8.067	0.476	-293.5	-229.6	95.564 %	0.0116
10	300	20	[1,20]	[5,10]	[606,3037]	8.070	0.456	-600.9	-533.2	94.775 %	0.0111
10	300	20	[1,20]	[1,30]	[304,3045]	5.165	0.448	-290.0	-238.5	96.435 %	0.0103
10	300	20	[1,20]	[1,30]	[608,3045]	5.636	0.448	-587.3	-523.9	95.086 %	0.0089
10	300	20	[1,20]	[15,30]	[305,3052]	6.848	0.444	-282.8	-217.9	95.523 %	0.0105
10	300	20	[1,20]	[15,30]	[610,3052]	6.846	0.457	-588.7	-533.2	95.705 %	0.0097
10	300	20	[6,20]	[1,10]	[394,3944]	11.049	0.476	-396.0	-301.9	94.992 %	0.0110
10	300	20	[6,20]	[1,10]	[788,3944]	11.120	0.455	-777.6	-670.7	93.590 %	0.0098
10	300	20	[6,20]	[5,10]	[394,3946]	11.149	0.460	-382.8	-272.1	94.226 %	0.0091
10	300	20	[6,20]	[5,10]	[788,3946]	11.134	0.461	-784.4	-688.6	94.318 %	0.0104
10	300	20	[6,20]	[1,30]	[395,3954]	9.033	0.448	-382.9	-292.1	95.241 %	0.0095
10	300	20	[6,20]	[1,30]	[790,3954]	9.007	0.442	-773.8	-684.0	94.673 %	0.0161
10	300	20	[6,20]	[15,30]	[396,3961]	10.611	0.453	-370.6	-278.9	95.224 %	0.0136
10	300	20	[6,20]	[15,30]	[792,3961]	10.279	0.451	-768.2	-661.7	93.749 %	0.0103
10	300	20	[12,20]	[1,10]	[485,4853]	13.274	0.461	-482.2	-353.0	94.479 %	0.0128
10	300	20	[12,20]	[1,10]	[970,4853]	13.046	0.453	-959.5	-807.8	92.863 %	0.0136
10	300	20	[12,20]	[5,10]	[485,4855]	12.651	0.497	-476.3	-329.2	93.631 %	0.0121
10	300	20	[12,20]	[5,10]	[970,4855]	12.828	0.467	-953.4	-795.9	92.528 %	0.0080
10	300	20	[12,20]	[1,30]	[486,4863]	12.511	0.438	-465.4	-333.8	94.256 %	0.0090
10	300	20	[12,20]	[1,30]	[972,4863]	12.701	0.442	-951.2	-814.4	93.514 %	0.0101
10	300	20	[12,20]	[15,30]	[487,4870]	13.736	0.462	-471.2	-344.4	94.632 %	0.0132
10	300	20	[12,20]	[15,30]	[974,4870]	13.542	0.456	-952.6	-813.3	93.377 %	0.0145

Tiempo Promedio Total H_2: 10.141 seg.

Tiempo Promedio Total H_1: 0.458 seg.

Rendimiento Promedio Total: 94.555 %

Tabla de Experimentos

$n : 500, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	20	[1,20]	[1,10]	[505,5055]	36.005	1.198	-501.9	-377.4	94.805 %	0.0053
10	500	20	[1,20]	[1,10]	[1010,5055]	35.893	1.194	-1002.9	-869.3	93.808 %	0.0064
10	500	20	[1,20]	[5,10]	[505,5057]	37.529	1.221	-498.3	-378.4	94.973 %	0.0101
10	500	20	[1,20]	[5,10]	[1010,5057]	36.840	1.228	-1000.2	-881.1	94.522 %	0.0127
10	500	20	[1,20]	[1,30]	[506,5065]	29.170	1.190	-482.0	-375.0	95.605 %	0.0074
10	500	20	[1,20]	[1,30]	[1012,5065]	29.532	1.163	-991.3	-875.8	94.722 %	0.0149
10	500	20	[1,20]	[15,30]	[507,5072]	34.174	1.190	-482.6	-350.5	94.638 %	0.0064
10	500	20	[1,20]	[15,30]	[1014,5072]	34.199	1.193	-986.6	-868.8	94.656 %	0.0113
10	500	20	[6,20]	[1,10]	[657,6570]	50.033	1.200	-650.9	-473.4	94.324 %	0.0129
10	500	20	[6,20]	[1,10]	[1314,6570]	49.598	1.201	-1309.9	-1133.4	93.728 %	0.0104
10	500	20	[6,20]	[5,10]	[657,6572]	50.279	1.226	-646.2	-472.0	94.530 %	0.0130
10	500	20	[6,20]	[5,10]	[1314,6572]	51.192	1.235	-1308.4	-1154.1	94.541 %	0.0125
10	500	20	[6,20]	[1,30]	[658,6580]	44.954	1.175	-636.7	-445.3	93.921 %	0.0061
10	500	20	[6,20]	[1,30]	[1316,6580]	43.963	1.162	-1310.2	-1125.9	93.511 %	0.0071
10	500	20	[6,20]	[15,30]	[658,6587]	48.564	1.188	-635.8	-451.5	94.206 %	0.0132
10	500	20	[6,20]	[15,30]	[1316,6587]	49.631	1.192	-1295.2	-1118.2	93.757 %	0.0071
10	500	20	[12,20]	[1,10]	[808,8085]	60.864	1.202	-802.1	-540.7	93.298 %	0.0115
10	500	20	[12,20]	[1,10]	[1616,8085]	61.297	1.194	-1610.2	-1335.1	92.188 %	0.0087
10	500	20	[12,20]	[5,10]	[808,8087]	59.804	1.227	-801.7	-533.1	93.140 %	0.0078
10	500	20	[12,20]	[5,10]	[1616,8087]	58.905	1.221	-1603.4	-1333.8	92.355 %	0.0128
10	500	20	[12,20]	[1,30]	[809,8095]	56.678	1.179	-782.4	-500.8	92.878 %	0.0082
10	500	20	[12,20]	[1,30]	[1618,8095]	57.086	1.160	-1596.2	-1320.3	92.227 %	0.0120
10	500	20	[12,20]	[15,30]	[810,8102]	60.569	1.177	-785.3	-533.8	93.616 %	0.0080
10	500	20	[12,20]	[15,30]	[1620,8102]	60.928	1.173	-1595.0	-1341.0	92.845 %	0.0107

Tiempo Promedio Total H_2: 47.404 seg.

Tiempo Promedio Total H_1: 1.195 seg.

Rendimiento Promedio Total: 93.866 %

Tabla de Experimentos

$n : 750, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	20	[1,20]	[1,10]	[758,7580]	127.631	2.570	-751.9	-572.7	95.021 %	0.0062
10	750	20	[1,20]	[1,10]	[1516,7580]	126.285	2.585	-1505.7	-1310.0	93.947 %	0.0038
10	750	20	[1,20]	[5,10]	[758,7582]	132.417	2.657	-749.4	-571.4	95.101 %	0.0089
10	750	20	[1,20]	[5,10]	[1516,7582]	133.833	2.705	-1504.1	-1332.8	94.700 %	0.0090
10	750	20	[1,20]	[1,30]	[759,7590]	109.466	2.528	-740.7	-560.2	95.006 %	0.0074
10	750	20	[1,20]	[1,30]	[1518,7590]	110.984	2.510	-1497.7	-1285.3	93.515 %	0.0051
10	750	20	[1,20]	[15,30]	[759,7597]	125.779	2.575	-736.7	-530.8	94.406 %	0.0090
10	750	20	[1,20]	[15,30]	[1518,7597]	125.067	2.579	-1489.8	-1311.0	94.485 %	0.0077
10	750	20	[6,20]	[1,10]	[985,9852]	176.047	2.610	-979.0	-699.0	94.074 %	0.0077
10	750	20	[6,20]	[1,10]	[1970,9852]	175.459	2.584	-1969.8	-1665.1	92.828 %	0.0096
10	750	20	[6,20]	[5,10]	[985,9854]	176.020	2.643	-980.6	-699.3	94.019 %	0.0040
10	750	20	[6,20]	[5,10]	[1970,9854]	177.028	2.656	-1967.0	-1715.0	94.004 %	0.0058
10	750	20	[6,20]	[1,30]	[986,9862]	160.855	2.535	-964.0	-690.1	94.178 %	0.0073
10	750	20	[6,20]	[1,30]	[1972,9862]	161.004	2.517	-1951.5	-1636.6	92.632 %	0.0049
10	750	20	[6,20]	[15,30]	[986,9869]	172.153	2.551	-962.3	-662.1	93.757 %	0.0067
10	750	20	[6,20]	[15,30]	[1972,9869]	172.804	2.546	-1943.8	-1653.1	93.111 %	0.0118
10	750	20	[12,20]	[1,10]	[1212,12125]	213.228	2.617	-1202.0	-791.2	92.953 %	0.0084
10	750	20	[12,20]	[1,10]	[2424,12125]	212.219	2.585	-2413.2	-1975.0	91.697 %	0.0070
10	750	20	[12,20]	[5,10]	[1212,12127]	207.599	2.663	-1205.6	-824.4	93.515 %	0.0056
10	750	20	[12,20]	[5,10]	[2424,12127]	212.665	2.658	-2410.1	-1994.4	92.114 %	0.0074
10	750	20	[12,20]	[1,30]	[1213,12135]	204.501	2.537	-1192.4	-792.0	93.259 %	0.0083
10	750	20	[12,20]	[1,30]	[2426,12135]	203.763	2.514	-2414.5	-1986.1	91.899 %	0.0092
10	750	20	[12,20]	[15,30]	[1214,12142]	212.628	2.538	-1179.0	-733.3	92.511 %	0.0072
10	750	20	[12,20]	[15,30]	[2428,12142]	213.020	2.515	-2401.8	-2004.0	92.459 %	0.0078

Tiempo Promedio Total H_2: 168.436 seg.

Tiempo Promedio Total H_1: 2.582 seg.

Rendimiento Promedio Total: 93.550 %

Tabla de Experimentos

$n : 1000, m : 20, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	20	[1,20]	[1,10]	[1010,10105]	318.600	4.606	-1001.1	-738.3	94.518 %	0.0089
10	1000	20	[1,20]	[1,10]	[2020,10105]	321.786	4.615	-2015.2	-1726.5	93.357 %	0.0037
10	1000	20	[1,20]	[5,10]	[1010,10107]	327.865	4.745	-999.7	-736.7	94.549 %	0.0066
10	1000	20	[1,20]	[5,10]	[2020,10107]	329.832	4.723	-2009.3	-1733.8	93.629 %	0.0056
10	1000	20	[1,20]	[1,30]	[1011,10115]	285.051	4.470	-989.1	-722.3	94.505 %	0.0078
10	1000	20	[1,20]	[1,30]	[2022,10115]	283.350	4.470	-1999.6	-1720.0	93.629 %	0.0059
10	1000	20	[1,20]	[15,30]	[1012,10122]	312.444	4.529	-984.4	-710.6	94.323 %	0.0074
10	1000	20	[1,20]	[15,30]	[2024,10122]	309.937	4.502	-2001.1	-1713.1	93.458 %	0.0069
10	1000	20	[6,20]	[1,10]	[1313,13135]	431.215	4.594	-1312.3	-899.7	93.488 %	0.0054
10	1000	20	[6,20]	[1,10]	[2626,13135]	436.189	4.584	-2616.7	-2219.0	92.970 %	0.0112
10	1000	20	[6,20]	[5,10]	[1313,13137]	439.686	4.722	-1304.4	-911.2	93.736 %	0.0053
10	1000	20	[6,20]	[5,10]	[2626,13137]	436.873	4.744	-2624.6	-2243.8	93.201 %	0.0075
10	1000	20	[6,20]	[1,30]	[1314,13145]	406.809	4.503	-1293.3	-861.4	93.171 %	0.0061
10	1000	20	[6,20]	[1,30]	[2628,13145]	409.151	4.482	-2606.8	-2197.9	92.858 %	0.0069
10	1000	20	[6,20]	[15,30]	[1315,13152]	425.635	4.522	-1291.0	-900.7	93.866 %	0.0097
10	1000	20	[6,20]	[15,30]	[2630,13152]	422.578	4.549	-2606.0	-2205.7	93.032 %	0.0102
10	1000	20	[12,20]	[1,10]	[1616,16165]	523.697	4.588	-1614.4	-1029.8	92.582 %	0.0049
10	1000	20	[12,20]	[1,10]	[3232,16165]	520.199	4.635	-3220.3	-2634.4	91.657 %	0.0068
10	1000	20	[12,20]	[5,10]	[1616,16167]	517.100	4.726	-1610.9	-1029.3	92.513 %	0.0046
10	1000	20	[12,20]	[5,10]	[3232,16167]	517.297	4.732	-3224.5	-2670.8	92.140 %	0.0066
10	1000	20	[12,20]	[1,30]	[1617,16175]	506.531	4.503	-1598.2	-1023.1	92.708 %	0.0054
10	1000	20	[12,20]	[1,30]	[3234,16175]	503.780	4.443	-3213.4	-2595.3	91.260 %	0.0056
10	1000	20	[12,20]	[15,30]	[1618,16182]	518.916	4.542	-1596.4	-992.5	92.361 %	0.0062
10	1000	20	[12,20]	[15,30]	[3236,16182]	515.678	4.537	-3208.8	-2597.0	91.404 %	0.0038

Tiempo Promedio Total H_2: 417.508 seg.

Tiempo Promedio Total H_1: 4.586 seg.

Rendimiento Promedio Total: 93.121 %

Tabla de Experimentos

$n : 10, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	50	[1,20]	[1,10]	[10,106]	0.021	0.008	-5.3	-5.3	100.000 %	0.0000
10	10	50	[1,20]	[1,10]	[20,106]	0.018	0.010	-7.6	-7.6	100.000 %	0.0000
10	10	50	[1,20]	[5,10]	[10,108]	0.021	0.009	-1.9	4.2	91.856 %	0.2443
10	10	50	[1,20]	[5,10]	[20,108]	0.023	0.012	-10.4	-10.4	100.000 %	0.0000
10	10	50	[1,20]	[1,30]	[11,116]	0.020	0.010	5.2	5.2	100.000 %	0.0000
10	10	50	[1,20]	[1,30]	[22,116]	0.018	0.010	-2.9	-2.9	100.000 %	0.0000
10	10	50	[1,20]	[15,30]	[12,123]	0.017	0.012	0.4	0.4	100.000 %	0.0000
10	10	50	[1,20]	[15,30]	[24,123]	0.019	0.009	-3.8	-3.8	100.000 %	0.0000
10	10	50	[6,20]	[1,10]	[13,136]	0.028	0.011	-1.0	-1.0	100.000 %	0.0000
10	10	50	[6,20]	[1,10]	[26,136]	0.022	0.010	-22.0	-22.0	100.000 %	0.0000
10	10	50	[6,20]	[5,10]	[13,138]	0.034	0.013	-7.2	2.8	86.894 %	0.3932
10	10	50	[6,20]	[5,10]	[26,138]	0.022	0.010	-25.8	-25.8	100.000 %	0.0000
10	10	50	[6,20]	[1,30]	[14,146]	0.022	0.010	3.8	9.9	90.658 %	0.2802
10	10	50	[6,20]	[1,30]	[28,146]	0.025	0.012	-7.5	-7.5	100.000 %	0.0000
10	10	50	[6,20]	[15,30]	[15,153]	0.026	0.013	4.0	4.0	100.000 %	0.0000
10	10	50	[6,20]	[15,30]	[30,153]	0.024	0.012	-5.0	-5.0	100.000 %	0.0000
10	10	50	[12,20]	[1,10]	[16,166]	0.024	0.008	-10.7	-10.7	100.000 %	0.0000
10	10	50	[12,20]	[1,10]	[32,166]	0.023	0.010	-21.1	-21.1	100.000 %	0.0000
10	10	50	[12,20]	[5,10]	[16,168]	0.020	0.013	-8.9	-8.7	99.797 %	0.0061
10	10	50	[12,20]	[5,10]	[32,168]	0.023	0.015	-25.1	-25.1	100.000 %	0.0000
10	10	50	[12,20]	[1,30]	[17,176]	0.022	0.012	-4.2	-4.2	100.000 %	0.0000
10	10	50	[12,20]	[1,30]	[34,176]	0.020	0.009	-16.4	-11.6	95.117 %	0.1465
10	10	50	[12,20]	[15,30]	[18,183]	0.027	0.011	8.9	12.6	96.205 %	0.1138
10	10	50	[12,20]	[15,30]	[36,183]	0.029	0.011	-14.2	-14.2	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.023 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 98.355 %

Tabla de Experimentos

$n : 20, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	50	[1,20]	[1,10]	[20,207]	0.037	0.015	-15.7	-15.7	100.000 %	0.0000
10	20	50	[1,20]	[1,10]	[40,207]	0.038	0.019	-35.5	-35.5	100.000 %	0.0000
10	20	50	[1,20]	[5,10]	[20,209]	0.034	0.012	-11.0	-11.0	100.000 %	0.0000
10	20	50	[1,20]	[5,10]	[40,209]	0.031	0.015	-26.1	-26.1	100.000 %	0.0000
10	20	50	[1,20]	[1,30]	[21,217]	0.041	0.023	-4.6	-4.6	100.000 %	0.0000
10	20	50	[1,20]	[1,30]	[42,217]	0.035	0.012	-19.1	-19.1	100.000 %	0.0000
10	20	50	[1,20]	[15,30]	[22,224]	0.037	0.017	3.4	3.4	100.000 %	0.0000
10	20	50	[1,20]	[15,30]	[44,224]	0.034	0.013	-22.6	-22.6	100.000 %	0.0000
10	20	50	[6,20]	[1,10]	[26,267]	0.052	0.021	-22.6	-22.6	100.000 %	0.0000
10	20	50	[6,20]	[1,10]	[52,267]	0.043	0.014	-47.3	-47.3	100.000 %	0.0000
10	20	50	[6,20]	[5,10]	[26,269]	0.046	0.015	-14.7	-14.7	100.000 %	0.0000
10	20	50	[6,20]	[5,10]	[52,269]	0.047	0.014	-43.8	-43.8	100.000 %	0.0000
10	20	50	[6,20]	[1,30]	[27,277]	0.079	0.025	-11.4	-11.4	100.000 %	0.0000
10	20	50	[6,20]	[1,30]	[54,277]	0.039	0.015	-34.0	-34.0	100.000 %	0.0000
10	20	50	[6,20]	[15,30]	[28,284]	0.043	0.017	-6.9	-6.6	99.796 %	0.0061
10	20	50	[6,20]	[15,30]	[56,284]	0.043	0.015	-29.7	-29.7	100.000 %	0.0000
10	20	50	[12,20]	[1,10]	[32,328]	0.047	0.015	-24.8	-24.8	100.000 %	0.0000
10	20	50	[12,20]	[1,10]	[64,328]	0.047	0.017	-53.9	-53.9	100.000 %	0.0000
10	20	50	[12,20]	[5,10]	[33,330]	0.042	0.018	-18.8	-18.8	100.000 %	0.0000
10	20	50	[12,20]	[5,10]	[66,330]	0.035	0.015	-55.5	-55.5	100.000 %	0.0000
10	20	50	[12,20]	[1,30]	[33,338]	0.047	0.021	-6.3	-5.9	99.785 %	0.0065
10	20	50	[12,20]	[1,30]	[66,338]	0.053	0.019	-39.0	-39.0	100.000 %	0.0000
10	20	50	[12,20]	[15,30]	[34,345]	0.051	0.015	-3.4	-3.4	100.000 %	0.0000
10	20	50	[12,20]	[15,30]	[68,345]	0.051	0.014	-41.5	-41.5	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.044 seg.

Tiempo Promedio Total H_1: 0.017 seg.

Rendimiento Promedio Total: 99.983 %

Tabla de Experimentos

$n : 30, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	50	[1,20]	[1,10]	[30,308]	0.049	0.020	-25.9	-25.9	100.000 %	0.0000
10	30	50	[1,20]	[1,10]	[60,308]	0.049	0.024	-52.1	-52.1	100.000 %	0.0000
10	30	50	[1,20]	[5,10]	[31,310]	0.052	0.020	-23.7	-23.7	100.000 %	0.0000
10	30	50	[1,20]	[5,10]	[62,310]	0.044	0.019	-53.7	-53.7	100.000 %	0.0000
10	30	50	[1,20]	[1,30]	[31,318]	0.047	0.019	-17.1	-17.1	100.000 %	0.0000
10	30	50	[1,20]	[1,30]	[62,318]	0.048	0.024	-43.7	-43.7	100.000 %	0.0000
10	30	50	[1,20]	[15,30]	[32,325]	0.049	0.022	-8.8	-8.8	100.000 %	0.0000
10	30	50	[1,20]	[15,30]	[64,325]	0.052	0.020	-44.9	-44.9	100.000 %	0.0000
10	30	50	[6,20]	[1,10]	[39,398]	0.073	0.024	-33.6	-33.6	100.000 %	0.0000
10	30	50	[6,20]	[1,10]	[78,398]	0.064	0.021	-71.9	-71.9	100.000 %	0.0000
10	30	50	[6,20]	[5,10]	[40,400]	0.063	0.036	-30.6	-30.6	100.000 %	0.0000
10	30	50	[6,20]	[5,10]	[80,400]	0.074	0.022	-73.3	-73.3	100.000 %	0.0000
10	30	50	[6,20]	[1,30]	[40,409]	0.067	0.019	-22.3	-22.3	100.000 %	0.0000
10	30	50	[6,20]	[1,30]	[80,409]	0.067	0.020	-57.5	-57.5	100.000 %	0.0000
10	30	50	[6,20]	[15,30]	[41,416]	0.068	0.020	-22.9	-22.9	100.000 %	0.0000
10	30	50	[6,20]	[15,30]	[82,416]	0.067	0.020	-56.3	-56.3	100.000 %	0.0000
10	30	50	[12,20]	[1,10]	[48,489]	0.076	0.022	-44.8	-44.8	100.000 %	0.0000
10	30	50	[12,20]	[1,10]	[96,489]	0.072	0.020	-83.1	-83.1	100.000 %	0.0000
10	30	50	[12,20]	[5,10]	[49,491]	0.055	0.020	-41.2	-41.2	100.000 %	0.0000
10	30	50	[12,20]	[5,10]	[98,491]	0.055	0.021	-81.3	-81.3	100.000 %	0.0000
10	30	50	[12,20]	[1,30]	[49,499]	0.077	0.021	-42.0	-42.0	100.000 %	0.0000
10	30	50	[12,20]	[1,30]	[98,499]	0.072	0.021	-88.3	-88.3	100.000 %	0.0000
10	30	50	[12,20]	[15,30]	[50,507]	0.083	0.020	-45.7	-45.7	100.000 %	0.0000
10	30	50	[12,20]	[15,30]	[100,507]	0.091	0.023	-70.1	-70.1	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.063 seg.

Tiempo Promedio Total H_1: 0.022 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 50, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	50	[1,20]	[1,10]	[51,510]	0.084	0.031	-46.0	-45.9	99.957 %	0.0013
10	50	50	[1,20]	[1,10]	[102,510]	0.079	0.032	-93.7	-93.7	100.000 %	0.0000
10	50	50	[1,20]	[5,10]	[51,512]	0.089	0.032	-43.8	-43.8	100.000 %	0.0000
10	50	50	[1,20]	[5,10]	[102,512]	0.077	0.032	-92.9	-92.9	100.000 %	0.0000
10	50	50	[1,20]	[1,30]	[52,520]	0.098	0.039	-39.2	-39.2	100.000 %	0.0000
10	50	50	[1,20]	[1,30]	[104,520]	0.077	0.031	-89.5	-89.5	100.000 %	0.0000
10	50	50	[1,20]	[15,30]	[52,527]	0.079	0.032	-31.9	-31.8	99.961 %	0.0012
10	50	50	[1,20]	[15,30]	[104,527]	0.074	0.032	-86.6	-86.2	99.809 %	0.0038
10	50	50	[6,20]	[1,10]	[66,661]	0.153	0.032	-58.9	-58.9	100.000 %	0.0000
10	50	50	[6,20]	[1,10]	[132,661]	0.123	0.031	-122.8	-122.8	100.000 %	0.0000
10	50	50	[6,20]	[5,10]	[66,663]	0.123	0.035	-56.8	-56.8	100.000 %	0.0000
10	50	50	[6,20]	[5,10]	[132,663]	0.123	0.034	-119.5	-117.6	99.364 %	0.0128
10	50	50	[6,20]	[1,30]	[67,671]	0.109	0.030	-47.3	-47.3	100.000 %	0.0000
10	50	50	[6,20]	[1,30]	[134,671]	0.114	0.035	-114.5	-113.9	99.798 %	0.0051
10	50	50	[6,20]	[15,30]	[67,678]	0.120	0.032	-36.2	-34.8	99.588 %	0.0083
10	50	50	[6,20]	[15,30]	[134,678]	0.125	0.040	-109.0	-108.2	99.721 %	0.0084
10	50	50	[12,20]	[1,10]	[81,813]	0.150	0.032	-86.3	-85.7	99.847 %	0.0046
10	50	50	[12,20]	[1,10]	[162,813]	0.145	0.034	-153.5	-153.5	100.000 %	0.0000
10	50	50	[12,20]	[5,10]	[81,815]	0.104	0.033	-67.7	-67.5	99.946 %	0.0016
10	50	50	[12,20]	[5,10]	[162,815]	0.111	0.037	-154.7	-154.7	100.000 %	0.0000
10	50	50	[12,20]	[1,30]	[82,823]	0.142	0.030	-65.5	-65.5	100.000 %	0.0000
10	50	50	[12,20]	[1,30]	[164,823]	0.146	0.032	-143.3	-143.3	100.000 %	0.0000
10	50	50	[12,20]	[15,30]	[83,830]	0.158	0.032	-66.3	-66.1	99.948 %	0.0016
10	50	50	[12,20]	[15,30]	[166,830]	0.192	0.034	-148.8	-148.6	99.944 %	0.0017

Tiempo Promedio Total H_2: 0.116 seg.

Tiempo Promedio Total H_1: 0.033 seg.

Rendimiento Promedio Total: 99.912 %

Tabla de Experimentos

$n : 100, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	50	[1,20]	[1,10]	[101,1015]	0.209	0.078	-96.3	-95.6	99.851 %	0.0021
10	100	50	[1,20]	[1,10]	[202,1015]	0.230	0.083	-195.3	-195.1	99.951 %	0.0015
10	100	50	[1,20]	[5,10]	[101,1017]	0.301	0.086	-89.9	-89.1	99.822 %	0.0034
10	100	50	[1,20]	[5,10]	[202,1017]	0.223	0.081	-188.3	-187.5	99.813 %	0.0029
10	100	50	[1,20]	[1,30]	[102,1025]	0.170	0.079	-81.2	-80.7	99.888 %	0.0023
10	100	50	[1,20]	[1,30]	[204,1025]	0.185	0.083	-181.0	-180.9	99.976 %	0.0007
10	100	50	[1,20]	[15,30]	[103,1032]	0.217	0.081	-79.3	-79.3	100.000 %	0.0000
10	100	50	[1,20]	[15,30]	[206,1032]	0.179	0.076	-184.6	-184.6	100.000 %	0.0000
10	100	50	[6,20]	[1,10]	[131,1318]	0.388	0.084	-126.1	-123.2	99.526 %	0.0039
10	100	50	[6,20]	[1,10]	[262,1318]	0.399	0.086	-264.3	-261.6	99.505 %	0.0050
10	100	50	[6,20]	[5,10]	[132,1320]	0.444	0.085	-126.2	-122.2	99.329 %	0.0051
10	100	50	[6,20]	[5,10]	[264,1320]	0.424	0.085	-252.2	-247.3	99.098 %	0.0047
10	100	50	[6,20]	[1,30]	[132,1328]	0.299	0.075	-109.2	-109.2	100.000 %	0.0000
10	100	50	[6,20]	[1,30]	[264,1328]	0.249	0.082	-242.5	-242.3	99.963 %	0.0007
10	100	50	[6,20]	[15,30]	[133,1335]	0.319	0.081	-112.5	-111.1	99.778 %	0.0020
10	100	50	[6,20]	[15,30]	[266,1335]	0.319	0.078	-235.6	-234.5	99.800 %	0.0021
10	100	50	[12,20]	[1,10]	[162,1621]	0.518	0.081	-150.9	-143.8	99.062 %	0.0063
10	100	50	[12,20]	[1,10]	[324,1621]	0.517	0.080	-313.0	-308.5	99.293 %	0.0071
10	100	50	[12,20]	[5,10]	[162,1623]	0.415	0.085	-154.6	-150.2	99.439 %	0.0063
10	100	50	[12,20]	[5,10]	[324,1623]	0.406	0.082	-313.2	-307.0	99.084 %	0.0076
10	100	50	[12,20]	[1,30]	[163,1631]	0.382	0.079	-143.0	-142.5	99.930 %	0.0014
10	100	50	[12,20]	[1,30]	[326,1631]	0.415	0.079	-311.7	-310.7	99.856 %	0.0027
10	100	50	[12,20]	[15,30]	[163,1638]	0.533	0.081	-134.9	-129.3	99.302 %	0.0024
10	100	50	[12,20]	[15,30]	[326,1638]	0.519	0.084	-300.1	-296.8	99.514 %	0.0041

Tiempo Promedio Total H_2: 0.344 seg.

Tiempo Promedio Total H_1: 0.081 seg.

Rendimiento Promedio Total: 99.658 %

Tabla de Experimentos

$n : 200, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	50	[1,20]	[1,10]	[202,2025]	0.996	0.243	-196.7	-190.4	99.322 %	0.0045
10	200	50	[1,20]	[1,10]	[404,2025]	0.940	0.232	-393.3	-388.3	99.421 %	0.0059
10	200	50	[1,20]	[5,10]	[202,2027]	1.101	0.237	-197.1	-191.0	99.345 %	0.0050
10	200	50	[1,20]	[5,10]	[404,2027]	1.158	0.264	-394.5	-385.6	98.936 %	0.0044
10	200	50	[1,20]	[1,30]	[203,2035]	0.473	0.243	-183.7	-183.4	99.967 %	0.0005
10	200	50	[1,20]	[1,30]	[406,2035]	0.419	0.237	-390.1	-390.1	100.000 %	0.0000
10	200	50	[1,20]	[15,30]	[204,2042]	0.742	0.228	-171.5	-165.8	99.413 %	0.0038
10	200	50	[1,20]	[15,30]	[408,2042]	0.745	0.247	-385.8	-380.0	99.305 %	0.0041
10	200	50	[6,20]	[1,10]	[263,2631]	1.955	0.235	-253.8	-245.4	99.312 %	0.0062
10	200	50	[6,20]	[1,10]	[526,2631]	1.830	0.234	-519.9	-502.5	98.412 %	0.0068
10	200	50	[6,20]	[5,10]	[263,2633]	1.946	0.242	-250.3	-241.2	99.227 %	0.0059
10	200	50	[6,20]	[5,10]	[526,2633]	1.896	0.248	-515.2	-500.0	98.612 %	0.0065
10	200	50	[6,20]	[1,30]	[264,2641]	1.045	0.228	-247.8	-239.7	99.336 %	0.0019
10	200	50	[6,20]	[1,30]	[528,2641]	1.028	0.234	-508.9	-501.5	99.312 %	0.0030
10	200	50	[6,20]	[15,30]	[264,2648]	1.533	0.234	-243.5	-228.9	98.814 %	0.0041
10	200	50	[6,20]	[15,30]	[528,2648]	1.591	0.233	-507.9	-496.9	98.983 %	0.0045
10	200	50	[12,20]	[1,10]	[323,3237]	2.350	0.247	-310.4	-284.8	98.252 %	0.0053
10	200	50	[12,20]	[1,10]	[646,3237]	2.476	0.231	-636.1	-609.8	97.999 %	0.0057
10	200	50	[12,20]	[5,10]	[323,3239]	2.187	0.241	-308.8	-286.0	98.468 %	0.0081
10	200	50	[12,20]	[5,10]	[646,3239]	2.191	0.234	-641.3	-615.4	98.053 %	0.0083
10	200	50	[12,20]	[1,30]	[324,3247]	1.813	0.233	-307.6	-292.6	99.001 %	0.0040
10	200	50	[12,20]	[1,30]	[648,3247]	1.847	0.226	-623.1	-605.3	98.637 %	0.0042
10	200	50	[12,20]	[15,30]	[325,3254]	2.610	0.237	-299.4	-276.7	98.493 %	0.0065
10	200	50	[12,20]	[15,30]	[650,3254]	2.420	0.230	-622.0	-601.0	98.451 %	0.0056

Tiempo Promedio Total H_2: 1.554 seg.

Tiempo Promedio Total H_1: 0.237 seg.

Rendimiento Promedio Total: 98.961 %

Tabla de Experimentos

$n : 300, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	50	[1,20]	[1,10]	[303,3035]	3.042	0.498	-299.1	-279.8	98.600 %	0.0028
10	300	50	[1,20]	[1,10]	[606,3035]	2.853	0.493	-599.3	-583.1	98.664 %	0.0045
10	300	50	[1,20]	[5,10]	[303,3037]	3.426	0.502	-297.0	-279.7	98.752 %	0.0060
10	300	50	[1,20]	[5,10]	[606,3037]	3.318	0.500	-597.3	-579.9	98.592 %	0.0073
10	300	50	[1,20]	[1,30]	[304,3045]	1.342	0.480	-286.6	-279.9	99.528 %	0.0022
10	300	50	[1,20]	[1,30]	[608,3045]	1.218	0.469	-586.5	-579.2	99.411 %	0.0007
10	300	50	[1,20]	[15,30]	[305,3052]	2.335	0.478	-280.2	-266.3	99.008 %	0.0028
10	300	50	[1,20]	[15,30]	[610,3052]	2.384	0.485	-584.6	-570.3	98.879 %	0.0045
10	300	50	[6,20]	[1,10]	[394,3944]	5.325	0.485	-385.2	-361.6	98.684 %	0.0079
10	300	50	[6,20]	[1,10]	[788,3944]	5.408	0.483	-782.5	-756.9	98.395 %	0.0074
10	300	50	[6,20]	[5,10]	[394,3946]	5.460	0.507	-389.7	-361.9	98.468 %	0.0062
10	300	50	[6,20]	[5,10]	[788,3946]	5.682	0.495	-781.5	-750.0	98.086 %	0.0055
10	300	50	[6,20]	[1,30]	[395,3954]	3.255	0.472	-389.2	-378.3	99.399 %	0.0029
10	300	50	[6,20]	[1,30]	[790,3954]	3.256	0.478	-766.6	-747.6	98.850 %	0.0041
10	300	50	[6,20]	[15,30]	[396,3961]	4.709	0.470	-375.4	-350.6	98.676 %	0.0042
10	300	50	[6,20]	[15,30]	[792,3961]	4.717	0.482	-768.6	-748.5	98.764 %	0.0060
10	300	50	[12,20]	[1,10]	[485,4853]	7.252	0.479	-471.6	-429.0	98.104 %	0.0074
10	300	50	[12,20]	[1,10]	[970,4853]	7.191	0.500	-966.3	-931.0	98.223 %	0.0094
10	300	50	[12,20]	[5,10]	[485,4855]	6.721	0.496	-476.8	-440.2	98.344 %	0.0084
10	300	50	[12,20]	[5,10]	[970,4855]	6.488	0.499	-959.9	-915.1	97.763 %	0.0065
10	300	50	[12,20]	[1,30]	[486,4863]	5.632	0.480	-466.3	-432.2	98.494 %	0.0059
10	300	50	[12,20]	[1,30]	[972,4863]	5.667	0.484	-955.8	-924.0	98.420 %	0.0070
10	300	50	[12,20]	[15,30]	[487,4870]	7.168	0.475	-464.5	-418.4	97.919 %	0.0057
10	300	50	[12,20]	[15,30]	[974,4870]	7.009	0.478	-942.5	-901.8	97.964 %	0.0036

Tiempo Promedio Total H_2: 4.619 seg.

Tiempo Promedio Total H_1: 0.486 seg.

Rendimiento Promedio Total: 98.583 %

Tabla de Experimentos

$n : 500, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	50	[1,20]	[1,10]	[505,5055]	14.208	1.267	-497.2	-464.3	98.575 %	0.0056
10	500	50	[1,20]	[1,10]	[1010,5055]	14.047	1.261	-998.3	-955.8	97.975 %	0.0038
10	500	50	[1,20]	[5,10]	[505,5057]	15.691	1.292	-495.8	-460.0	98.452 %	0.0048
10	500	50	[1,20]	[5,10]	[1010,5057]	15.245	1.289	-999.2	-955.8	97.917 %	0.0032
10	500	50	[1,20]	[1,30]	[506,5065]	8.056	1.261	-482.7	-454.6	98.790 %	0.0042
10	500	50	[1,20]	[1,30]	[1012,5065]	7.590	1.237	-990.1	-963.9	98.756 %	0.0035
10	500	50	[1,20]	[15,30]	[507,5072]	11.860	1.263	-490.8	-453.6	98.391 %	0.0053
10	500	50	[1,20]	[15,30]	[1014,5072]	11.918	1.250	-988.2	-953.5	98.335 %	0.0049
10	500	50	[6,20]	[1,10]	[657,6570]	23.354	1.264	-652.0	-595.3	98.111 %	0.0057
10	500	50	[6,20]	[1,10]	[1314,6570]	23.190	1.259	-1301.0	-1240.1	97.745 %	0.0049
10	500	50	[6,20]	[5,10]	[657,6572]	24.468	1.289	-648.1	-593.2	98.196 %	0.0054
10	500	50	[6,20]	[5,10]	[1314,6572]	24.039	1.289	-1304.1	-1245.7	97.845 %	0.0056
10	500	50	[6,20]	[1,30]	[658,6580]	16.617	1.237	-637.6	-582.6	98.186 %	0.0031
10	500	50	[6,20]	[1,30]	[1316,6580]	16.584	1.229	-1293.3	-1251.2	98.432 %	0.0073
10	500	50	[6,20]	[15,30]	[658,6587]	21.832	1.245	-639.8	-579.0	98.024 %	0.0072
10	500	50	[6,20]	[15,30]	[1316,6587]	20.707	1.257	-1289.7	-1229.6	97.777 %	0.0064
10	500	50	[12,20]	[1,10]	[808,8085]	31.610	1.259	-811.0	-737.1	98.014 %	0.0061
10	500	50	[12,20]	[1,10]	[1616,8085]	31.773	1.277	-1606.2	-1526.7	97.612 %	0.0105
10	500	50	[12,20]	[5,10]	[808,8087]	30.041	1.299	-801.3	-710.5	97.567 %	0.0031
10	500	50	[12,20]	[5,10]	[1616,8087]	30.743	1.293	-1604.0	-1519.9	97.444 %	0.0049
10	500	50	[12,20]	[1,30]	[809,8095]	26.990	1.238	-794.4	-718.2	97.980 %	0.0063
10	500	50	[12,20]	[1,30]	[1618,8095]	26.493	1.231	-1595.4	-1510.8	97.424 %	0.0035
10	500	50	[12,20]	[15,30]	[810,8102]	31.553	1.267	-784.4	-711.2	98.041 %	0.0075
10	500	50	[12,20]	[15,30]	[1620,8102]	31.372	1.253	-1594.5	-1503.5	97.300 %	0.0048

Tiempo Promedio Total H_2: 21.249 seg.

Tiempo Promedio Total H_1: 1.263 seg.

Rendimiento Promedio Total: 98.037 %

Tabla de Experimentos

$n : 750, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	50	[1,20]	[1,10]	[758,7580]	51.315	2.722	-750.3	-695.1	98.392 %	0.0056
10	750	50	[1,20]	[1,10]	[1516,7580]	50.607	2.725	-1508.9	-1444.1	97.915 %	0.0059
10	750	50	[1,20]	[5,10]	[758,7582]	53.995	2.796	-751.7	-694.3	98.347 %	0.0037
10	750	50	[1,20]	[5,10]	[1516,7582]	54.168	2.786	-1512.3	-1451.3	98.052 %	0.0058
10	750	50	[1,20]	[1,30]	[759,7590]	33.355	2.648	-734.1	-675.5	98.327 %	0.0025
10	750	50	[1,20]	[1,30]	[1518,7590]	33.413	2.673	-1501.6	-1453.2	98.434 %	0.0040
10	750	50	[1,20]	[15,30]	[759,7597]	46.092	2.667	-730.7	-665.4	98.128 %	0.0053
10	750	50	[1,20]	[15,30]	[1518,7597]	44.781	2.673	-1496.9	-1445.5	98.359 %	0.0053
10	750	50	[6,20]	[1,10]	[985,9852]	80.179	2.701	-979.5	-879.1	97.790 %	0.0047
10	750	50	[6,20]	[1,10]	[1970,9852]	80.442	2.728	-1964.9	-1865.1	97.558 %	0.0054
10	750	50	[6,20]	[5,10]	[985,9854]	82.963	2.814	-979.3	-881.8	97.842 %	0.0049
10	750	50	[6,20]	[5,10]	[1970,9854]	83.978	2.838	-1959.0	-1871.8	97.853 %	0.0059
10	750	50	[6,20]	[1,30]	[986,9862]	63.550	2.641	-965.1	-865.3	97.817 %	0.0040
10	750	50	[6,20]	[1,30]	[1972,9862]	63.538	2.632	-1959.1	-1865.4	97.684 %	0.0054
10	750	50	[6,20]	[15,30]	[986,9869]	75.814	2.677	-961.3	-880.0	98.218 %	0.0050
10	750	50	[6,20]	[15,30]	[1972,9869]	76.378	2.681	-1945.1	-1841.5	97.457 %	0.0057
10	750	50	[12,20]	[1,10]	[1212,12125]	107.825	2.716	-1210.4	-1073.6	97.550 %	0.0048
10	750	50	[12,20]	[1,10]	[2424,12125]	107.545	2.702	-2413.7	-2265.0	97.022 %	0.0063
10	750	50	[12,20]	[5,10]	[1212,12127]	105.496	2.833	-1197.4	-1074.4	97.772 %	0.0060
10	750	50	[12,20]	[5,10]	[2424,12127]	106.432	2.784	-2413.2	-2280.0	97.380 %	0.0041
10	750	50	[12,20]	[1,30]	[1213,12135]	94.338	2.681	-1205.9	-1068.7	97.580 %	0.0048
10	750	50	[12,20]	[1,30]	[2426,12135]	96.101	2.702	-2402.9	-2271.9	97.370 %	0.0047
10	750	50	[12,20]	[15,30]	[1214,12142]	107.880	2.691	-1183.3	-1041.9	97.508 %	0.0050
10	750	50	[12,20]	[15,30]	[2428,12142]	109.064	2.680	-2396.6	-2244.4	96.980 %	0.0065

Tiempo Promedio Total H_2: 75.385 seg.

Tiempo Promedio Total H_1: 2.716 seg.

Rendimiento Promedio Total: 97.806 %

Tabla de Experimentos

$n : 1000, m : 50, p_{max} : 20$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	50	[1,20]	[1,10]	[1010,10105]	127.271	4.729	-1003.6	-908.2	97.933 %	0.0038
10	1000	50	[1,20]	[1,10]	[2020,10105]	125.530	4.688	-2012.7	-1919.4	97.755 %	0.0039
10	1000	50	[1,20]	[5,10]	[1010,10107]	134.474	4.863	-998.4	-914.9	98.222 %	0.0045
10	1000	50	[1,20]	[5,10]	[2020,10107]	133.601	4.856	-2009.5	-1921.3	97.867 %	0.0048
10	1000	50	[1,20]	[1,30]	[1011,10115]	93.673	4.602	-997.3	-915.5	98.251 %	0.0030
10	1000	50	[1,20]	[1,30]	[2022,10115]	93.873	4.570	-2003.3	-1917.9	97.944 %	0.0033
10	1000	50	[1,20]	[15,30]	[1012,10122]	114.354	4.610	-988.3	-905.3	98.215 %	0.0045
10	1000	50	[1,20]	[15,30]	[2024,10122]	116.303	4.628	-1999.6	-1909.8	97.859 %	0.0049
10	1000	50	[6,20]	[1,10]	[1313,13135]	198.947	4.730	-1312.8	-1162.7	97.522 %	0.0044
10	1000	50	[6,20]	[1,10]	[2626,13135]	197.363	4.701	-2617.8	-2475.8	97.387 %	0.0046
10	1000	50	[6,20]	[5,10]	[1313,13137]	203.653	4.800	-1303.4	-1154.1	97.556 %	0.0031
10	1000	50	[6,20]	[5,10]	[2626,13137]	203.016	4.816	-2616.8	-2469.7	97.275 %	0.0046
10	1000	50	[6,20]	[1,30]	[1314,13145]	165.071	4.591	-1293.1	-1155.4	97.743 %	0.0034
10	1000	50	[6,20]	[1,30]	[2628,13145]	164.502	4.581	-2609.7	-2479.5	97.601 %	0.0041
10	1000	50	[6,20]	[15,30]	[1315,13152]	188.575	4.616	-1290.3	-1151.9	97.732 %	0.0045
10	1000	50	[6,20]	[15,30]	[2630,13152]	188.756	4.613	-2612.4	-2481.1	97.575 %	0.0040
10	1000	50	[12,20]	[1,10]	[1616,16165]	267.511	4.714	-1611.1	-1422.6	97.461 %	0.0055
10	1000	50	[12,20]	[1,10]	[3232,16165]	265.222	4.729	-3227.7	-3032.0	97.072 %	0.0059
10	1000	50	[12,20]	[5,10]	[1616,16167]	260.245	4.806	-1605.2	-1423.8	97.575 %	0.0049
10	1000	50	[12,20]	[5,10]	[3232,16167]	262.680	4.824	-3218.2	-3048.0	97.418 %	0.0054
10	1000	50	[12,20]	[1,30]	[1617,16175]	241.770	4.587	-1594.7	-1382.3	97.209 %	0.0032
10	1000	50	[12,20]	[1,30]	[3234,16175]	242.881	4.559	-3222.5	-3036.7	97.208 %	0.0063
10	1000	50	[12,20]	[15,30]	[1618,16182]	265.190	4.641	-1589.9	-1378.9	97.209 %	0.0039
10	1000	50	[12,20]	[15,30]	[3236,16182]	262.025	4.634	-3211.3	-2999.7	96.845 %	0.0036

Tiempo Promedio Total H_2: 188.187 seg.

Tiempo Promedio Total H_1: 4.687 seg.

Rendimiento Promedio Total: 97.601 %

Tabla de Experimentos

$n : 10, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	2	[1,50]	[1,10]	[25,257]	0.017	0.010	-17.2	27.7	74.689 %	0.0649
10	10	2	[1,50]	[1,10]	[50,257]	0.020	0.008	-38.6	10.6	72.029 %	0.1007
10	10	2	[1,50]	[5,10]	[25,259]	0.016	0.008	-17.9	23.5	76.572 %	0.1020
10	10	2	[1,50]	[5,10]	[50,259]	0.018	0.008	-44.0	-8.6	78.603 %	0.1190
10	10	2	[1,50]	[1,30]	[26,267]	0.019	0.008	-3.7	37.1	76.617 %	0.1029
10	10	2	[1,50]	[1,30]	[52,267]	0.024	0.009	-27.3	9.7	80.373 %	0.0891
10	10	2	[1,50]	[15,30]	[27,274]	0.026	0.011	-11.5	36.6	74.365 %	0.1171
10	10	2	[1,50]	[15,30]	[54,274]	0.024	0.012	-25.8	28.1	73.921 %	0.0908
10	10	2	[16,50]	[1,10]	[33,338]	0.018	0.009	-16.4	61.3	69.418 %	0.1132
10	10	2	[16,50]	[1,10]	[66,338]	0.017	0.009	-66.5	1.1	68.036 %	0.1277
10	10	2	[16,50]	[5,10]	[34,340]	0.017	0.007	-16.0	57.7	71.108 %	0.1253
10	10	2	[16,50]	[5,10]	[68,340]	0.021	0.010	-51.3	-1.2	76.678 %	0.1089
10	10	2	[16,50]	[1,30]	[34,348]	0.022	0.011	-32.0	32.0	74.059 %	0.0981
10	10	2	[16,50]	[1,30]	[68,348]	0.020	0.013	-43.6	14.1	75.983 %	0.0987
10	10	2	[16,50]	[15,30]	[35,355]	0.026	0.014	-40.6	27.0	74.065 %	0.1176
10	10	2	[16,50]	[15,30]	[70,355]	0.023	0.010	-31.0	49.8	67.642 %	0.1024
10	10	2	[32,50]	[1,10]	[41,419]	0.022	0.010	-39.3	42.6	71.978 %	0.0984
10	10	2	[32,50]	[1,10]	[82,419]	0.022	0.011	-72.7	33.1	64.250 %	0.0893
10	10	2	[32,50]	[5,10]	[42,421]	0.019	0.010	-24.9	62.6	69.323 %	0.0592
10	10	2	[32,50]	[5,10]	[84,421]	0.016	0.011	-56.7	23.8	70.492 %	0.0904
10	10	2	[32,50]	[1,30]	[42,429]	0.020	0.011	-11.1	90.8	67.814 %	0.0808
10	10	2	[32,50]	[1,30]	[84,429]	0.022	0.009	-83.1	6.7	67.657 %	0.0824
10	10	2	[32,50]	[15,30]	[43,436]	0.022	0.008	-16.8	93.3	67.241 %	0.0832
10	10	2	[32,50]	[15,30]	[86,436]	0.039	0.016	-46.7	55.3	66.889 %	0.0574

Tiempo Promedio Total H_2: 0.021 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 72.075 %

Tabla de Experimentos

$n : 20, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	2	[1,50]	[1,10]	[51,510]	0.031	0.011	-31.4	60.5	72.830 %	0.0830
10	20	2	[1,50]	[1,10]	[102,510]	0.031	0.011	-88.6	18.5	67.641 %	0.0588
10	20	2	[1,50]	[5,10]	[51,512]	0.035	0.018	-31.1	95.3	67.103 %	0.0861
10	20	2	[1,50]	[5,10]	[102,512]	0.059	0.024	-88.9	14.7	69.127 %	0.0817
10	20	2	[1,50]	[1,30]	[52,520]	0.043	0.008	-45.9	59.2	70.935 %	0.0883
10	20	2	[1,50]	[1,30]	[104,520]	0.041	0.011	-86.9	10.9	71.528 %	0.0988
10	20	2	[1,50]	[15,30]	[52,527]	0.038	0.011	-27.8	99.1	68.486 %	0.1000
10	20	2	[1,50]	[15,30]	[104,527]	0.040	0.013	-89.8	27.4	66.237 %	0.0669
10	20	2	[16,50]	[1,10]	[67,671]	0.039	0.013	-48.0	146.4	62.072 %	0.0490
10	20	2	[16,50]	[1,10]	[134,671]	0.040	0.014	-136.3	42.2	61.075 %	0.0544
10	20	2	[16,50]	[5,10]	[67,673]	0.035	0.011	-48.4	142.5	62.203 %	0.0414
10	20	2	[16,50]	[5,10]	[134,673]	0.033	0.010	-124.7	48.9	62.517 %	0.0886
10	20	2	[16,50]	[1,30]	[68,681]	0.088	0.021	-50.1	72.3	75.048 %	0.1176
10	20	2	[16,50]	[1,30]	[136,681]	0.048	0.020	-117.3	47.7	65.331 %	0.0815
10	20	2	[16,50]	[15,30]	[68,688]	0.042	0.011	-32.3	175.5	63.963 %	0.0530
10	20	2	[16,50]	[15,30]	[136,688]	0.039	0.013	-99.8	102.7	60.643 %	0.0498
10	20	2	[32,50]	[1,10]	[83,833]	0.045	0.018	-54.6	175.6	63.726 %	0.0456
10	20	2	[32,50]	[1,10]	[166,833]	0.037	0.010	-152.4	103.9	58.698 %	0.0617
10	20	2	[32,50]	[5,10]	[83,835]	0.034	0.009	-72.4	140.7	65.938 %	0.0995
10	20	2	[32,50]	[5,10]	[166,835]	0.036	0.010	-151.5	109.4	57.872 %	0.0686
10	20	2	[32,50]	[1,30]	[84,843]	0.052	0.013	-51.9	202.4	61.936 %	0.0760
10	20	2	[32,50]	[1,30]	[168,843]	0.041	0.012	-145.4	70.5	63.219 %	0.0501
10	20	2	[32,50]	[15,30]	[85,850]	0.055	0.015	-48.8	214.7	61.772 %	0.1086
10	20	2	[32,50]	[15,30]	[170,850]	0.058	0.018	-129.2	146.9	58.548 %	0.0393

Tiempo Promedio Total H_2: 0.043 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 64.935 %

Tabla de Experimentos

$n : 30, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	2	[1,50]	[1,10]	[76,762]	0.064	0.013	-58.8	129.5	65.243 %	0.0572
10	30	2	[1,50]	[1,10]	[152,762]	0.060	0.015	-138.1	53.9	63.308 %	0.0965
10	30	2	[1,50]	[5,10]	[76,764]	0.058	0.016	-74.4	123.9	65.124 %	0.0580
10	30	2	[1,50]	[5,10]	[152,764]	0.055	0.011	-146.8	-0.1	69.025 %	0.0948
10	30	2	[1,50]	[1,30]	[77,772]	0.096	0.020	-51.4	150.2	64.294 %	0.0476
10	30	2	[1,50]	[1,30]	[154,772]	0.083	0.019	-126.6	93.3	59.877 %	0.0220
10	30	2	[1,50]	[15,30]	[77,779]	0.089	0.017	-36.6	150.7	67.468 %	0.0708
10	30	2	[1,50]	[15,30]	[154,779]	0.080	0.022	-124.1	68.0	63.808 %	0.0451
10	30	2	[16,50]	[1,10]	[100,1004]	0.068	0.018	-78.8	241.9	59.275 %	0.0605
10	30	2	[16,50]	[1,10]	[200,1004]	0.059	0.015	-201.0	94.6	58.481 %	0.0703
10	30	2	[16,50]	[5,10]	[100,1006]	0.084	0.022	-95.2	163.4	63.532 %	0.0454
10	30	2	[16,50]	[5,10]	[200,1006]	0.066	0.017	-179.9	131.5	56.177 %	0.0425
10	30	2	[16,50]	[1,30]	[101,1015]	0.078	0.015	-72.5	253.7	59.218 %	0.0535
10	30	2	[16,50]	[1,30]	[202,1015]	0.076	0.011	-167.2	112.8	60.911 %	0.0786
10	30	2	[16,50]	[15,30]	[102,1022]	0.078	0.017	-86.7	205.8	61.877 %	0.0529
10	30	2	[16,50]	[15,30]	[204,1022]	0.080	0.016	-182.5	125.0	59.499 %	0.0595
10	30	2	[32,50]	[1,10]	[124,1247]	0.086	0.021	-118.6	256.6	60.968 %	0.0702
10	30	2	[32,50]	[1,10]	[248,1247]	0.074	0.019	-228.5	195.8	56.138 %	0.0880
10	30	2	[32,50]	[5,10]	[124,1249]	0.061	0.013	-111.2	267.2	60.888 %	0.0695
10	30	2	[32,50]	[5,10]	[248,1249]	0.058	0.012	-225.3	80.9	64.472 %	0.0774
10	30	2	[32,50]	[1,30]	[125,1257]	0.084	0.012	-105.1	302.9	59.275 %	0.0550
10	30	2	[32,50]	[1,30]	[250,1257]	0.082	0.016	-218.4	206.1	55.822 %	0.0588
10	30	2	[32,50]	[15,30]	[126,1264]	0.077	0.016	-85.1	281.1	62.688 %	0.0729
10	30	2	[32,50]	[15,30]	[252,1264]	0.069	0.013	-202.9	203.6	57.076 %	0.0600

Tiempo Promedio Total H_2: 0.074 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 61.435 %

Tabla de Experimentos

$n : 50, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	2	[1,50]	[1,10]	[126,1267]	0.165	0.022	-124.2	211.0	63.442 %	0.0518
10	50	2	[1,50]	[1,10]	[252,1267]	0.166	0.022	-237.6	126.6	59.855 %	0.0704
10	50	2	[1,50]	[5,10]	[126,1269]	0.157	0.023	-106.4	231.3	63.510 %	0.0617
10	50	2	[1,50]	[5,10]	[252,1269]	0.176	0.024	-224.2	127.7	59.837 %	0.0486
10	50	2	[1,50]	[1,30]	[127,1277]	0.270	0.034	-100.3	244.0	63.965 %	0.0633
10	50	2	[1,50]	[1,30]	[254,1277]	0.199	0.024	-234.1	76.4	63.299 %	0.0632
10	50	2	[1,50]	[15,30]	[128,1284]	0.178	0.025	-107.8	259.8	62.313 %	0.0289
10	50	2	[1,50]	[15,30]	[256,1284]	0.182	0.025	-232.9	114.5	60.783 %	0.0494
10	50	2	[16,50]	[1,10]	[167,1671]	0.173	0.020	-169.1	375.2	58.208 %	0.0508
10	50	2	[16,50]	[1,10]	[334,1671]	0.174	0.022	-327.0	185.0	56.353 %	0.0369
10	50	2	[16,50]	[5,10]	[167,1673]	0.162	0.022	-137.5	385.0	59.248 %	0.0348
10	50	2	[16,50]	[5,10]	[334,1673]	0.165	0.025	-319.9	209.4	57.000 %	0.0602
10	50	2	[16,50]	[1,30]	[168,1681]	0.215	0.024	-142.2	440.2	57.266 %	0.0477
10	50	2	[16,50]	[1,30]	[336,1681]	0.212	0.023	-321.7	273.6	54.488 %	0.0226
10	50	2	[16,50]	[15,30]	[168,1688]	0.186	0.021	-169.6	401.2	56.878 %	0.0504
10	50	2	[16,50]	[15,30]	[336,1688]	0.191	0.023	-320.7	244.7	55.396 %	0.0281
10	50	2	[32,50]	[1,10]	[207,2075]	0.172	0.022	-197.5	551.6	55.489 %	0.0379
10	50	2	[32,50]	[1,10]	[414,2075]	0.177	0.023	-408.3	273.7	55.398 %	0.0472
10	50	2	[32,50]	[5,10]	[207,2077]	0.161	0.025	-186.6	526.5	56.965 %	0.0331
10	50	2	[32,50]	[5,10]	[414,2077]	0.164	0.025	-404.0	285.4	57.245 %	0.0774
10	50	2	[32,50]	[1,30]	[208,2085]	0.211	0.023	-178.1	519.8	58.169 %	0.0419
10	50	2	[32,50]	[1,30]	[416,2085]	0.212	0.025	-392.2	303.8	56.258 %	0.0450
10	50	2	[32,50]	[15,30]	[209,2092]	0.210	0.023	-178.1	587.7	55.938 %	0.0300
10	50	2	[32,50]	[15,30]	[418,2092]	0.191	0.023	-375.2	353.1	55.765 %	0.0233

Tiempo Promedio Total H_2: 0.186 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 58.461 %

Tabla de Experimentos

$n : 100, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	2	[1,50]	[1,10]	[253,2530]	1.001	0.062	-241.9	497.3	60.906 %	0.0391
10	100	2	[1,50]	[1,10]	[506,2530]	0.979	0.061	-520.9	197.3	58.253 %	0.0338
10	100	2	[1,50]	[5,10]	[253,2532]	0.965	0.065	-232.0	511.6	60.444 %	0.0241
10	100	2	[1,50]	[5,10]	[506,2532]	0.981	0.064	-485.5	233.2	59.745 %	0.0268
10	100	2	[1,50]	[1,30]	[254,2540]	1.093	0.059	-236.2	575.0	59.342 %	0.0351
10	100	2	[1,50]	[1,30]	[508,2540]	1.088	0.061	-476.2	290.8	57.418 %	0.0447
10	100	2	[1,50]	[15,30]	[254,2547]	1.012	0.061	-232.0	552.2	60.181 %	0.0369
10	100	2	[1,50]	[15,30]	[508,2547]	1.038	0.059	-476.4	309.2	57.817 %	0.0389
10	100	2	[16,50]	[1,10]	[333,3338]	0.990	0.058	-316.3	836.8	56.535 %	0.0215
10	100	2	[16,50]	[1,10]	[666,3338]	1.000	0.060	-656.4	492.2	54.484 %	0.0335
10	100	2	[16,50]	[5,10]	[334,3340]	0.955	0.062	-313.1	765.2	58.661 %	0.0307
10	100	2	[16,50]	[5,10]	[668,3340]	0.958	0.062	-647.5	443.1	55.207 %	0.0284
10	100	2	[16,50]	[1,30]	[334,3348]	1.178	0.061	-312.1	931.2	54.971 %	0.0219
10	100	2	[16,50]	[1,30]	[668,3348]	1.172	0.061	-638.8	653.8	51.215 %	0.0221
10	100	2	[16,50]	[15,30]	[335,3355]	1.045	0.060	-314.1	940.0	55.366 %	0.0300
10	100	2	[16,50]	[15,30]	[670,3355]	1.045	0.061	-636.8	544.1	53.681 %	0.0291
10	100	2	[32,50]	[1,10]	[414,4146]	0.997	0.060	-382.6	1193.1	54.876 %	0.0310
10	100	2	[32,50]	[1,10]	[828,4146]	1.008	0.062	-821.3	737.7	51.567 %	0.0261
10	100	2	[32,50]	[5,10]	[414,4148]	0.977	0.061	-392.5	1111.6	55.489 %	0.0305
10	100	2	[32,50]	[5,10]	[828,4148]	0.952	0.064	-817.4	704.7	51.337 %	0.0187
10	100	2	[32,50]	[1,30]	[415,4156]	1.182	0.061	-396.4	1234.6	53.656 %	0.0212
10	100	2	[32,50]	[1,30]	[830,4156]	1.173	0.062	-800.9	945.6	48.928 %	0.0237
10	100	2	[32,50]	[15,30]	[416,4163]	1.046	0.062	-377.1	1217.6	55.704 %	0.0261
10	100	2	[32,50]	[15,30]	[832,4163]	1.078	0.062	-786.8	872.1	51.165 %	0.0267

Tiempo Promedio Total H_2: 1.038 seg.

Tiempo Promedio Total H_1: 0.061 seg.

Rendimiento Promedio Total: 55.706 %

Tabla de Experimentos

$n : 200, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	2	[1,50]	[1,10]	[505,5055]	7.083	0.202	-502.5	1092.2	58.793 %	0.0167
10	200	2	[1,50]	[1,10]	[1010,5055]	6.930	0.207	-991.8	674.8	54.810 %	0.0130
10	200	2	[1,50]	[5,10]	[505,5057]	6.926	0.209	-490.8	917.3	62.721 %	0.0375
10	200	2	[1,50]	[5,10]	[1010,5057]	6.756	0.205	-993.5	507.8	58.037 %	0.0225
10	200	2	[1,50]	[1,30]	[506,5065]	7.330	0.199	-487.8	1173.7	57.968 %	0.0258
10	200	2	[1,50]	[1,30]	[1012,5065]	7.539	0.208	-996.2	618.3	55.706 %	0.0242
10	200	2	[1,50]	[15,30]	[507,5072]	7.403	0.198	-475.4	1179.8	57.875 %	0.0248
10	200	2	[1,50]	[15,30]	[1014,5072]	7.071	0.202	-983.9	534.0	57.896 %	0.0173
10	200	2	[16,50]	[1,10]	[667,6671]	6.956	0.200	-649.6	1698.8	56.463 %	0.0257
10	200	2	[16,50]	[1,10]	[1334,6671]	6.992	0.199	-1300.8	1161.0	52.796 %	0.0229
10	200	2	[16,50]	[5,10]	[667,6673]	6.780	0.208	-664.3	1687.6	56.448 %	0.0129
10	200	2	[16,50]	[5,10]	[1334,6673]	6.912	0.212	-1312.2	1080.9	52.929 %	0.0208
10	200	2	[16,50]	[1,30]	[668,6681]	7.639	0.195	-657.4	1892.6	54.850 %	0.0321
10	200	2	[16,50]	[1,30]	[1336,6681]	7.688	0.202	-1309.0	1240.4	51.870 %	0.0187
10	200	2	[16,50]	[15,30]	[668,6688]	7.116	0.203	-638.6	1968.3	53.644 %	0.0120
10	200	2	[16,50]	[15,30]	[1336,6688]	7.177	0.227	-1290.1	1315.8	50.564 %	0.0175
10	200	2	[32,50]	[1,10]	[828,8287]	7.068	0.200	-832.8	2553.1	51.743 %	0.0118
10	200	2	[32,50]	[1,10]	[1656,8287]	7.149	0.204	-1625.5	1626.7	50.534 %	0.0238
10	200	2	[32,50]	[5,10]	[828,8289]	6.920	0.207	-809.2	2316.6	54.635 %	0.0261
10	200	2	[32,50]	[5,10]	[1656,8289]	6.899	0.214	-1647.5	1479.1	51.586 %	0.0201
10	200	2	[32,50]	[1,30]	[829,8297]	7.666	0.201	-800.3	2707.6	51.877 %	0.0191
10	200	2	[32,50]	[1,30]	[1658,8297]	7.657	0.204	-1630.1	1870.4	48.881 %	0.0125
10	200	2	[32,50]	[15,30]	[830,8304]	7.269	0.200	-794.7	2725.1	51.313 %	0.0160
10	200	2	[32,50]	[15,30]	[1660,8304]	7.172	0.209	-1648.0	1825.9	49.322 %	0.0114

Tiempo Promedio Total H_2: 7.171 seg.

Tiempo Promedio Total H_1: 0.205 seg.

Rendimiento Promedio Total: 54.303 %

Tabla de Experimentos

$n : 300, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	2	[1,50]	[1,10]	[758,7580]	22.699	0.437	-749.1	1690.1	58.595 %	0.0199
10	300	2	[1,50]	[1,10]	[1516,7580]	22.424	0.428	-1506.1	989.5	54.781 %	0.0196
10	300	2	[1,50]	[5,10]	[758,7582]	22.183	0.439	-741.0	1605.6	59.703 %	0.0179
10	300	2	[1,50]	[5,10]	[1516,7582]	22.235	0.447	-1501.6	820.6	56.875 %	0.0225
10	300	2	[1,50]	[1,30]	[759,7590]	23.979	0.425	-736.3	1912.9	56.653 %	0.0129
10	300	2	[1,50]	[1,30]	[1518,7590]	23.319	0.427	-1501.0	1076.3	54.361 %	0.0170
10	300	2	[1,50]	[15,30]	[759,7597]	22.726	0.426	-740.9	1748.3	58.064 %	0.0198
10	300	2	[1,50]	[15,30]	[1518,7597]	22.871	0.428	-1481.9	972.3	55.621 %	0.0221
10	300	2	[16,50]	[1,10]	[1000,10004]	22.838	0.435	-1017.3	2743.1	54.581 %	0.0159
10	300	2	[16,50]	[1,10]	[2000,10004]	22.740	0.439	-1986.8	1745.9	51.397 %	0.0230
10	300	2	[16,50]	[5,10]	[1000,10006]	22.423	0.449	-987.6	2597.6	56.058 %	0.0189
10	300	2	[16,50]	[5,10]	[2000,10006]	22.436	0.441	-1993.2	1615.2	52.555 %	0.0136
10	300	2	[16,50]	[1,30]	[1001,10014]	24.179	0.421	-982.6	2929.1	53.713 %	0.0159
10	300	2	[16,50]	[1,30]	[2002,10014]	23.829	0.422	-1967.5	2004.1	50.907 %	0.0220
10	300	2	[16,50]	[15,30]	[1002,10021]	22.948	0.429	-976.6	2894.7	54.079 %	0.0122
10	300	2	[16,50]	[15,30]	[2004,10021]	23.089	0.431	-1975.3	1885.1	51.063 %	0.0122
10	300	2	[32,50]	[1,10]	[1242,12428]	22.760	0.432	-1227.9	3997.7	51.664 %	0.0106
10	300	2	[32,50]	[1,10]	[2484,12428]	22.838	0.434	-2463.2	2685.2	49.678 %	0.0169
10	300	2	[32,50]	[5,10]	[1243,12430]	22.450	0.441	-1234.1	3497.7	54.234 %	0.0181
10	300	2	[32,50]	[5,10]	[2486,12430]	22.512	0.447	-2453.7	2503.5	50.351 %	0.0159
10	300	2	[32,50]	[1,30]	[1243,12438]	24.215	0.426	-1211.1	3987.2	52.245 %	0.0226
10	300	2	[32,50]	[1,30]	[2486,12438]	24.254	0.423	-2479.1	2749.3	48.515 %	0.0147
10	300	2	[32,50]	[15,30]	[1244,12445]	23.309	0.431	-1221.9	3917.7	52.281 %	0.0167
10	300	2	[32,50]	[15,30]	[2488,12445]	23.283	0.430	-2450.7	2893.9	48.110 %	0.0164

Tiempo Promedio Total H_2: 23.022 seg.

Tiempo Promedio Total H_1: 0.433 seg.

Rendimiento Promedio Total: 53.587 %

Tabla de Experimentos

$n : 500, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	2	[1,50]	[1,10]	[1263,12630]	107.535	1.155	-1254.6	2774.4	58.687 %	0.0149
10	500	2	[1,50]	[1,10]	[2526,12630]	107.052	1.149	-2512.7	1812.7	53.652 %	0.0127
10	500	2	[1,50]	[5,10]	[1263,12632]	106.794	1.180	-1258.3	2704.3	59.273 %	0.0116
10	500	2	[1,50]	[5,10]	[2526,12632]	107.305	1.187	-2507.7	1407.8	56.277 %	0.0155
10	500	2	[1,50]	[1,30]	[1264,12640]	111.095	1.115	-1243.8	3143.2	56.672 %	0.0187
10	500	2	[1,50]	[1,30]	[2528,12640]	110.824	1.134	-2510.8	1992.7	53.123 %	0.0178
10	500	2	[1,50]	[15,30]	[1264,12647]	107.962	1.140	-1240.3	3177.2	56.258 %	0.0099
10	500	2	[1,50]	[15,30]	[2528,12647]	108.446	1.132	-2512.6	1824.3	53.661 %	0.0105
10	500	2	[16,50]	[1,10]	[1667,16670]	108.448	1.146	-1658.6	4845.6	53.606 %	0.0194
10	500	2	[16,50]	[1,10]	[3334,16670]	108.877	1.156	-3309.0	3094.6	50.819 %	0.0144
10	500	2	[16,50]	[5,10]	[1667,16672]	107.300	1.182	-1665.7	4505.3	55.153 %	0.0077
10	500	2	[16,50]	[5,10]	[3334,16672]	107.159	1.172	-3317.9	2623.4	53.084 %	0.0107
10	500	2	[16,50]	[1,30]	[1668,16680]	112.596	1.117	-1672.9	5132.8	52.806 %	0.0135
10	500	2	[16,50]	[1,30]	[3336,16680]	112.972	1.119	-3311.1	3458.7	49.815 %	0.0154
10	500	2	[16,50]	[15,30]	[1668,16687]	109.731	1.133	-1644.8	4998.2	52.903 %	0.0136
10	500	2	[16,50]	[15,30]	[3336,16687]	109.264	1.133	-3291.8	3213.3	51.153 %	0.0174
10	500	2	[32,50]	[1,10]	[2071,20710]	109.268	1.154	-2057.1	6700.6	51.656 %	0.0132
10	500	2	[32,50]	[1,10]	[4142,20710]	108.944	1.149	-4128.0	4473.1	49.259 %	0.0119
10	500	2	[32,50]	[5,10]	[2071,20712]	108.630	1.181	-2060.6	6225.3	52.586 %	0.0057
10	500	2	[32,50]	[5,10]	[4142,20712]	108.287	1.189	-4113.0	4025.0	50.573 %	0.0075
10	500	2	[32,50]	[1,30]	[2072,20720]	113.535	1.135	-2049.6	7007.4	51.123 %	0.0156
10	500	2	[32,50]	[1,30]	[4144,20720]	113.040	1.121	-4115.5	4936.2	48.028 %	0.0101
10	500	2	[32,50]	[15,30]	[2072,20727]	110.546	1.132	-2034.4	6953.2	50.885 %	0.0088
10	500	2	[32,50]	[15,30]	[4144,20727]	111.127	1.142	-4121.6	4783.5	48.333 %	0.0107

Tiempo Promedio Total H_2: 109.447 seg.

Tiempo Promedio Total H_1: 1.148 seg.

Rendimiento Promedio Total: 52.891 %

Tabla de Experimentos

$n : 750, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	2	[1,50]	[1,10]	[1894,18942]	377.367	2.556	-1885.6	4513.4	57.064 %	0.0146
10	750	2	[1,50]	[1,10]	[3788,18942]	377.477	2.536	-3771.5	2768.5	53.636 %	0.0097
10	750	2	[1,50]	[5,10]	[1894,18944]	373.080	2.604	-1897.7	4177.6	58.571 %	0.0116
10	750	2	[1,50]	[5,10]	[3788,18944]	373.521	2.612	-3765.0	2061.5	56.602 %	0.0112
10	750	2	[1,50]	[1,30]	[1895,18952]	382.500	2.490	-1870.8	4862.7	56.098 %	0.0129
10	750	2	[1,50]	[1,30]	[3790,18952]	381.361	2.473	-3769.2	2985.7	53.084 %	0.0108
10	750	2	[1,50]	[15,30]	[1895,18959]	378.162	2.540	-1870.8	4678.6	56.665 %	0.0136
10	750	2	[1,50]	[15,30]	[3790,18959]	379.109	2.527	-3768.3	2817.4	53.667 %	0.0088
10	750	2	[16,50]	[1,10]	[2500,25002]	378.166	2.529	-2495.8	7397.9	53.295 %	0.0068
10	750	2	[16,50]	[1,10]	[5000,25002]	377.403	2.552	-4973.5	4867.2	50.539 %	0.0055
10	750	2	[16,50]	[5,10]	[2500,25004]	379.382	2.598	-2478.2	6807.5	54.693 %	0.0065
10	750	2	[16,50]	[5,10]	[5000,25004]	377.621	2.614	-4979.9	4284.9	51.874 %	0.0057
10	750	2	[16,50]	[1,30]	[2501,25012]	386.107	2.479	-2479.0	7778.1	52.130 %	0.0110
10	750	2	[16,50]	[1,30]	[5002,25012]	387.398	2.491	-4979.8	5383.7	49.172 %	0.0103
10	750	2	[16,50]	[15,30]	[2501,25019]	382.664	2.514	-2479.3	7364.9	53.648 %	0.0158
10	750	2	[16,50]	[15,30]	[5002,25019]	382.653	2.497	-4995.5	5173.6	49.322 %	0.0076
10	750	2	[32,50]	[1,10]	[3106,31062]	379.999	2.554	-3070.6	10123.2	51.854 %	0.0069
10	750	2	[32,50]	[1,10]	[6212,31062]	382.641	2.529	-6173.9	7104.4	48.369 %	0.0073
10	750	2	[32,50]	[5,10]	[3106,31064]	378.601	2.645	-3085.1	9373.2	53.127 %	0.0058
10	750	2	[32,50]	[5,10]	[6212,31064]	380.125	2.624	-6182.6	6319.5	49.818 %	0.0094
10	750	2	[32,50]	[1,30]	[3107,31072]	391.950	2.508	-3084.6	10717.0	50.269 %	0.0093
10	750	2	[32,50]	[1,30]	[6214,31072]	391.809	2.477	-6177.6	7756.7	47.441 %	0.0111
10	750	2	[32,50]	[15,30]	[3107,31079]	384.455	2.499	-3085.0	10627.7	50.466 %	0.0077
10	750	2	[32,50]	[15,30]	[6214,31079]	381.346	2.504	-6154.2	7403.0	48.047 %	0.0117

Tiempo Promedio Total H_2: 381.037 seg.

Tiempo Promedio Total H_1: 2.540 seg.

Rendimiento Promedio Total: 52.477 %

Tabla de Experimentos

$n : 1000, m : 2, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	2	[1,50]	[1,10]	[2525,25255]	920.688	4.688	-2523.2	6008.7	57.231 %	0.0081
10	1000	2	[1,50]	[1,10]	[5050,25255]	923.815	4.628	-5037.5	3495.5	54.228 %	0.0080
10	1000	2	[1,50]	[5,10]	[2525,25257]	918.583	4.918	-2505.6	5695.8	58.114 %	0.0076
10	1000	2	[1,50]	[5,10]	[5050,25257]	919.764	4.738	-5037.2	3038.3	55.531 %	0.0079
10	1000	2	[1,50]	[1,30]	[2526,25265]	936.753	4.466	-2521.9	6555.0	55.680 %	0.0131
10	1000	2	[1,50]	[1,30]	[5052,25265]	929.603	4.514	-5032.7	4114.8	52.637 %	0.0143
10	1000	2	[1,50]	[15,30]	[2527,25272]	931.189	4.551	-2509.3	6317.8	56.559 %	0.0097
10	1000	2	[1,50]	[15,30]	[5054,25272]	923.528	4.571	-5029.8	3700.2	53.871 %	0.0077
10	1000	2	[16,50]	[1,10]	[3333,33335]	930.210	4.596	-3323.3	9832.5	53.373 %	0.0095
10	1000	2	[16,50]	[1,10]	[6666,33335]	924.634	4.694	-6653.2	6535.7	50.416 %	0.0085
10	1000	2	[16,50]	[5,10]	[3333,33337]	928.594	4.807	-3321.3	9003.2	54.825 %	0.0060
10	1000	2	[16,50]	[5,10]	[6666,33337]	926.189	4.749	-6665.7	5622.9	51.912 %	0.0100
10	1000	2	[16,50]	[1,30]	[3334,33345]	945.550	4.593	-3311.9	10630.3	52.053 %	0.0075
10	1000	2	[16,50]	[1,30]	[6668,33345]	946.281	4.503	-6640.9	7256.8	49.297 %	0.0092
10	1000	2	[16,50]	[15,30]	[3335,33352]	932.507	4.587	-3324.4	10433.8	52.189 %	0.0078
10	1000	2	[16,50]	[15,30]	[6670,33352]	937.563	4.516	-6640.0	7060.6	49.263 %	0.0098
10	1000	2	[32,50]	[1,10]	[4141,41415]	932.002	4.718	-4139.2	13616.9	51.156 %	0.0075
10	1000	2	[32,50]	[1,10]	[8282,41415]	933.620	4.619	-8260.0	9553.2	48.250 %	0.0107
10	1000	2	[32,50]	[5,10]	[4141,41417]	930.526	4.879	-4106.9	12559.4	52.890 %	0.0071
10	1000	2	[32,50]	[5,10]	[8282,41417]	928.531	4.727	-8264.9	8397.5	50.088 %	0.0087
10	1000	2	[32,50]	[1,30]	[4142,41425]	951.224	4.500	-4129.6	14629.9	49.914 %	0.0093
10	1000	2	[32,50]	[1,30]	[8284,41425]	956.121	4.537	-8267.2	10404.5	47.173 %	0.0099
10	1000	2	[32,50]	[15,30]	[4143,41432]	939.239	4.565	-4113.1	14271.2	50.427 %	0.0082
10	1000	2	[32,50]	[15,30]	[8286,41432]	938.870	4.502	-8264.2	10008.0	47.420 %	0.0068

Tiempo Promedio Total H_2: 932.733 seg.

Tiempo Promedio Total H_1: 4.632 seg.

Rendimiento Promedio Total: 52.271 %

Tabla de Experimentos

$n : 10, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	4	[1,50]	[1,10]	[25,257]	0.019	0.006	-12.3	2.3	90.063 %	0.0938
10	10	4	[1,50]	[1,10]	[50,257]	0.032	0.021	-46.8	-32.6	87.104 %	0.0777
10	10	4	[1,50]	[5,10]	[25,259]	0.020	0.008	-19.6	-8.4	92.544 %	0.0672
10	10	4	[1,50]	[5,10]	[50,259]	0.020	0.008	-37.3	-22.7	88.612 %	0.1005
10	10	4	[1,50]	[1,30]	[26,267]	0.018	0.007	-13.4	7.4	86.511 %	0.1573
10	10	4	[1,50]	[1,30]	[52,267]	0.018	0.007	-30.1	-24.9	96.592 %	0.0473
10	10	4	[1,50]	[15,30]	[27,274]	0.020	0.006	-11.9	-1.2	92.597 %	0.0491
10	10	4	[1,50]	[15,30]	[54,274]	0.021	0.008	-28.7	-14.9	91.290 %	0.0579
10	10	4	[16,50]	[1,10]	[33,338]	0.022	0.008	-25.3	-4.4	88.593 %	0.0942
10	10	4	[16,50]	[1,10]	[66,338]	0.019	0.010	-56.9	-39.7	89.145 %	0.0702
10	10	4	[16,50]	[5,10]	[34,340]	0.020	0.005	-20.5	4.6	86.754 %	0.0818
10	10	4	[16,50]	[5,10]	[68,340]	0.021	0.007	-39.7	-19.4	88.614 %	0.0881
10	10	4	[16,50]	[1,30]	[34,348]	0.023	0.010	-28.6	-8.1	89.025 %	0.0579
10	10	4	[16,50]	[1,30]	[68,348]	0.022	0.009	-38.8	-17.1	88.635 %	0.0442
10	10	4	[16,50]	[15,30]	[35,355]	0.020	0.007	-19.9	-3.0	91.833 %	0.0646
10	10	4	[16,50]	[15,30]	[70,355]	0.022	0.007	-26.1	-4.2	87.362 %	0.0736
10	10	4	[32,50]	[1,10]	[41,419]	0.019	0.010	-25.5	1.1	88.819 %	0.0922
10	10	4	[32,50]	[1,10]	[82,419]	0.042	0.032	-63.7	-20.3	82.458 %	0.0685
10	10	4	[32,50]	[5,10]	[42,421]	0.024	0.014	-35.4	1.7	83.203 %	0.1002
10	10	4	[32,50]	[5,10]	[84,421]	0.026	0.015	-68.8	-29.6	82.641 %	0.0894
10	10	4	[32,50]	[1,30]	[42,429]	0.046	0.025	-27.7	-3.4	90.056 %	0.0765
10	10	4	[32,50]	[1,30]	[84,429]	0.034	0.015	-62.0	-30.2	86.532 %	0.0665
10	10	4	[32,50]	[15,30]	[43,436]	0.028	0.011	-9.5	35.4	84.110 %	0.0438
10	10	4	[32,50]	[15,30]	[86,436]	0.023	0.010	-72.8	-36.9	84.538 %	0.0618

Tiempo Promedio Total H_2: 0.024 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 88.235 %

Tabla de Experimentos

$n : 20, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	4	[1,50]	[1,10]	[51,510]	0.040	0.013	-45.1	-3.0	85.258 %	0.0551
10	20	4	[1,50]	[1,10]	[102,510]	0.039	0.014	-96.8	-59.4	85.971 %	0.0847
10	20	4	[1,50]	[5,10]	[51,512]	0.041	0.011	-48.0	-3.6	83.779 %	0.0620
10	20	4	[1,50]	[5,10]	[102,512]	0.037	0.013	-98.9	-72.2	88.974 %	0.0769
10	20	4	[1,50]	[1,30]	[52,520]	0.039	0.012	-33.6	-8.0	90.732 %	0.0417
10	20	4	[1,50]	[1,30]	[104,520]	0.040	0.010	-82.6	-52.8	88.777 %	0.0669
10	20	4	[1,50]	[15,30]	[52,527]	0.037	0.011	-32.3	-0.5	89.989 %	0.0748
10	20	4	[1,50]	[15,30]	[104,527]	0.039	0.009	-91.6	-51.7	85.229 %	0.0577
10	20	4	[16,50]	[1,10]	[67,671]	0.058	0.022	-75.8	-3.6	81.537 %	0.0667
10	20	4	[16,50]	[1,10]	[134,671]	0.039	0.010	-128.1	-61.4	80.730 %	0.0734
10	20	4	[16,50]	[5,10]	[67,673]	0.038	0.011	-59.7	7.9	82.762 %	0.0656
10	20	4	[16,50]	[5,10]	[134,673]	0.048	0.019	-114.6	-53.1	83.421 %	0.1099
10	20	4	[16,50]	[1,30]	[68,681]	0.043	0.009	-48.6	20.5	82.910 %	0.0622
10	20	4	[16,50]	[1,30]	[136,681]	0.046	0.012	-104.4	-25.0	78.838 %	0.0531
10	20	4	[16,50]	[15,30]	[68,688]	0.047	0.011	-58.0	4.4	84.224 %	0.0873
10	20	4	[16,50]	[15,30]	[136,688]	0.041	0.012	-102.4	-27.0	81.524 %	0.0705
10	20	4	[32,50]	[1,10]	[83,833]	0.040	0.012	-80.8	-6.9	83.584 %	0.0512
10	20	4	[32,50]	[1,10]	[166,833]	0.042	0.010	-149.1	-46.9	77.137 %	0.0760
10	20	4	[32,50]	[5,10]	[83,835]	0.041	0.013	-75.2	29.6	79.015 %	0.0923
10	20	4	[32,50]	[5,10]	[166,835]	0.034	0.011	-137.9	-16.8	74.015 %	0.0323
10	20	4	[32,50]	[1,30]	[84,843]	0.052	0.013	-59.3	58.9	77.616 %	0.0460
10	20	4	[32,50]	[1,30]	[168,843]	0.048	0.009	-164.4	-59.0	76.546 %	0.0478
10	20	4	[32,50]	[15,30]	[85,850]	0.044	0.011	-41.0	36.1	84.797 %	0.0512
10	20	4	[32,50]	[15,30]	[170,850]	0.041	0.009	-136.4	-27.8	78.047 %	0.0752

Tiempo Promedio Total H_2: 0.042 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 82.725 %

Tabla de Experimentos

$n : 30, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	4	[1,50]	[1,10]	[76,762]	0.066	0.013	-82.7	-17.5	83.515 %	0.0913
10	30	4	[1,50]	[1,10]	[152,762]	0.066	0.015	-153.8	-92.3	83.110 %	0.0966
10	30	4	[1,50]	[5,10]	[76,764]	0.060	0.013	-62.1	-8.7	87.077 %	0.0460
10	30	4	[1,50]	[5,10]	[152,764]	0.058	0.013	-150.1	-84.0	83.597 %	0.0598
10	30	4	[1,50]	[1,30]	[77,772]	0.072	0.016	-60.1	14.2	82.834 %	0.0440
10	30	4	[1,50]	[1,30]	[154,772]	0.073	0.012	-148.5	-91.8	85.080 %	0.0683
10	30	4	[1,50]	[15,30]	[77,779]	0.068	0.013	-51.9	27.8	82.970 %	0.0633
10	30	4	[1,50]	[15,30]	[154,779]	0.069	0.013	-119.4	-56.0	85.199 %	0.0623
10	30	4	[16,50]	[1,10]	[100,1004]	0.114	0.019	-99.9	9.7	80.619 %	0.0863
10	30	4	[16,50]	[1,10]	[200,1004]	0.068	0.017	-200.1	-60.1	73.883 %	0.0541
10	30	4	[16,50]	[5,10]	[100,1006]	0.058	0.015	-95.5	-4.8	83.347 %	0.0660
10	30	4	[16,50]	[5,10]	[200,1006]	0.088	0.028	-191.0	-75.9	78.429 %	0.0382
10	30	4	[16,50]	[1,30]	[101,1015]	0.083	0.014	-102.5	12.8	79.133 %	0.0466
10	30	4	[16,50]	[1,30]	[202,1015]	0.081	0.016	-177.1	-61.5	79.283 %	0.0493
10	30	4	[16,50]	[15,30]	[102,1022]	0.075	0.013	-87.2	31.6	80.440 %	0.0354
10	30	4	[16,50]	[15,30]	[204,1022]	0.077	0.018	-173.1	-45.1	77.881 %	0.0419
10	30	4	[32,50]	[1,10]	[124,1247]	0.068	0.015	-107.2	91.3	73.570 %	0.0321
10	30	4	[32,50]	[1,10]	[248,1247]	0.072	0.017	-231.0	-42.8	73.038 %	0.0481
10	30	4	[32,50]	[5,10]	[124,1249]	0.066	0.013	-113.1	67.3	75.176 %	0.0363
10	30	4	[32,50]	[5,10]	[248,1249]	0.061	0.014	-235.1	-92.1	79.588 %	0.1078
10	30	4	[32,50]	[1,30]	[125,1257]	0.084	0.013	-111.4	54.4	77.153 %	0.0610
10	30	4	[32,50]	[1,30]	[250,1257]	0.090	0.016	-233.0	-87.2	79.558 %	0.0591
10	30	4	[32,50]	[15,30]	[126,1264]	0.080	0.012	-99.3	68.9	79.196 %	0.0657
10	30	4	[32,50]	[15,30]	[252,1264]	0.079	0.015	-233.6	-64.7	76.575 %	0.0647

Tiempo Promedio Total H_2: 0.074 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 80.011 %

Tabla de Experimentos

$n : 50, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	4	[1,50]	[1,10]	[126,1267]	0.169	0.024	-127.3	-2.9	82.646 %	0.0649
10	50	4	[1,50]	[1,10]	[252,1267]	0.174	0.025	-242.4	-98.1	78.237 %	0.0426
10	50	4	[1,50]	[5,10]	[126,1269]	0.151	0.025	-116.8	36.3	78.764 %	0.0488
10	50	4	[1,50]	[5,10]	[252,1269]	0.168	0.025	-254.2	-141.6	81.897 %	0.0448
10	50	4	[1,50]	[1,30]	[127,1277]	0.236	0.036	-114.1	39.3	79.481 %	0.0328
10	50	4	[1,50]	[1,30]	[254,1277]	0.194	0.027	-233.5	-104.9	80.209 %	0.0331
10	50	4	[1,50]	[15,30]	[128,1284]	0.204	0.024	-112.5	21.4	82.086 %	0.0712
10	50	4	[1,50]	[15,30]	[256,1284]	0.177	0.023	-228.5	-100.7	81.315 %	0.0405
10	50	4	[16,50]	[1,10]	[167,1671]	0.178	0.026	-174.0	75.4	75.224 %	0.0385
10	50	4	[16,50]	[1,10]	[334,1671]	0.186	0.025	-328.0	-86.0	74.485 %	0.0559
10	50	4	[16,50]	[5,10]	[167,1673]	0.173	0.022	-160.6	78.8	76.353 %	0.0408
10	50	4	[16,50]	[5,10]	[334,1673]	0.170	0.024	-317.2	-89.9	74.528 %	0.0610
10	50	4	[16,50]	[1,30]	[168,1681]	0.226	0.023	-156.4	66.5	77.623 %	0.0276
10	50	4	[16,50]	[1,30]	[336,1681]	0.217	0.022	-330.7	-121.1	77.662 %	0.0480
10	50	4	[16,50]	[15,30]	[168,1688]	0.202	0.029	-145.5	95.8	76.863 %	0.0627
10	50	4	[16,50]	[15,30]	[336,1688]	0.240	0.027	-300.3	-53.1	74.357 %	0.0614
10	50	4	[32,50]	[1,10]	[207,2075]	0.179	0.023	-191.8	95.2	77.116 %	0.0588
10	50	4	[32,50]	[1,10]	[414,2075]	0.174	0.024	-399.7	-81.3	73.695 %	0.0773
10	50	4	[32,50]	[5,10]	[207,2077]	0.165	0.025	-214.4	101.6	74.788 %	0.0396
10	50	4	[32,50]	[5,10]	[414,2077]	0.172	0.024	-408.0	-114.2	73.756 %	0.0646
10	50	4	[32,50]	[1,30]	[208,2085]	0.227	0.023	-192.9	96.4	77.894 %	0.0539
10	50	4	[32,50]	[1,30]	[416,2085]	0.227	0.023	-399.1	-42.1	70.041 %	0.0500
10	50	4	[32,50]	[15,30]	[209,2092]	0.197	0.021	-162.6	190.9	73.606 %	0.0356
10	50	4	[32,50]	[15,30]	[418,2092]	0.196	0.023	-395.0	-91.1	74.076 %	0.0467

Tiempo Promedio Total H_2: 0.192 seg.

Tiempo Promedio Total H_1: 0.025 seg.

Rendimiento Promedio Total: 76.946 %

Tabla de Experimentos

$n : 100, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	4	[1,50]	[1,10]	[253,2530]	1.025	0.064	-252.6	77.6	77.495 %	0.0209
10	100	4	[1,50]	[1,10]	[506,2530]	0.944	0.067	-495.4	-140.7	74.249 %	0.0259
10	100	4	[1,50]	[5,10]	[253,2532]	0.909	0.072	-245.7	92.6	77.068 %	0.0326
10	100	4	[1,50]	[5,10]	[506,2532]	0.895	0.065	-498.0	-191.4	76.643 %	0.0303
10	100	4	[1,50]	[1,30]	[254,2540]	1.028	0.059	-238.1	51.1	80.265 %	0.0382
10	100	4	[1,50]	[1,30]	[508,2540]	1.033	0.062	-490.3	-171.0	77.503 %	0.0488
10	100	4	[1,50]	[15,30]	[254,2547]	0.959	0.060	-238.1	98.3	77.828 %	0.0208
10	100	4	[1,50]	[15,30]	[508,2547]	0.959	0.063	-477.7	-169.5	78.261 %	0.0281
10	100	4	[16,50]	[1,10]	[333,3338]	0.965	0.062	-319.3	179.2	75.645 %	0.0347
10	100	4	[16,50]	[1,10]	[666,3338]	0.993	0.064	-648.7	-123.7	72.515 %	0.0332
10	100	4	[16,50]	[5,10]	[334,3340]	0.943	0.064	-318.6	196.9	74.672 %	0.0265
10	100	4	[16,50]	[5,10]	[668,3340]	0.953	0.063	-653.8	-193.1	74.704 %	0.0358
10	100	4	[16,50]	[1,30]	[334,3348]	1.130	0.061	-323.5	197.7	74.598 %	0.0253
10	100	4	[16,50]	[1,30]	[668,3348]	1.140	0.064	-650.7	-145.7	72.868 %	0.0400
10	100	4	[16,50]	[15,30]	[335,3355]	1.047	0.065	-314.0	183.9	75.798 %	0.0415
10	100	4	[16,50]	[15,30]	[670,3355]	1.026	0.064	-659.8	-179.4	74.412 %	0.0424
10	100	4	[32,50]	[1,10]	[414,4146]	0.985	0.062	-393.2	376.0	70.874 %	0.0191
10	100	4	[32,50]	[1,10]	[828,4146]	0.992	0.061	-810.9	-54.1	68.757 %	0.0219
10	100	4	[32,50]	[5,10]	[414,4148]	0.970	0.061	-410.2	251.3	74.130 %	0.0481
10	100	4	[32,50]	[5,10]	[828,4148]	0.961	0.065	-815.1	-119.5	70.626 %	0.0255
10	100	4	[32,50]	[1,30]	[415,4156]	1.151	0.062	-370.6	378.5	72.096 %	0.0133
10	100	4	[32,50]	[1,30]	[830,4156]	1.169	0.062	-806.4	-137.6	71.496 %	0.0334
10	100	4	[32,50]	[15,30]	[416,4163]	1.054	0.060	-382.6	446.7	70.090 %	0.0117
10	100	4	[32,50]	[15,30]	[832,4163]	1.044	0.063	-802.2	-5.2	67.751 %	0.0226

Tiempo Promedio Total H_2: 1.011 seg.

Tiempo Promedio Total H_1: 0.063 seg.

Rendimiento Promedio Total: 74.181 %

Tabla de Experimentos

$n : 200, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	4	[1,50]	[1,10]	[505,5055]	6.645	0.206	-504.7	219.0	75.707 %	0.0222
10	200	4	[1,50]	[1,10]	[1010,5055]	6.495	0.207	-1013.0	-395.8	77.111 %	0.0255
10	200	4	[1,50]	[5,10]	[505,5057]	6.558	0.204	-509.9	179.8	76.771 %	0.0337
10	200	4	[1,50]	[5,10]	[1010,5057]	6.478	0.214	-1006.1	-353.4	75.958 %	0.0370
10	200	4	[1,50]	[1,30]	[506,5065]	7.107	0.205	-476.9	268.6	75.663 %	0.0240
10	200	4	[1,50]	[1,30]	[1012,5065]	6.986	0.199	-1015.1	-282.5	73.601 %	0.0219
10	200	4	[1,50]	[15,30]	[507,5072]	6.707	0.200	-483.2	223.5	76.460 %	0.0310
10	200	4	[1,50]	[15,30]	[1014,5072]	6.592	0.201	-985.8	-269.9	74.704 %	0.0254
10	200	4	[16,50]	[1,10]	[667,6671]	6.794	0.205	-674.4	427.0	73.689 %	0.0355
10	200	4	[16,50]	[1,10]	[1334,6671]	6.887	0.209	-1334.9	-190.6	69.832 %	0.0283
10	200	4	[16,50]	[5,10]	[667,6673]	6.620	0.212	-669.6	413.6	73.158 %	0.0200
10	200	4	[16,50]	[5,10]	[1334,6673]	6.680	0.212	-1316.0	-216.7	71.176 %	0.0213
10	200	4	[16,50]	[1,30]	[668,6681]	7.405	0.201	-657.2	525.0	71.946 %	0.0247
10	200	4	[16,50]	[1,30]	[1336,6681]	7.444	0.206	-1327.7	-104.8	69.108 %	0.0243
10	200	4	[16,50]	[15,30]	[668,6688]	7.017	0.200	-637.3	503.0	72.411 %	0.0212
10	200	4	[16,50]	[15,30]	[1336,6688]	7.047	0.205	-1307.0	-135.2	69.891 %	0.0215
10	200	4	[32,50]	[1,10]	[828,8287]	6.923	0.206	-813.2	781.4	69.934 %	0.0243
10	200	4	[32,50]	[1,10]	[1656,8287]	6.835	0.210	-1655.6	-103.5	68.297 %	0.0231
10	200	4	[32,50]	[5,10]	[828,8289]	6.740	0.207	-815.1	672.4	71.688 %	0.0274
10	200	4	[32,50]	[5,10]	[1656,8289]	6.687	0.207	-1637.5	-112.1	68.310 %	0.0181
10	200	4	[32,50]	[1,30]	[829,8297]	7.575	0.202	-805.6	791.9	70.664 %	0.0286
10	200	4	[32,50]	[1,30]	[1658,8297]	7.662	0.203	-1630.7	24.4	67.549 %	0.0281
10	200	4	[32,50]	[15,30]	[830,8304]	7.271	0.205	-831.0	688.2	71.386 %	0.0224
10	200	4	[32,50]	[15,30]	[1660,8304]	6.942	0.203	-1635.7	38.1	66.710 %	0.0297

Tiempo Promedio Total H_2: 6.921 seg.

Tiempo Promedio Total H_1: 0.205 seg.

Rendimiento Promedio Total: 72.155 %

Tabla de Experimentos

$n : 300, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	4	[1,50]	[1,10]	[758,7580]	21.409	0.425	-747.3	323.5	76.566 %	0.0214
10	300	4	[1,50]	[1,10]	[1516,7580]	21.446	0.427	-1506.3	-376.9	73.047 %	0.0162
10	300	4	[1,50]	[5,10]	[758,7582]	21.502	0.461	-743.0	351.1	76.146 %	0.0143
10	300	4	[1,50]	[5,10]	[1516,7582]	21.286	0.441	-1518.7	-439.5	73.516 %	0.0186
10	300	4	[1,50]	[1,30]	[759,7590]	22.183	0.422	-741.5	326.7	76.115 %	0.0222
10	300	4	[1,50]	[1,30]	[1518,7590]	22.445	0.423	-1483.1	-374.7	73.245 %	0.0242
10	300	4	[1,50]	[15,30]	[759,7597]	21.755	0.424	-738.2	412.4	75.082 %	0.0137
10	300	4	[1,50]	[15,30]	[1518,7597]	21.617	0.432	-1493.5	-385.0	73.530 %	0.0237
10	300	4	[16,50]	[1,10]	[1000,10004]	22.168	0.431	-985.6	752.3	72.329 %	0.0249
10	300	4	[16,50]	[1,10]	[2000,10004]	22.021	0.424	-1973.1	-184.9	68.922 %	0.0135
10	300	4	[16,50]	[5,10]	[1000,10006]	21.957	0.438	-975.1	669.8	73.187 %	0.0167
10	300	4	[16,50]	[5,10]	[2000,10006]	22.190	0.441	-1982.5	-292.9	70.705 %	0.0178
10	300	4	[16,50]	[1,30]	[1001,10014]	23.490	0.421	-987.9	865.3	71.096 %	0.0139
10	300	4	[16,50]	[1,30]	[2002,10014]	23.914	0.422	-1987.7	-200.4	69.213 %	0.0225
10	300	4	[16,50]	[15,30]	[1002,10021]	22.547	0.423	-990.8	816.8	71.321 %	0.0184
10	300	4	[16,50]	[15,30]	[2004,10021]	22.839	0.429	-1977.6	-117.1	68.418 %	0.0204
10	300	4	[32,50]	[1,10]	[1242,12428]	22.593	0.429	-1252.7	1180.2	69.802 %	0.0190
10	300	4	[32,50]	[1,10]	[2484,12428]	22.505	0.430	-2471.2	-66.7	67.668 %	0.0192
10	300	4	[32,50]	[5,10]	[1243,12430]	22.481	0.451	-1223.8	1114.2	70.974 %	0.0229
10	300	4	[32,50]	[5,10]	[2486,12430]	22.273	0.436	-2467.5	-77.0	67.777 %	0.0172
10	300	4	[32,50]	[1,30]	[1243,12438]	24.225	0.419	-1244.2	1285.6	68.863 %	0.0234
10	300	4	[32,50]	[1,30]	[2486,12438]	24.278	0.422	-2450.4	53.3	66.868 %	0.0189
10	300	4	[32,50]	[15,30]	[1244,12445]	23.234	0.427	-1218.4	1197.9	70.012 %	0.0193
10	300	4	[32,50]	[15,30]	[2488,12445]	23.088	0.430	-2469.4	-17.1	67.184 %	0.0178

Tiempo Promedio Total H_2: 22.477 seg.

Tiempo Promedio Total H_1: 0.430 seg.

Rendimiento Promedio Total: 71.316 %

Tabla de Experimentos

$n : 500, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	4	[1,50]	[1,10]	[1263,12630]	99.489	1.175	-1262.0	682.6	74.579 %	0.0157
10	500	4	[1,50]	[1,10]	[2526,12630]	100.037	1.191	-2530.0	-629.5	72.727 %	0.0216
10	500	4	[1,50]	[5,10]	[1263,12632]	99.435	1.213	-1270.7	545.5	75.936 %	0.0116
10	500	4	[1,50]	[5,10]	[2526,12632]	99.589	1.208	-2527.2	-681.4	73.467 %	0.0094
10	500	4	[1,50]	[1,30]	[1264,12640]	103.005	1.153	-1252.0	709.7	74.295 %	0.0140
10	500	4	[1,50]	[1,30]	[2528,12640]	103.176	1.157	-2519.1	-476.8	71.318 %	0.0077
10	500	4	[1,50]	[15,30]	[1264,12647]	100.554	1.174	-1234.1	735.4	74.381 %	0.0075
10	500	4	[1,50]	[15,30]	[2528,12647]	101.242	1.167	-2505.0	-541.8	72.108 %	0.0141
10	500	4	[16,50]	[1,10]	[1667,16670]	104.494	1.172	-1658.9	1460.0	70.441 %	0.0087
10	500	4	[16,50]	[1,10]	[3334,16670]	103.750	1.188	-3335.5	-242.8	68.199 %	0.0097
10	500	4	[16,50]	[5,10]	[1667,16672]	103.082	1.213	-1674.5	1212.2	72.261 %	0.0138
10	500	4	[16,50]	[5,10]	[3334,16672]	102.851	1.208	-3316.0	-443.5	69.907 %	0.0162
10	500	4	[16,50]	[1,30]	[1668,16680]	107.645	1.153	-1658.3	1462.2	70.564 %	0.0117
10	500	4	[16,50]	[1,30]	[3336,16680]	107.162	1.151	-3317.3	-129.9	68.023 %	0.0143
10	500	4	[16,50]	[15,30]	[1668,16687]	105.306	1.167	-1660.7	1626.6	69.367 %	0.0110
10	500	4	[16,50]	[15,30]	[3336,16687]	105.707	1.158	-3317.4	-71.6	67.478 %	0.0113
10	500	4	[32,50]	[1,10]	[2071,20710]	104.689	1.191	-2071.6	2163.0	68.668 %	0.0089
10	500	4	[32,50]	[1,10]	[4142,20710]	104.502	1.197	-4121.4	98.9	66.194 %	0.0114
10	500	4	[32,50]	[5,10]	[2071,20712]	103.744	1.218	-2067.1	1828.8	70.297 %	0.0067
10	500	4	[32,50]	[5,10]	[4142,20712]	104.078	1.207	-4130.6	-197.6	67.418 %	0.0103
10	500	4	[32,50]	[1,30]	[2072,20720]	109.171	1.149	-2057.2	2337.2	67.993 %	0.0166
10	500	4	[32,50]	[1,30]	[4144,20720]	110.235	1.152	-4138.2	170.4	65.759 %	0.0113
10	500	4	[32,50]	[15,30]	[2072,20727]	106.722	1.187	-2058.4	2336.9	68.114 %	0.0164
10	500	4	[32,50]	[15,30]	[4144,20727]	106.133	1.174	-4117.0	180.8	66.161 %	0.0071

Tiempo Promedio Total H_2: 103.992 seg.

Tiempo Promedio Total H_1: 1.180 seg.

Rendimiento Promedio Total: 70.236 %

Tabla de Experimentos

$n : 750, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	4	[1,50]	[1,10]	[1894,18942]	359.071	2.625	-1889.4	1077.9	73.848 %	0.0152
10	750	4	[1,50]	[1,10]	[3788,18942]	352.205	2.643	-3776.1	-954.1	72.924 %	0.0176
10	750	4	[1,50]	[5,10]	[1894,18944]	352.097	2.681	-1888.7	904.1	75.574 %	0.0128
10	750	4	[1,50]	[5,10]	[3788,18944]	352.380	2.703	-3781.1	-1006.2	73.103 %	0.0148
10	750	4	[1,50]	[1,30]	[1895,18952]	361.630	2.557	-1879.9	1259.4	73.053 %	0.0126
10	750	4	[1,50]	[1,30]	[3790,18952]	362.559	2.547	-3776.9	-620.3	70.797 %	0.0175
10	750	4	[1,50]	[15,30]	[1895,18959]	356.357	2.582	-1874.3	1178.2	73.488 %	0.0085
10	750	4	[1,50]	[15,30]	[3790,18959]	358.669	2.588	-3757.9	-768.1	71.862 %	0.0167
10	750	4	[16,50]	[1,10]	[2500,25002]	367.895	2.612	-2500.1	2186.9	70.670 %	0.0058
10	750	4	[16,50]	[1,10]	[5000,25002]	367.353	2.655	-4996.1	-263.6	68.055 %	0.0102
10	750	4	[16,50]	[5,10]	[2500,25004]	364.889	2.693	-2501.9	1683.2	72.707 %	0.0127
10	750	4	[16,50]	[5,10]	[5000,25004]	360.088	2.693	-4995.3	-633.3	69.772 %	0.0065
10	750	4	[16,50]	[1,30]	[2501,25012]	377.077	2.548	-2475.8	2391.7	69.997 %	0.0096
10	750	4	[16,50]	[1,30]	[5002,25012]	376.813	2.553	-4982.2	-96.1	67.085 %	0.0222
10	750	4	[16,50]	[15,30]	[2501,25019]	368.905	2.580	-2509.0	2337.9	69.860 %	0.0103
10	750	4	[16,50]	[15,30]	[5002,25019]	366.257	2.568	-4968.9	-260.5	68.100 %	0.0142
10	750	4	[32,50]	[1,10]	[3106,31062]	370.948	2.627	-3094.4	3230.6	68.943 %	0.0088
10	750	4	[32,50]	[1,10]	[6212,31062]	370.200	2.623	-6213.1	31.7	66.782 %	0.0149
10	750	4	[32,50]	[5,10]	[3106,31064]	370.240	2.707	-3106.8	2933.3	69.886 %	0.0086
10	750	4	[32,50]	[5,10]	[6212,31064]	369.415	2.684	-6192.1	-215.0	67.398 %	0.0115
10	750	4	[32,50]	[1,30]	[3107,31072]	380.649	2.534	-3094.6	3709.1	67.333 %	0.0120
10	750	4	[32,50]	[1,30]	[6214,31072]	383.823	2.558	-6214.3	468.9	65.147 %	0.0085
10	750	4	[32,50]	[15,30]	[3107,31079]	372.775	2.565	-3076.7	3668.5	67.305 %	0.0106
10	750	4	[32,50]	[15,30]	[6214,31079]	376.774	2.601	-6176.5	454.0	65.490 %	0.0090

Tiempo Promedio Total H_2: 366.628 seg.

Tiempo Promedio Total H_1: 2.614 seg.

Rendimiento Promedio Total: 69.966 %

Tabla de Experimentos

$n : 1000, m : 4, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	4	[1,50]	[1,10]	[2525,25255]	882.398	4.651	-2515.4	1457.1	74.212 %	0.0068
10	1000	4	[1,50]	[1,10]	[5050,25255]	881.171	4.624	-5046.8	-1124.5	72.116 %	0.0117
10	1000	4	[1,50]	[5,10]	[2525,25257]	872.978	4.745	-2524.4	1305.4	74.806 %	0.0072
10	1000	4	[1,50]	[5,10]	[5050,25257]	874.178	4.855	-5043.2	-1367.4	73.209 %	0.0121
10	1000	4	[1,50]	[1,30]	[2526,25265]	894.401	4.512	-2510.3	1639.5	73.290 %	0.0118
10	1000	4	[1,50]	[1,30]	[5052,25265]	893.955	4.535	-5029.0	-905.0	71.009 %	0.0114
10	1000	4	[1,50]	[15,30]	[2527,25272]	885.278	4.507	-2506.4	1745.8	72.829 %	0.0091
10	1000	4	[1,50]	[15,30]	[5054,25272]	887.691	4.598	-5036.3	-928.2	70.948 %	0.0105
10	1000	4	[16,50]	[1,10]	[3333,33335]	911.000	4.676	-3326.9	2784.1	71.113 %	0.0142
10	1000	4	[16,50]	[1,10]	[6666,33335]	905.114	4.675	-6661.6	-429.5	68.273 %	0.0107
10	1000	4	[16,50]	[5,10]	[3333,33337]	905.763	4.741	-3362.2	2461.0	71.906 %	0.0084
10	1000	4	[16,50]	[5,10]	[6666,33337]	905.760	4.727	-6660.1	-816.7	69.493 %	0.0032
10	1000	4	[16,50]	[1,30]	[3334,33345]	923.998	4.520	-3304.5	3251.2	69.533 %	0.0136
10	1000	4	[16,50]	[1,30]	[6668,33345]	919.364	4.493	-6654.3	-65.3	66.888 %	0.0097
10	1000	4	[16,50]	[15,30]	[3335,33352]	910.370	4.564	-3334.8	3074.3	70.056 %	0.0108
10	1000	4	[16,50]	[15,30]	[6670,33352]	911.758	4.597	-6638.9	-260.5	67.718 %	0.0109
10	1000	4	[32,50]	[1,10]	[4141,41415]	917.775	4.592	-4118.0	4419.0	68.487 %	0.0110
10	1000	4	[32,50]	[1,10]	[8282,41415]	921.762	4.616	-8266.5	389.8	65.652 %	0.0086
10	1000	4	[32,50]	[5,10]	[4141,41417]	922.295	4.835	-4137.3	3985.6	69.516 %	0.0049
10	1000	4	[32,50]	[5,10]	[8282,41417]	922.101	4.779	-8264.7	-96.5	66.852 %	0.0075
10	1000	4	[32,50]	[1,30]	[4142,41425]	944.543	4.511	-4133.9	4738.4	67.715 %	0.0110
10	1000	4	[32,50]	[1,30]	[8284,41425]	938.885	4.589	-8257.8	934.8	64.197 %	0.0089
10	1000	4	[32,50]	[15,30]	[4143,41432]	930.917	4.597	-4108.0	4778.9	67.642 %	0.0093
10	1000	4	[32,50]	[15,30]	[8286,41432]	928.484	4.599	-8242.6	563.3	65.350 %	0.0117

Tiempo Promedio Total H_2: 907.998 seg.

Tiempo Promedio Total H_1: 4.631 seg.

Rendimiento Promedio Total: 69.700 %

Tabla de Experimentos

$n : 10, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	6	[1,50]	[1,10]	[25,257]	0.036	0.014	-18.1	-17.0	99.047 %	0.0234
10	10	6	[1,50]	[1,10]	[50,257]	0.022	0.012	-39.4	-36.8	97.511 %	0.0327
10	10	6	[1,50]	[5,10]	[25,259]	0.017	0.009	-24.6	-22.1	97.990 %	0.0330
10	10	6	[1,50]	[5,10]	[50,259]	0.019	0.009	-49.1	-47.2	97.692 %	0.0514
10	10	6	[1,50]	[1,30]	[26,267]	0.021	0.010	-19.8	-16.1	97.445 %	0.0381
10	10	6	[1,50]	[1,30]	[52,267]	0.019	0.008	-30.8	-26.7	96.882 %	0.0690
10	10	6	[1,50]	[15,30]	[27,274]	0.022	0.008	-11.4	-3.6	95.210 %	0.0645
10	10	6	[1,50]	[15,30]	[54,274]	0.021	0.010	-34.2	-28.8	96.215 %	0.0467
10	10	6	[16,50]	[1,10]	[33,338]	0.023	0.009	-36.1	-15.7	89.779 %	0.1278
10	10	6	[16,50]	[1,10]	[66,338]	0.020	0.009	-58.5	-45.4	91.850 %	0.0743
10	10	6	[16,50]	[5,10]	[34,340]	0.033	0.014	-30.9	-17.8	92.800 %	0.0628
10	10	6	[16,50]	[5,10]	[68,340]	0.019	0.007	-60.1	-50.3	93.772 %	0.0760
10	10	6	[16,50]	[1,30]	[34,348]	0.021	0.012	-9.8	-4.6	96.964 %	0.0339
10	10	6	[16,50]	[1,30]	[68,348]	0.028	0.010	-44.4	-36.9	95.424 %	0.0417
10	10	6	[16,50]	[15,30]	[35,355]	0.020	0.009	-4.3	6.9	94.309 %	0.0406
10	10	6	[16,50]	[15,30]	[70,355]	0.022	0.008	-44.0	-33.4	94.054 %	0.0701
10	10	6	[32,50]	[1,10]	[41,419]	0.020	0.007	-35.2	-18.0	91.474 %	0.0661
10	10	6	[32,50]	[1,10]	[82,419]	0.024	0.009	-88.6	-79.2	95.484 %	0.0569
10	10	6	[32,50]	[5,10]	[42,421]	0.019	0.006	-30.1	-10.5	91.865 %	0.0550
10	10	6	[32,50]	[5,10]	[84,421]	0.021	0.011	-82.7	-66.7	91.431 %	0.0613
10	10	6	[32,50]	[1,30]	[42,429]	0.052	0.040	-24.0	-6.0	91.960 %	0.1161
10	10	6	[32,50]	[1,30]	[84,429]	0.030	0.012	-56.2	-43.6	93.445 %	0.0469
10	10	6	[32,50]	[15,30]	[43,436]	0.023	0.011	-14.2	1.0	94.043 %	0.0536
10	10	6	[32,50]	[15,30]	[86,436]	0.025	0.013	-71.3	-58.9	94.163 %	0.0632

Tiempo Promedio Total H_2: 0.024 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 94.617 %

Tabla de Experimentos

$n : 20, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	6	[1,50]	[1,10]	[51,510]	0.034	0.011	-39.0	-21.4	93.538 %	0.0441
10	20	6	[1,50]	[1,10]	[102,510]	0.041	0.011	-93.5	-77.5	93.481 %	0.0326
10	20	6	[1,50]	[5,10]	[51,512]	0.041	0.011	-51.1	-35.3	93.470 %	0.0571
10	20	6	[1,50]	[5,10]	[102,512]	0.035	0.011	-91.0	-70.6	91.597 %	0.0658
10	20	6	[1,50]	[1,30]	[52,520]	0.042	0.012	-42.1	-35.5	97.563 %	0.0275
10	20	6	[1,50]	[1,30]	[104,520]	0.041	0.009	-91.4	-78.6	94.697 %	0.0430
10	20	6	[1,50]	[15,30]	[52,527]	0.047	0.012	-36.4	-17.9	93.153 %	0.0392
10	20	6	[1,50]	[15,30]	[104,527]	0.044	0.009	-87.0	-66.2	91.472 %	0.0380
10	20	6	[16,50]	[1,10]	[67,671]	0.051	0.015	-56.9	-23.4	91.166 %	0.0373
10	20	6	[16,50]	[1,10]	[134,671]	0.051	0.018	-140.1	-105.2	89.565 %	0.0754
10	20	6	[16,50]	[5,10]	[67,673]	0.039	0.011	-48.7	-16.2	91.407 %	0.0600
10	20	6	[16,50]	[5,10]	[134,673]	0.041	0.009	-112.5	-70.5	87.097 %	0.0453
10	20	6	[16,50]	[1,30]	[68,681]	0.090	0.022	-33.0	-6.1	91.931 %	0.0590
10	20	6	[16,50]	[1,30]	[136,681]	0.052	0.012	-111.3	-83.4	92.134 %	0.0518
10	20	6	[16,50]	[15,30]	[68,688]	0.043	0.008	-44.3	-2.5	89.029 %	0.0210
10	20	6	[16,50]	[15,30]	[136,688]	0.048	0.011	-103.9	-63.2	87.937 %	0.0381
10	20	6	[32,50]	[1,10]	[83,833]	0.042	0.010	-82.1	-29.7	87.936 %	0.0718
10	20	6	[32,50]	[1,10]	[166,833]	0.043	0.012	-161.7	-106.3	86.766 %	0.0774
10	20	6	[32,50]	[5,10]	[83,835]	0.041	0.013	-87.2	-23.3	85.412 %	0.0509
10	20	6	[32,50]	[5,10]	[166,835]	0.064	0.022	-157.8	-98.5	85.832 %	0.0716
10	20	6	[32,50]	[1,30]	[84,843]	0.061	0.013	-59.2	-2.7	87.666 %	0.0611
10	20	6	[32,50]	[1,30]	[168,843]	0.050	0.012	-143.3	-89.2	86.891 %	0.0579
10	20	6	[32,50]	[15,30]	[85,850]	0.046	0.011	-85.8	-53.6	93.437 %	0.0692
10	20	6	[32,50]	[15,30]	[170,850]	0.046	0.011	-132.6	-75.4	86.987 %	0.0481

Tiempo Promedio Total H_2: 0.047 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 90.423 %

Tabla de Experimentos

$n : 30, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	6	[1,50]	[1,10]	[76,762]	0.068	0.013	-72.2	-45.5	92.687 %	0.0376
10	30	6	[1,50]	[1,10]	[152,762]	0.079	0.019	-147.1	-106.3	88.173 %	0.0383
10	30	6	[1,50]	[5,10]	[76,764]	0.071	0.017	-57.6	-24.8	92.254 %	0.0521
10	30	6	[1,50]	[5,10]	[152,764]	0.071	0.018	-146.6	-109.6	89.190 %	0.0480
10	30	6	[1,50]	[1,30]	[77,772]	0.086	0.018	-54.2	-29.1	93.816 %	0.0450
10	30	6	[1,50]	[1,30]	[154,772]	0.086	0.016	-132.2	-104.3	92.055 %	0.0425
10	30	6	[1,50]	[15,30]	[77,779]	0.074	0.020	-55.0	-17.0	91.001 %	0.0470
10	30	6	[1,50]	[15,30]	[154,779]	0.097	0.020	-142.3	-104.3	89.396 %	0.0377
10	30	6	[16,50]	[1,10]	[100,1004]	0.091	0.019	-103.3	-43.8	89.030 %	0.0302
10	30	6	[16,50]	[1,10]	[200,1004]	0.120	0.022	-196.3	-142.8	88.614 %	0.0594
10	30	6	[16,50]	[5,10]	[100,1006]	0.126	0.031	-101.2	-46.7	89.279 %	0.0622
10	30	6	[16,50]	[5,10]	[200,1006]	0.080	0.019	-171.8	-98.4	85.770 %	0.0501
10	30	6	[16,50]	[1,30]	[101,1015]	0.100	0.018	-82.2	-34.9	91.106 %	0.0409
10	30	6	[16,50]	[1,30]	[202,1015]	0.095	0.018	-187.3	-127.3	87.887 %	0.0345
10	30	6	[16,50]	[15,30]	[102,1022]	0.086	0.015	-78.0	-10.8	87.878 %	0.0392
10	30	6	[16,50]	[15,30]	[204,1022]	0.088	0.016	-168.8	-88.2	84.371 %	0.0436
10	30	6	[32,50]	[1,10]	[124,1247]	0.082	0.015	-108.8	-38.0	89.589 %	0.0453
10	30	6	[32,50]	[1,10]	[248,1247]	0.079	0.019	-233.9	-125.2	82.535 %	0.0440
10	30	6	[32,50]	[5,10]	[124,1249]	0.079	0.018	-106.8	-25.8	87.123 %	0.0794
10	30	6	[32,50]	[5,10]	[248,1249]	0.086	0.019	-231.1	-145.9	86.043 %	0.0481
10	30	6	[32,50]	[1,30]	[125,1257]	0.103	0.017	-103.0	5.6	83.952 %	0.0358
10	30	6	[32,50]	[1,30]	[250,1257]	0.107	0.017	-224.3	-132.3	84.561 %	0.0485
10	30	6	[32,50]	[15,30]	[126,1264]	0.093	0.021	-98.8	-0.2	85.822 %	0.0599
10	30	6	[32,50]	[15,30]	[252,1264]	0.089	0.017	-226.5	-150.9	87.866 %	0.0712

Tiempo Promedio Total H_2: 0.089 seg.

Tiempo Promedio Total H_1: 0.018 seg.

Rendimiento Promedio Total: 88.333 %

Tabla de Experimentos

$n : 50, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	6	[1,50]	[1,10]	[126,1267]	0.162	0.027	-126.6	-52.8	88.570 %	0.0530
10	50	6	[1,50]	[1,10]	[252,1267]	0.171	0.024	-244.0	-172.4	88.275 %	0.0386
10	50	6	[1,50]	[5,10]	[126,1269]	0.200	0.030	-116.6	-40.5	88.769 %	0.0352
10	50	6	[1,50]	[5,10]	[252,1269]	0.164	0.028	-247.5	-160.6	85.581 %	0.0394
10	50	6	[1,50]	[1,30]	[127,1277]	0.187	0.021	-110.2	-36.5	88.590 %	0.0288
10	50	6	[1,50]	[1,30]	[254,1277]	0.187	0.022	-230.8	-142.1	85.794 %	0.0495
10	50	6	[1,50]	[15,30]	[128,1284]	0.167	0.026	-97.4	-8.2	87.225 %	0.0430
10	50	6	[1,50]	[15,30]	[256,1284]	0.167	0.024	-241.6	-173.8	89.082 %	0.0398
10	50	6	[16,50]	[1,10]	[167,1671]	0.189	0.024	-170.5	-25.0	83.841 %	0.0505
10	50	6	[16,50]	[1,10]	[334,1671]	0.183	0.023	-319.2	-186.3	83.874 %	0.0392
10	50	6	[16,50]	[5,10]	[167,1673]	0.166	0.025	-159.3	-35.7	86.276 %	0.0399
10	50	6	[16,50]	[5,10]	[334,1673]	0.173	0.026	-330.9	-208.6	84.410 %	0.0456
10	50	6	[16,50]	[1,30]	[168,1681]	0.222	0.022	-152.5	-17.1	85.075 %	0.0262
10	50	6	[16,50]	[1,30]	[336,1681]	0.249	0.025	-321.2	-193.1	84.869 %	0.0317
10	50	6	[16,50]	[15,30]	[168,1688]	0.202	0.024	-150.8	-23.7	85.442 %	0.0453
10	50	6	[16,50]	[15,30]	[336,1688]	0.200	0.023	-317.1	-167.2	82.709 %	0.0351
10	50	6	[32,50]	[1,10]	[207,2075]	0.194	0.025	-177.2	21.5	82.390 %	0.0349
10	50	6	[32,50]	[1,10]	[414,2075]	0.183	0.023	-410.3	-190.9	79.749 %	0.0331
10	50	6	[32,50]	[5,10]	[207,2077]	0.168	0.022	-204.5	-26.7	84.136 %	0.0390
10	50	6	[32,50]	[5,10]	[414,2077]	0.173	0.023	-412.1	-209.2	81.219 %	0.0251
10	50	6	[32,50]	[1,30]	[208,2085]	0.241	0.024	-177.0	1.7	84.199 %	0.0535
10	50	6	[32,50]	[1,30]	[416,2085]	0.237	0.023	-392.0	-198.5	81.372 %	0.0411
10	50	6	[32,50]	[15,30]	[209,2092]	0.211	0.025	-187.4	-7.7	84.959 %	0.0463
10	50	6	[32,50]	[15,30]	[418,2092]	0.211	0.021	-386.6	-201.0	82.119 %	0.0424

Tiempo Promedio Total H_2: 0.192 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 84.939 %

Tabla de Experimentos

$n : 100, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	6	[1,50]	[1,10]	[253,2530]	1.041	0.078	-246.3	-68.9	86.870 %	0.0354
10	100	6	[1,50]	[1,10]	[506,2530]	0.898	0.065	-506.3	-310.2	83.953 %	0.0403
10	100	6	[1,50]	[5,10]	[253,2532]	0.927	0.071	-260.6	-83.0	86.444 %	0.0206
10	100	6	[1,50]	[5,10]	[506,2532]	0.850	0.065	-479.7	-303.6	85.942 %	0.0455
10	100	6	[1,50]	[1,30]	[254,2540]	0.973	0.061	-236.4	-45.4	86.105 %	0.0279
10	100	6	[1,50]	[1,30]	[508,2540]	0.963	0.063	-482.8	-282.6	83.876 %	0.0412
10	100	6	[1,50]	[15,30]	[254,2547]	0.913	0.062	-226.9	2.8	83.961 %	0.0288
10	100	6	[1,50]	[15,30]	[508,2547]	0.917	0.064	-478.0	-292.0	84.967 %	0.0205
10	100	6	[16,50]	[1,10]	[333,3338]	0.965	0.066	-330.4	-12.1	82.494 %	0.0381
10	100	6	[16,50]	[1,10]	[666,3338]	0.972	0.065	-649.8	-313.9	80.676 %	0.0418
10	100	6	[16,50]	[5,10]	[334,3340]	0.969	0.065	-329.8	-18.5	82.830 %	0.0250
10	100	6	[16,50]	[5,10]	[668,3340]	0.919	0.069	-668.5	-357.1	81.540 %	0.0228
10	100	6	[16,50]	[1,30]	[334,3348]	1.111	0.061	-322.9	-42.0	84.587 %	0.0374
10	100	6	[16,50]	[1,30]	[668,3348]	1.107	0.061	-650.6	-290.7	79.340 %	0.0362
10	100	6	[16,50]	[15,30]	[335,3355]	1.023	0.059	-315.8	17.9	81.929 %	0.0238
10	100	6	[16,50]	[15,30]	[670,3355]	1.009	0.062	-643.3	-399.2	85.595 %	0.0326
10	100	6	[32,50]	[1,10]	[414,4146]	0.969	0.061	-394.1	27.8	82.122 %	0.0418
10	100	6	[32,50]	[1,10]	[828,4146]	0.967	0.061	-816.9	-342.7	78.093 %	0.0307
10	100	6	[32,50]	[5,10]	[414,4148]	0.923	0.065	-397.5	17.4	81.995 %	0.0375
10	100	6	[32,50]	[5,10]	[828,4148]	0.948	0.067	-798.2	-336.4	78.353 %	0.0325
10	100	6	[32,50]	[1,30]	[415,4156]	1.186	0.063	-403.4	40.2	80.970 %	0.0444
10	100	6	[32,50]	[1,30]	[830,4156]	1.169	0.061	-802.1	-290.7	76.589 %	0.0246
10	100	6	[32,50]	[15,30]	[416,4163]	1.044	0.061	-388.5	98.8	79.433 %	0.0240
10	100	6	[32,50]	[15,30]	[832,4163]	1.032	0.063	-793.1	-305.6	77.497 %	0.0282

Tiempo Promedio Total H_2: 0.991 seg.

Tiempo Promedio Total H_1: 0.064 seg.

Rendimiento Promedio Total: 82.340 %

Tabla de Experimentos

$n : 200, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	6	[1,50]	[1,10]	[505,5055]	6.430	0.205	-495.5	-92.4	85.319 %	0.0275
10	200	6	[1,50]	[1,10]	[1010,5055]	6.211	0.206	-1016.4	-568.4	81.825 %	0.0246
10	200	6	[1,50]	[5,10]	[505,5057]	6.286	0.212	-498.5	-78.1	84.655 %	0.0268
10	200	6	[1,50]	[5,10]	[1010,5057]	6.152	0.215	-996.8	-625.0	84.790 %	0.0318
10	200	6	[1,50]	[1,30]	[506,5065]	6.565	0.202	-486.9	-13.8	83.168 %	0.0189
10	200	6	[1,50]	[1,30]	[1012,5065]	6.421	0.202	-989.9	-520.7	81.111 %	0.0218
10	200	6	[1,50]	[15,30]	[507,5072]	6.130	0.209	-480.1	-70.6	85.004 %	0.0237
10	200	6	[1,50]	[15,30]	[1014,5072]	6.297	0.208	-987.9	-565.9	82.773 %	0.0123
10	200	6	[16,50]	[1,10]	[667,6671]	6.607	0.207	-667.7	19.8	81.570 %	0.0310
10	200	6	[16,50]	[1,10]	[1334,6671]	6.604	0.207	-1331.8	-617.1	79.077 %	0.0264
10	200	6	[16,50]	[5,10]	[667,6673]	6.520	0.215	-651.0	23.0	81.894 %	0.0254
10	200	6	[16,50]	[5,10]	[1334,6673]	6.422	0.213	-1319.0	-625.1	79.521 %	0.0209
10	200	6	[16,50]	[1,30]	[668,6681]	7.079	0.205	-660.8	101.1	80.320 %	0.0145
10	200	6	[16,50]	[1,30]	[1336,6681]	7.244	0.207	-1312.5	-590.6	79.031 %	0.0204
10	200	6	[16,50]	[15,30]	[668,6688]	6.718	0.203	-633.5	55.0	81.498 %	0.0243
10	200	6	[16,50]	[15,30]	[1336,6688]	6.718	0.207	-1315.7	-601.7	79.147 %	0.0228
10	200	6	[32,50]	[1,10]	[828,8287]	6.730	0.209	-815.5	190.4	78.672 %	0.0197
10	200	6	[32,50]	[1,10]	[1656,8287]	6.603	0.203	-1637.3	-615.4	76.436 %	0.0223
10	200	6	[32,50]	[5,10]	[828,8289]	6.572	0.212	-810.7	137.6	79.897 %	0.0218
10	200	6	[32,50]	[5,10]	[1656,8289]	6.518	0.211	-1636.2	-744.6	78.767 %	0.0312
10	200	6	[32,50]	[1,30]	[829,8297]	7.384	0.203	-812.0	186.0	78.950 %	0.0174
10	200	6	[32,50]	[1,30]	[1658,8297]	7.418	0.202	-1647.3	-647.0	77.233 %	0.0306
10	200	6	[32,50]	[15,30]	[830,8304]	6.856	0.208	-834.5	175.6	78.954 %	0.0188
10	200	6	[32,50]	[15,30]	[1660,8304]	6.871	0.204	-1629.1	-655.3	77.586 %	0.0247

Tiempo Promedio Total H_2: 6.640 seg.

Tiempo Promedio Total H_1: 0.207 seg.

Rendimiento Promedio Total: 80.716 %

Tabla de Experimentos

$n : 300, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	6	[1,50]	[1,10]	[758,7580]	20.422	0.433	-759.2	-97.6	83.969 %	0.0158
10	300	6	[1,50]	[1,10]	[1516,7580]	20.344	0.459	-1517.0	-852.4	81.746 %	0.0275
10	300	6	[1,50]	[5,10]	[758,7582]	20.088	0.447	-756.8	-127.4	84.345 %	0.0233
10	300	6	[1,50]	[5,10]	[1516,7582]	20.166	0.449	-1512.4	-886.7	82.939 %	0.0182
10	300	6	[1,50]	[1,30]	[759,7590]	20.508	0.424	-728.8	-61.3	84.001 %	0.0195
10	300	6	[1,50]	[1,30]	[1518,7590]	20.614	0.425	-1493.1	-766.7	80.858 %	0.0155
10	300	6	[1,50]	[15,30]	[759,7597]	20.377	0.431	-739.8	-37.8	82.974 %	0.0141
10	300	6	[1,50]	[15,30]	[1518,7597]	20.342	0.435	-1500.8	-792.4	81.230 %	0.0247
10	300	6	[16,50]	[1,10]	[1000,10004]	21.295	0.436	-1005.5	107.6	80.171 %	0.0180
10	300	6	[16,50]	[1,10]	[2000,10004]	21.393	0.437	-1993.3	-846.1	77.673 %	0.0145
10	300	6	[16,50]	[5,10]	[1000,10006]	20.854	0.453	-990.9	80.7	80.675 %	0.0193
10	300	6	[16,50]	[5,10]	[2000,10006]	21.084	0.466	-1996.7	-929.3	79.039 %	0.0210
10	300	6	[16,50]	[1,30]	[1001,10014]	22.376	0.428	-986.4	124.0	80.323 %	0.0214
10	300	6	[16,50]	[1,30]	[2002,10014]	22.465	0.440	-1972.9	-780.1	77.307 %	0.0151
10	300	6	[16,50]	[15,30]	[1002,10021]	21.478	0.432	-975.7	136.0	80.180 %	0.0219
10	300	6	[16,50]	[15,30]	[2004,10021]	21.337	0.435	-1999.4	-848.6	77.657 %	0.0194
10	300	6	[32,50]	[1,10]	[1242,12428]	21.514	0.437	-1248.0	185.0	79.848 %	0.0215
10	300	6	[32,50]	[1,10]	[2484,12428]	21.465	0.432	-2462.1	-929.6	76.520 %	0.0285
10	300	6	[32,50]	[5,10]	[1243,12430]	20.909	0.444	-1225.3	171.7	80.022 %	0.0162
10	300	6	[32,50]	[5,10]	[2486,12430]	21.226	0.449	-2465.2	-995.1	77.307 %	0.0157
10	300	6	[32,50]	[1,30]	[1243,12438]	23.305	0.427	-1225.1	378.3	77.740 %	0.0207
10	300	6	[32,50]	[1,30]	[2486,12438]	23.293	0.428	-2466.8	-883.7	75.761 %	0.0218
10	300	6	[32,50]	[15,30]	[1244,12445]	21.847	0.430	-1216.6	389.8	77.653 %	0.0169
10	300	6	[32,50]	[15,30]	[2488,12445]	22.494	0.434	-2477.9	-878.4	75.471 %	0.0239

Tiempo Promedio Total H_2: 21.300 seg.

Tiempo Promedio Total H_1: 0.438 seg.

Rendimiento Promedio Total: 79.809 %

Tabla de Experimentos

$n : 500, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	6	[1,50]	[1,10]	[1263,12630]	93.616	1.156	-1258.7	-43.9	82.608 %	0.0125
10	500	6	[1,50]	[1,10]	[2526,12630]	95.017	1.156	-2513.3	-1291.9	80.547 %	0.0117
10	500	6	[1,50]	[5,10]	[1263,12632]	94.347	1.193	-1286.6	-112.3	82.761 %	0.0157
10	500	6	[1,50]	[5,10]	[2526,12632]	93.652	1.192	-2527.7	-1395.5	81.806 %	0.0117
10	500	6	[1,50]	[1,30]	[1264,12640]	95.198	1.132	-1250.2	-16.1	82.143 %	0.0115
10	500	6	[1,50]	[1,30]	[2528,12640]	95.519	1.131	-2513.8	-1314.8	80.871 %	0.0151
10	500	6	[1,50]	[15,30]	[1264,12647]	94.144	1.133	-1232.1	-11.7	82.482 %	0.0135
10	500	6	[1,50]	[15,30]	[2528,12647]	95.883	1.146	-2506.9	-1267.5	80.560 %	0.0108
10	500	6	[16,50]	[1,10]	[1667,16670]	99.953	1.151	-1664.6	281.3	79.229 %	0.0124
10	500	6	[16,50]	[1,10]	[3334,16670]	99.968	1.154	-3320.7	-1427.1	77.840 %	0.0166
10	500	6	[16,50]	[5,10]	[1667,16672]	99.084	1.206	-1650.7	71.6	81.368 %	0.0125
10	500	6	[16,50]	[5,10]	[3334,16672]	99.494	1.187	-3307.2	-1494.2	78.618 %	0.0164
10	500	6	[16,50]	[1,30]	[1668,16680]	103.636	1.141	-1654.2	396.2	78.354 %	0.0141
10	500	6	[16,50]	[1,30]	[3336,16680]	103.998	1.138	-3322.0	-1320.3	76.849 %	0.0234
10	500	6	[16,50]	[15,30]	[1668,16687]	100.760	1.141	-1643.3	366.9	78.663 %	0.0159
10	500	6	[16,50]	[15,30]	[3336,16687]	101.619	1.139	-3322.8	-1239.5	76.417 %	0.0131
10	500	6	[32,50]	[1,10]	[2071,20710]	101.785	1.149	-2080.5	579.7	77.604 %	0.0173
10	500	6	[32,50]	[1,10]	[4142,20710]	101.957	1.161	-4137.5	-1557.6	76.191 %	0.0148
10	500	6	[32,50]	[5,10]	[2071,20712]	100.218	1.191	-2057.8	592.5	77.707 %	0.0070
10	500	6	[32,50]	[5,10]	[4142,20712]	101.428	1.185	-4118.4	-1501.1	76.010 %	0.0160
10	500	6	[32,50]	[1,30]	[2072,20720]	106.347	1.136	-2065.6	685.0	77.057 %	0.0110
10	500	6	[32,50]	[1,30]	[4144,20720]	106.911	1.124	-4111.7	-1346.5	75.142 %	0.0048
10	500	6	[32,50]	[15,30]	[2072,20727]	103.832	1.134	-2059.9	654.0	77.507 %	0.0222
10	500	6	[32,50]	[15,30]	[4144,20727]	103.495	1.148	-4121.4	-1412.5	75.331 %	0.0159

Tiempo Promedio Total H_2: 99.661 seg.

Tiempo Promedio Total H_1: 1.155 seg.

Rendimiento Promedio Total: 78.903 %

Tabla de Experimentos

$n : 750, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	6	[1,50]	[1,10]	[1894,18942]	337.361	2.582	-1882.8	18.7	81.887 %	0.0106
10	750	6	[1,50]	[1,10]	[3788,18942]	333.476	2.574	-3772.6	-1890.6	80.171 %	0.0094
10	750	6	[1,50]	[5,10]	[1894,18944]	332.521	2.633	-1891.1	-86.9	82.566 %	0.0060
10	750	6	[1,50]	[5,10]	[3788,18944]	330.768	2.648	-3774.3	-2005.3	81.228 %	0.0087
10	750	6	[1,50]	[1,30]	[1895,18952]	337.913	2.530	-1872.3	80.9	81.461 %	0.0082
10	750	6	[1,50]	[1,30]	[3790,18952]	335.319	2.508	-3768.4	-1857.5	79.810 %	0.0120
10	750	6	[1,50]	[15,30]	[1895,18959]	336.338	2.522	-1867.9	20.4	81.774 %	0.0070
10	750	6	[1,50]	[15,30]	[3790,18959]	335.388	2.544	-3770.1	-1861.1	79.957 %	0.0167
10	750	6	[16,50]	[1,10]	[2500,25002]	354.181	2.575	-2509.9	483.7	79.039 %	0.0119
10	750	6	[16,50]	[1,10]	[5000,25002]	352.886	2.563	-4990.7	-1927.8	76.510 %	0.0072
10	750	6	[16,50]	[5,10]	[2500,25004]	349.642	2.654	-2521.8	274.8	80.045 %	0.0121
10	750	6	[16,50]	[5,10]	[5000,25004]	350.025	2.641	-4977.8	-2198.6	78.315 %	0.0143
10	750	6	[16,50]	[1,30]	[2501,25012]	355.175	2.495	-2480.8	538.1	78.793 %	0.0127
10	750	6	[16,50]	[1,30]	[5002,25012]	360.265	2.488	-4992.6	-1890.9	76.429 %	0.0145
10	750	6	[16,50]	[15,30]	[2501,25019]	354.356	2.538	-2485.2	496.2	79.176 %	0.0076
10	750	6	[16,50]	[15,30]	[5002,25019]	353.599	2.538	-4964.3	-1968.4	77.051 %	0.0143
10	750	6	[32,50]	[1,10]	[3106,31062]	357.543	2.559	-3119.1	965.2	77.205 %	0.0052
10	750	6	[32,50]	[1,10]	[6212,31062]	358.515	2.562	-6191.2	-2184.9	75.698 %	0.0165
10	750	6	[32,50]	[5,10]	[3106,31064]	355.499	2.639	-3122.0	567.2	79.067 %	0.0107
10	750	6	[32,50]	[5,10]	[6212,31064]	358.262	2.645	-6204.3	-2203.1	75.580 %	0.0072
10	750	6	[32,50]	[1,30]	[3107,31072]	369.917	2.500	-3085.3	1252.8	76.426 %	0.0127
10	750	6	[32,50]	[1,30]	[6214,31072]	372.901	2.517	-6212.0	-1790.4	73.785 %	0.0138
10	750	6	[32,50]	[15,30]	[3107,31079]	361.256	2.534	-3076.8	1269.3	76.393 %	0.0117
10	750	6	[32,50]	[15,30]	[6214,31079]	363.542	2.517	-6192.7	-1828.2	73.877 %	0.0104

Tiempo Promedio Total H_2: 350.277 seg.

Tiempo Promedio Total H_1: 2.563 seg.

Rendimiento Promedio Total: 78.427 %

Tabla de Experimentos

$n : 1000, m : 6, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	6	[1,50]	[1,10]	[2525,25255]	824.997	4.633	-2526.0	-69.5	82.224 %	0.0104
10	1000	6	[1,50]	[1,10]	[5050,25255]	826.503	4.611	-5047.6	-2527.3	80.017 %	0.0099
10	1000	6	[1,50]	[5,10]	[2525,25257]	825.714	4.775	-2512.1	-96.4	82.571 %	0.0068
10	1000	6	[1,50]	[5,10]	[5050,25257]	819.877	4.728	-5050.4	-2672.5	80.937 %	0.0103
10	1000	6	[1,50]	[1,30]	[2526,25265]	834.668	4.457	-2510.0	38.1	81.742 %	0.0161
10	1000	6	[1,50]	[1,30]	[5052,25265]	830.807	4.436	-5043.6	-2295.8	78.574 %	0.0044
10	1000	6	[1,50]	[15,30]	[2527,25272]	823.748	4.610	-2507.9	79.6	81.477 %	0.0092
10	1000	6	[1,50]	[15,30]	[5054,25272]	822.463	4.548	-5031.5	-2429.0	79.532 %	0.0101
10	1000	6	[16,50]	[1,10]	[3333,33335]	873.473	4.650	-3327.5	758.6	78.597 %	0.0071
10	1000	6	[16,50]	[1,10]	[6666,33335]	861.512	4.641	-6651.1	-2625.9	76.964 %	0.0093
10	1000	6	[16,50]	[5,10]	[3333,33337]	860.130	4.776	-3314.5	464.3	79.746 %	0.0099
10	1000	6	[16,50]	[5,10]	[6666,33337]	861.494	4.746	-6659.5	-2835.7	77.707 %	0.0041
10	1000	6	[16,50]	[1,30]	[3334,33345]	873.854	4.470	-3311.8	747.9	78.782 %	0.0098
10	1000	6	[16,50]	[1,30]	[6668,33345]	883.140	4.494	-6648.1	-2384.8	75.878 %	0.0063
10	1000	6	[16,50]	[15,30]	[3335,33352]	875.073	4.658	-3312.5	853.9	78.268 %	0.0084
10	1000	6	[16,50]	[15,30]	[6670,33352]	876.521	4.623	-6655.4	-2437.2	76.034 %	0.0081
10	1000	6	[32,50]	[1,10]	[4141,41415]	887.069	4.669	-4137.9	1364.4	77.196 %	0.0095
10	1000	6	[32,50]	[1,10]	[8282,41415]	892.223	4.664	-8268.3	-2683.6	74.822 %	0.0071
10	1000	6	[32,50]	[5,10]	[4141,41417]	885.119	4.775	-4136.8	1016.7	78.250 %	0.0111
10	1000	6	[32,50]	[5,10]	[8282,41417]	878.275	4.843	-8295.3	-3016.3	75.568 %	0.0107
10	1000	6	[32,50]	[1,30]	[4142,41425]	906.797	4.544	-4111.0	1677.1	76.356 %	0.0067
10	1000	6	[32,50]	[1,30]	[8284,41425]	908.227	4.524	-8275.0	-2595.0	74.639 %	0.0095
10	1000	6	[32,50]	[15,30]	[4143,41432]	889.699	4.505	-4128.4	1558.0	76.765 %	0.0088
10	1000	6	[32,50]	[15,30]	[8286,41432]	895.181	4.565	-8246.6	-2518.6	74.421 %	0.0109

Tiempo Promedio Total H_2: 863.190 seg.

Tiempo Promedio Total H_1: 4.623 seg.

Rendimiento Promedio Total: 78.211 %

Tabla de Experimentos

$n : 10, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	10	[1,50]	[1,10]	[25,257]	0.032	0.010	-25.2	-25.2	100.000 %	0.0000
10	10	10	[1,50]	[1,10]	[50,257]	0.020	0.007	-29.8	-29.4	99.693 %	0.0092
10	10	10	[1,50]	[5,10]	[25,259]	0.018	0.010	-13.7	-13.7	100.000 %	0.0000
10	10	10	[1,50]	[5,10]	[50,259]	0.018	0.009	-30.6	-30.6	100.000 %	0.0000
10	10	10	[1,50]	[1,30]	[26,267]	0.016	0.009	0.5	1.4	99.439 %	0.0168
10	10	10	[1,50]	[1,30]	[52,267]	0.020	0.009	-29.7	-29.1	99.537 %	0.0139
10	10	10	[1,50]	[15,30]	[27,274]	0.020	0.009	-9.1	-5.2	97.580 %	0.0488
10	10	10	[1,50]	[15,30]	[54,274]	0.020	0.011	-32.7	-32.5	99.853 %	0.0044
10	10	10	[16,50]	[1,10]	[33,338]	0.021	0.008	-25.8	-24.4	99.174 %	0.0202
10	10	10	[16,50]	[1,10]	[66,338]	0.022	0.010	-68.7	-68.1	99.641 %	0.0076
10	10	10	[16,50]	[5,10]	[34,340]	0.021	0.010	-37.0	-35.7	99.084 %	0.0275
10	10	10	[16,50]	[5,10]	[68,340]	0.032	0.013	-51.8	-51.2	99.650 %	0.0079
10	10	10	[16,50]	[1,30]	[34,348]	0.027	0.010	-4.6	-2.5	98.982 %	0.0306
10	10	10	[16,50]	[1,30]	[68,348]	0.029	0.013	-56.0	-56.0	100.000 %	0.0000
10	10	10	[16,50]	[15,30]	[35,355]	0.023	0.008	-17.0	-13.6	98.180 %	0.0279
10	10	10	[16,50]	[15,30]	[70,355]	0.023	0.006	-53.7	-51.1	98.653 %	0.0404
10	10	10	[32,50]	[1,10]	[41,419]	0.022	0.007	-34.3	-34.3	100.000 %	0.0000
10	10	10	[32,50]	[1,10]	[82,419]	0.025	0.010	-59.0	-59.0	100.000 %	0.0000
10	10	10	[32,50]	[5,10]	[42,421]	0.019	0.007	-29.9	-29.6	99.859 %	0.0042
10	10	10	[32,50]	[5,10]	[84,421]	0.019	0.009	-65.3	-65.1	99.872 %	0.0038
10	10	10	[32,50]	[1,30]	[42,429]	0.024	0.010	-11.3	-9.7	99.165 %	0.0178
10	10	10	[32,50]	[1,30]	[84,429]	0.024	0.012	-77.2	-77.2	100.000 %	0.0000
10	10	10	[32,50]	[15,30]	[43,436]	0.046	0.033	-5.9	-5.7	99.919 %	0.0024
10	10	10	[32,50]	[15,30]	[86,436]	0.032	0.010	-60.1	-59.2	99.496 %	0.0151

Tiempo Promedio Total H_2: 0.024 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 99.491 %

Tabla de Experimentos

$n : 20, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	10	[1,50]	[1,10]	[51,510]	0.041	0.011	-40.4	-33.6	97.231 %	0.0216
10	20	10	[1,50]	[1,10]	[102,510]	0.044	0.010	-109.0	-102.5	96.694 %	0.0503
10	20	10	[1,50]	[5,10]	[51,512]	0.041	0.012	-59.4	-55.5	98.299 %	0.0212
10	20	10	[1,50]	[5,10]	[102,512]	0.040	0.011	-95.2	-88.4	97.037 %	0.0192
10	20	10	[1,50]	[1,30]	[52,520]	0.043	0.011	-49.2	-48.7	99.801 %	0.0060
10	20	10	[1,50]	[1,30]	[104,520]	0.048	0.011	-85.9	-84.0	99.171 %	0.0144
10	20	10	[1,50]	[15,30]	[52,527]	0.043	0.013	-38.3	-35.0	98.639 %	0.0134
10	20	10	[1,50]	[15,30]	[104,527]	0.044	0.010	-73.7	-70.9	98.902 %	0.0167
10	20	10	[16,50]	[1,10]	[67,671]	0.051	0.012	-68.0	-57.5	96.954 %	0.0250
10	20	10	[16,50]	[1,10]	[134,671]	0.048	0.012	-124.0	-106.5	94.307 %	0.0299
10	20	10	[16,50]	[5,10]	[67,673]	0.045	0.011	-42.2	-32.2	96.906 %	0.0467
10	20	10	[16,50]	[5,10]	[134,673]	0.039	0.011	-123.1	-111.6	96.100 %	0.0369
10	20	10	[16,50]	[1,30]	[68,681]	0.103	0.018	-49.2	-44.0	98.390 %	0.0162
10	20	10	[16,50]	[1,30]	[136,681]	0.065	0.012	-112.3	-105.9	97.813 %	0.0184
10	20	10	[16,50]	[15,30]	[68,688]	0.050	0.014	-37.3	-22.4	95.990 %	0.0301
10	20	10	[16,50]	[15,30]	[136,688]	0.061	0.019	-99.7	-82.1	94.628 %	0.0311
10	20	10	[32,50]	[1,10]	[83,833]	0.055	0.012	-71.9	-54.9	95.967 %	0.0337
10	20	10	[32,50]	[1,10]	[166,833]	0.050	0.012	-153.9	-132.3	94.218 %	0.0368
10	20	10	[32,50]	[5,10]	[83,835]	0.042	0.011	-76.2	-58.4	95.468 %	0.0457
10	20	10	[32,50]	[5,10]	[166,835]	0.045	0.012	-166.5	-144.1	94.020 %	0.0349
10	20	10	[32,50]	[1,30]	[84,843]	0.059	0.010	-76.9	-57.6	94.801 %	0.0304
10	20	10	[32,50]	[1,30]	[168,843]	0.058	0.013	-159.7	-139.2	94.479 %	0.0296
10	20	10	[32,50]	[15,30]	[85,850]	0.100	0.021	-71.7	-58.4	96.824 %	0.0365
10	20	10	[32,50]	[15,30]	[170,850]	0.067	0.018	-141.3	-113.3	92.762 %	0.0350

Tiempo Promedio Total H_2: 0.053 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 96.475 %

Tabla de Experimentos

$n : 30, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	10	[1,50]	[1,10]	[76,762]	0.074	0.012	-68.4	-56.9	97.044 %	0.0293
10	30	10	[1,50]	[1,10]	[152,762]	0.075	0.016	-140.6	-132.5	97.431 %	0.0337
10	30	10	[1,50]	[5,10]	[76,764]	0.074	0.017	-62.4	-45.6	95.550 %	0.0349
10	30	10	[1,50]	[5,10]	[152,764]	0.079	0.016	-138.2	-128.1	97.004 %	0.0373
10	30	10	[1,50]	[1,30]	[77,772]	0.086	0.022	-62.0	-53.4	97.544 %	0.0176
10	30	10	[1,50]	[1,30]	[154,772]	0.076	0.015	-127.2	-114.6	96.412 %	0.0197
10	30	10	[1,50]	[15,30]	[77,779]	0.076	0.016	-47.5	-33.7	96.681 %	0.0248
10	30	10	[1,50]	[15,30]	[154,779]	0.115	0.019	-132.2	-117.9	95.718 %	0.0310
10	30	10	[16,50]	[1,10]	[100,1004]	0.088	0.016	-85.5	-68.2	96.635 %	0.0321
10	30	10	[16,50]	[1,10]	[200,1004]	0.078	0.015	-192.1	-156.2	92.299 %	0.0453
10	30	10	[16,50]	[5,10]	[100,1006]	0.141	0.021	-86.8	-49.3	92.617 %	0.0290
10	30	10	[16,50]	[5,10]	[200,1006]	0.076	0.017	-183.0	-152.8	93.524 %	0.0342
10	30	10	[16,50]	[1,30]	[101,1015]	0.097	0.017	-93.5	-65.9	94.478 %	0.0218
10	30	10	[16,50]	[1,30]	[202,1015]	0.102	0.015	-174.1	-152.7	95.610 %	0.0336
10	30	10	[16,50]	[15,30]	[102,1022]	0.096	0.016	-77.7	-42.3	93.200 %	0.0345
10	30	10	[16,50]	[15,30]	[204,1022]	0.092	0.012	-176.4	-151.9	94.531 %	0.0264
10	30	10	[32,50]	[1,10]	[124,1247]	0.084	0.013	-108.9	-65.8	92.549 %	0.0463
10	30	10	[32,50]	[1,10]	[248,1247]	0.081	0.011	-227.0	-190.2	93.761 %	0.0381
10	30	10	[32,50]	[5,10]	[124,1249]	0.069	0.016	-117.5	-72.2	92.705 %	0.0373
10	30	10	[32,50]	[5,10]	[248,1249]	0.073	0.014	-236.3	-203.2	93.904 %	0.0430
10	30	10	[32,50]	[1,30]	[125,1257]	0.111	0.012	-119.0	-81.1	94.109 %	0.0362
10	30	10	[32,50]	[1,30]	[250,1257]	0.101	0.017	-223.6	-186.8	93.353 %	0.0363
10	30	10	[32,50]	[15,30]	[126,1264]	0.087	0.014	-103.2	-73.0	95.007 %	0.0235
10	30	10	[32,50]	[15,30]	[252,1264]	0.102	0.015	-208.3	-168.5	93.746 %	0.0381

Tiempo Promedio Total H_2: 0.089 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 94.809 %

Tabla de Experimentos

$n : 50, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	10	[1,50]	[1,10]	[126,1267]	0.175	0.026	-118.2	-82.8	94.004 %	0.0292
10	50	10	[1,50]	[1,10]	[252,1267]	0.178	0.027	-246.4	-209.5	93.331 %	0.0260
10	50	10	[1,50]	[5,10]	[126,1269]	0.173	0.025	-120.4	-82.0	94.195 %	0.0178
10	50	10	[1,50]	[5,10]	[252,1269]	0.234	0.027	-248.7	-220.4	94.760 %	0.0366
10	50	10	[1,50]	[1,30]	[127,1277]	0.171	0.023	-100.2	-67.6	94.948 %	0.0204
10	50	10	[1,50]	[1,30]	[254,1277]	0.172	0.022	-244.8	-222.3	95.890 %	0.0304
10	50	10	[1,50]	[15,30]	[128,1284]	0.172	0.024	-100.5	-72.2	95.612 %	0.0308
10	50	10	[1,50]	[15,30]	[256,1284]	0.179	0.026	-232.5	-198.6	94.161 %	0.0285
10	50	10	[16,50]	[1,10]	[167,1671]	0.191	0.027	-186.7	-128.7	93.116 %	0.0373
10	50	10	[16,50]	[1,10]	[334,1671]	0.200	0.025	-316.2	-255.5	91.992 %	0.0360
10	50	10	[16,50]	[5,10]	[167,1673]	0.179	0.026	-153.0	-109.0	94.915 %	0.0488
10	50	10	[16,50]	[5,10]	[334,1673]	0.189	0.026	-340.1	-281.2	92.006 %	0.0488
10	50	10	[16,50]	[1,30]	[168,1681]	0.236	0.024	-166.0	-112.2	93.670 %	0.0286
10	50	10	[16,50]	[1,30]	[336,1681]	0.229	0.028	-310.0	-254.2	92.640 %	0.0282
10	50	10	[16,50]	[15,30]	[168,1688]	0.217	0.026	-164.6	-122.4	94.820 %	0.0324
10	50	10	[16,50]	[15,30]	[336,1688]	0.206	0.025	-299.1	-241.7	92.626 %	0.0334
10	50	10	[32,50]	[1,10]	[207,2075]	0.193	0.026	-182.7	-113.5	93.468 %	0.0303
10	50	10	[32,50]	[1,10]	[414,2075]	0.198	0.025	-433.8	-347.9	90.984 %	0.0394
10	50	10	[32,50]	[5,10]	[207,2077]	0.177	0.027	-203.6	-114.9	91.971 %	0.0372
10	50	10	[32,50]	[5,10]	[414,2077]	0.199	0.025	-409.7	-306.4	88.901 %	0.0194
10	50	10	[32,50]	[1,30]	[208,2085]	0.248	0.026	-198.8	-100.7	90.649 %	0.0204
10	50	10	[32,50]	[1,30]	[416,2085]	0.275	0.024	-387.5	-299.9	90.899 %	0.0414
10	50	10	[32,50]	[15,30]	[209,2092]	0.228	0.024	-168.6	-83.1	92.120 %	0.0394
10	50	10	[32,50]	[15,30]	[418,2092]	0.223	0.029	-391.6	-291.5	89.765 %	0.0253

Tiempo Promedio Total H_2: 0.202 seg.

Tiempo Promedio Total H_1: 0.026 seg.

Rendimiento Promedio Total: 92.977 %

Tabla de Experimentos

$n : 100, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	10	[1,50]	[1,10]	[253,2530]	0.804	0.073	-244.8	-164.4	93.553 %	0.0230
10	100	10	[1,50]	[1,10]	[506,2530]	0.870	0.063	-499.5	-399.7	91.212 %	0.0263
10	100	10	[1,50]	[5,10]	[253,2532]	0.830	0.067	-249.4	-167.8	93.294 %	0.0346
10	100	10	[1,50]	[5,10]	[506,2532]	0.805	0.062	-485.2	-391.7	91.479 %	0.0173
10	100	10	[1,50]	[1,30]	[254,2540]	0.875	0.062	-232.9	-127.3	91.690 %	0.0296
10	100	10	[1,50]	[1,30]	[508,2540]	0.894	0.058	-482.9	-389.0	91.650 %	0.0237
10	100	10	[1,50]	[15,30]	[254,2547]	0.853	0.066	-244.7	-159.8	93.188 %	0.0224
10	100	10	[1,50]	[15,30]	[508,2547]	0.826	0.066	-483.0	-383.3	91.040 %	0.0187
10	100	10	[16,50]	[1,10]	[333,3338]	0.975	0.065	-340.4	-169.5	89.868 %	0.0243
10	100	10	[16,50]	[1,10]	[666,3338]	0.927	0.064	-645.1	-467.3	88.243 %	0.0196
10	100	10	[16,50]	[5,10]	[334,3340]	0.910	0.067	-348.2	-190.2	90.550 %	0.0381
10	100	10	[16,50]	[5,10]	[668,3340]	0.929	0.068	-695.5	-525.1	88.701 %	0.0212
10	100	10	[16,50]	[1,30]	[334,3348]	1.107	0.065	-329.6	-178.7	91.118 %	0.0280
10	100	10	[16,50]	[1,30]	[668,3348]	1.064	0.063	-647.5	-529.8	92.114 %	0.0341
10	100	10	[16,50]	[15,30]	[335,3355]	1.005	0.070	-308.9	-140.4	90.134 %	0.0265
10	100	10	[16,50]	[15,30]	[670,3355]	1.015	0.065	-649.7	-484.0	89.131 %	0.0289
10	100	10	[32,50]	[1,10]	[414,4146]	0.960	0.066	-407.3	-168.2	88.817 %	0.0261
10	100	10	[32,50]	[1,10]	[828,4146]	0.968	0.063	-808.4	-541.0	86.233 %	0.0327
10	100	10	[32,50]	[5,10]	[414,4148]	0.897	0.068	-395.9	-166.8	89.364 %	0.0283
10	100	10	[32,50]	[5,10]	[828,4148]	0.910	0.067	-814.2	-636.9	90.693 %	0.0296
10	100	10	[32,50]	[1,30]	[415,4156]	1.175	0.062	-385.0	-133.4	88.100 %	0.0221
10	100	10	[32,50]	[1,30]	[830,4156]	1.207	0.066	-801.5	-579.9	88.489 %	0.0246
10	100	10	[32,50]	[15,30]	[416,4163]	0.996	0.061	-407.2	-151.5	88.041 %	0.0332
10	100	10	[32,50]	[15,30]	[832,4163]	1.047	0.065	-790.9	-565.2	88.215 %	0.0247

Tiempo Promedio Total H_2: 0.952 seg.

Tiempo Promedio Total H_1: 0.065 seg.

Rendimiento Promedio Total: 90.205 %

Tabla de Experimentos

$n : 200, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	10	[1,50]	[1,10]	[505,5055]	5.840	0.219	-504.8	-273.2	90.878 %	0.0172
10	200	10	[1,50]	[1,10]	[1010,5055]	5.512	0.206	-1003.7	-770.8	89.754 %	0.0269
10	200	10	[1,50]	[5,10]	[505,5057]	5.543	0.215	-496.8	-281.4	91.279 %	0.0177
10	200	10	[1,50]	[5,10]	[1010,5057]	5.645	0.215	-1008.9	-790.8	90.254 %	0.0341
10	200	10	[1,50]	[1,30]	[506,5065]	5.543	0.204	-512.8	-333.9	92.908 %	0.0212
10	200	10	[1,50]	[1,30]	[1012,5065]	5.565	0.202	-979.5	-736.5	89.181 %	0.0149
10	200	10	[1,50]	[15,30]	[507,5072]	5.729	0.401	-480.0	-239.9	90.568 %	0.0145
10	200	10	[1,50]	[15,30]	[1014,5072]	5.778	0.209	-997.7	-722.6	88.095 %	0.0125
10	200	10	[16,50]	[1,10]	[667,6671]	6.629	0.222	-662.3	-251.9	87.894 %	0.0164
10	200	10	[16,50]	[1,10]	[1334,6671]	6.552	0.213	-1326.1	-932.6	87.145 %	0.0162
10	200	10	[16,50]	[5,10]	[667,6673]	6.244	0.213	-658.2	-315.8	89.587 %	0.0282
10	200	10	[16,50]	[5,10]	[1334,6673]	6.240	0.212	-1336.8	-989.4	88.618 %	0.0249
10	200	10	[16,50]	[1,30]	[668,6681]	6.639	0.204	-649.9	-284.0	89.372 %	0.0252
10	200	10	[16,50]	[1,30]	[1336,6681]	6.556	0.202	-1305.2	-915.4	87.437 %	0.0154
10	200	10	[16,50]	[15,30]	[668,6688]	6.468	0.207	-660.6	-228.9	87.404 %	0.0158
10	200	10	[16,50]	[15,30]	[1336,6688]	6.484	0.210	-1301.6	-920.2	87.613 %	0.0183
10	200	10	[32,50]	[1,10]	[828,8287]	6.402	0.207	-819.1	-258.9	86.710 %	0.0178
10	200	10	[32,50]	[1,10]	[1656,8287]	6.708	0.211	-1630.7	-1058.0	85.609 %	0.0129
10	200	10	[32,50]	[5,10]	[828,8289]	6.159	0.214	-822.0	-268.5	86.973 %	0.0130
10	200	10	[32,50]	[5,10]	[1656,8289]	6.285	0.212	-1642.3	-1121.3	86.444 %	0.0174
10	200	10	[32,50]	[1,30]	[829,8297]	7.102	0.204	-805.8	-254.6	87.167 %	0.0215
10	200	10	[32,50]	[1,30]	[1658,8297]	7.104	0.206	-1656.9	-1056.6	84.530 %	0.0205
10	200	10	[32,50]	[15,30]	[830,8304]	6.594	0.201	-841.9	-242.1	86.066 %	0.0151
10	200	10	[32,50]	[15,30]	[1660,8304]	6.606	0.203	-1630.6	-1038.5	85.047 %	0.0252

Tiempo Promedio Total H_2: 6.247 seg.

Tiempo Promedio Total H_1: 0.217 seg.

Rendimiento Promedio Total: 88.189 %

Tabla de Experimentos

$n : 300, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	10	[1,50]	[1,10]	[758,7580]	18.229	0.437	-751.9	-376.7	90.142 %	0.0229
10	300	10	[1,50]	[1,10]	[1516,7580]	17.911	0.436	-1511.9	-1143.0	89.305 %	0.0187
10	300	10	[1,50]	[5,10]	[758,7582]	18.206	0.449	-758.3	-415.7	90.869 %	0.0164
10	300	10	[1,50]	[5,10]	[1516,7582]	17.923	0.450	-1505.3	-1130.9	89.035 %	0.0119
10	300	10	[1,50]	[1,30]	[759,7590]	18.358	0.452	-737.3	-343.8	89.677 %	0.0187
10	300	10	[1,50]	[1,30]	[1518,7590]	18.269	0.426	-1499.1	-1104.0	88.535 %	0.0170
10	300	10	[1,50]	[15,30]	[759,7597]	17.854	0.435	-736.1	-327.6	89.347 %	0.0191
10	300	10	[1,50]	[15,30]	[1518,7597]	17.804	0.434	-1483.1	-1076.4	88.335 %	0.0144
10	300	10	[16,50]	[1,10]	[1000,10004]	20.010	0.434	-982.0	-325.8	87.247 %	0.0163
10	300	10	[16,50]	[1,10]	[2000,10004]	19.944	0.446	-1989.2	-1416.4	87.589 %	0.0169
10	300	10	[16,50]	[5,10]	[1000,10006]	19.614	0.446	-986.8	-410.9	88.648 %	0.0174
10	300	10	[16,50]	[5,10]	[2000,10006]	19.624	0.447	-2017.7	-1433.8	87.514 %	0.0194
10	300	10	[16,50]	[1,30]	[1001,10014]	20.664	0.432	-987.3	-375.1	88.184 %	0.0149
10	300	10	[16,50]	[1,30]	[2002,10014]	21.454	0.425	-1977.6	-1400.2	87.528 %	0.0188
10	300	10	[16,50]	[15,30]	[1002,10021]	20.627	0.439	-979.6	-348.6	87.945 %	0.0177
10	300	10	[16,50]	[15,30]	[2004,10021]	20.540	0.435	-1978.5	-1340.7	86.374 %	0.0123
10	300	10	[32,50]	[1,10]	[1242,12428]	20.558	0.436	-1234.5	-399.7	86.998 %	0.0165
10	300	10	[32,50]	[1,10]	[2484,12428]	20.610	0.441	-2483.9	-1636.9	85.639 %	0.0149
10	300	10	[32,50]	[5,10]	[1243,12430]	20.364	0.456	-1216.0	-410.2	87.310 %	0.0168
10	300	10	[32,50]	[5,10]	[2486,12430]	20.118	0.453	-2460.9	-1596.6	85.080 %	0.0173
10	300	10	[32,50]	[1,30]	[1243,12438]	22.223	0.434	-1245.9	-334.9	86.054 %	0.0184
10	300	10	[32,50]	[1,30]	[2486,12438]	22.350	0.432	-2454.2	-1566.5	84.936 %	0.0167
10	300	10	[32,50]	[15,30]	[1244,12445]	21.057	0.434	-1245.1	-351.8	86.182 %	0.0131
10	300	10	[32,50]	[15,30]	[2488,12445]	21.359	0.433	-2446.3	-1552.7	84.845 %	0.0139

Tiempo Promedio Total H_2: 19.820 seg.

Tiempo Promedio Total H_1: 0.439 seg.

Rendimiento Promedio Total: 87.638 %

Tabla de Experimentos

$n : 500, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	10	[1,50]	[1,10]	[1263,12630]	83.342	1.151	-1263.2	-598.4	89.502 %	0.0080
10	500	10	[1,50]	[1,10]	[2526,12630]	83.839	1.154	-2512.4	-1864.7	88.735 %	0.0144
10	500	10	[1,50]	[5,10]	[1263,12632]	83.880	1.180	-1247.4	-637.0	90.418 %	0.0088
10	500	10	[1,50]	[5,10]	[2526,12632]	84.921	1.180	-2513.2	-1880.6	89.034 %	0.0120
10	500	10	[1,50]	[1,30]	[1264,12640]	83.320	1.129	-1245.3	-555.7	89.169 %	0.0088
10	500	10	[1,50]	[1,30]	[2528,12640]	83.238	1.117	-2527.7	-1839.4	88.098 %	0.0126
10	500	10	[1,50]	[15,30]	[1264,12647]	84.708	1.128	-1240.2	-546.5	89.149 %	0.0128
10	500	10	[1,50]	[15,30]	[2528,12647]	84.697	1.138	-2495.4	-1831.3	88.494 %	0.0113
10	500	10	[16,50]	[1,10]	[1667,16670]	93.322	1.151	-1663.6	-518.1	86.723 %	0.0058
10	500	10	[16,50]	[1,10]	[3334,16670]	93.042	1.142	-3323.9	-2238.3	86.085 %	0.0157
10	500	10	[16,50]	[5,10]	[1667,16672]	93.624	1.195	-1676.1	-634.2	87.844 %	0.0122
10	500	10	[16,50]	[5,10]	[3334,16672]	93.534	1.178	-3327.9	-2297.8	86.601 %	0.0068
10	500	10	[16,50]	[1,30]	[1668,16680]	95.467	1.123	-1648.6	-565.4	87.363 %	0.0101
10	500	10	[16,50]	[1,30]	[3336,16680]	95.818	1.117	-3320.2	-2148.5	85.046 %	0.0122
10	500	10	[16,50]	[15,30]	[1668,16687]	94.344	1.133	-1641.5	-507.7	86.809 %	0.0096
10	500	10	[16,50]	[15,30]	[3336,16687]	94.920	1.138	-3318.0	-2222.9	85.770 %	0.0092
10	500	10	[32,50]	[1,10]	[2071,20710]	97.265	1.148	-2085.7	-621.4	86.522 %	0.0157
10	500	10	[32,50]	[1,10]	[4142,20710]	95.819	1.155	-4141.2	-2680.2	85.202 %	0.0136
10	500	10	[32,50]	[5,10]	[2071,20712]	95.085	1.191	-2052.0	-633.5	86.604 %	0.0096
10	500	10	[32,50]	[5,10]	[4142,20712]	94.614	1.186	-4130.5	-2600.5	84.370 %	0.0118
10	500	10	[32,50]	[1,30]	[2072,20720]	100.704	1.123	-2038.4	-479.6	85.814 %	0.0163
10	500	10	[32,50]	[1,30]	[4144,20720]	101.200	1.119	-4122.5	-2480.1	83.595 %	0.0122
10	500	10	[32,50]	[15,30]	[2072,20727]	98.708	1.134	-2058.3	-638.9	86.866 %	0.0160
10	500	10	[32,50]	[15,30]	[4144,20727]	98.219	1.136	-4101.6	-2562.0	84.515 %	0.0163

Tiempo Promedio Total H_2: 91.985 seg.

Tiempo Promedio Total H_1: 1.148 seg.

Rendimiento Promedio Total: 87.014 %

Tabla de Experimentos

$n : 750, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	10	[1,50]	[1,10]	[1894,18942]	306.934	2.587	-1890.3	-838.6	89.060 %	0.0103
10	750	10	[1,50]	[1,10]	[3788,18942]	298.107	2.580	-3778.6	-2728.7	87.889 %	0.0122
10	750	10	[1,50]	[5,10]	[1894,18944]	303.045	2.645	-1884.1	-993.2	90.630 %	0.0132
10	750	10	[1,50]	[5,10]	[3788,18944]	300.709	2.646	-3785.8	-2805.0	88.585 %	0.0082
10	750	10	[1,50]	[1,30]	[1895,18952]	298.337	2.498	-1888.0	-782.4	88.601 %	0.0102
10	750	10	[1,50]	[1,30]	[3790,18952]	297.220	2.501	-3761.3	-2670.7	87.391 %	0.0077
10	750	10	[1,50]	[15,30]	[1895,18959]	299.121	2.524	-1870.5	-790.1	88.831 %	0.0099
10	750	10	[1,50]	[15,30]	[3790,18959]	302.581	2.571	-3777.1	-2671.0	87.245 %	0.0091
10	750	10	[16,50]	[1,10]	[2500,25002]	329.778	2.553	-2493.6	-827.8	87.252 %	0.0129
10	750	10	[16,50]	[1,10]	[5000,25002]	331.453	2.571	-5006.9	-3306.3	85.365 %	0.0079
10	750	10	[16,50]	[5,10]	[2500,25004]	324.611	2.639	-2487.1	-936.8	87.826 %	0.0082
10	750	10	[16,50]	[5,10]	[5000,25004]	323.474	2.636	-4992.8	-3389.1	86.225 %	0.0094
10	750	10	[16,50]	[1,30]	[2501,25012]	334.830	2.528	-2487.6	-795.6	87.046 %	0.0127
10	750	10	[16,50]	[1,30]	[5002,25012]	336.154	2.492	-4983.6	-3284.5	85.572 %	0.0158
10	750	10	[16,50]	[15,30]	[2501,25019]	334.223	2.535	-2475.1	-755.7	86.940 %	0.0113
10	750	10	[16,50]	[15,30]	[5002,25019]	331.390	2.531	-4970.0	-3276.4	85.536 %	0.0153
10	750	10	[32,50]	[1,10]	[3106,31062]	340.644	2.566	-3090.2	-734.8	85.711 %	0.0102
10	750	10	[32,50]	[1,10]	[6212,31062]	341.754	2.610	-6203.0	-3811.5	83.986 %	0.0118
10	750	10	[32,50]	[5,10]	[3106,31064]	341.057	2.638	-3108.6	-855.5	86.035 %	0.0068
10	750	10	[32,50]	[5,10]	[6212,31064]	337.437	2.641	-6202.2	-3896.7	84.262 %	0.0079
10	750	10	[32,50]	[1,30]	[3107,31072]	352.128	2.510	-3100.1	-674.9	85.240 %	0.0137
10	750	10	[32,50]	[1,30]	[6214,31072]	353.469	2.496	-6194.8	-3708.2	83.389 %	0.0112
10	750	10	[32,50]	[15,30]	[3107,31079]	345.654	2.516	-3084.3	-693.4	85.391 %	0.0110
10	750	10	[32,50]	[15,30]	[6214,31079]	346.071	2.521	-6170.2	-3756.4	83.834 %	0.0115

Tiempo Promedio Total H_2: 325.424 seg.

Tiempo Promedio Total H_1: 2.564 seg.

Rendimiento Promedio Total: 86.577 %

Tabla de Experimentos

$n : 1000, m : 10, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	10	[1,50]	[1,10]	[2525,25255]	738.385	4.607	-2528.9	-1157.3	89.197 %	0.0096
10	1000	10	[1,50]	[1,10]	[5050,25255]	737.033	4.588	-5043.7	-3619.9	87.597 %	0.0118
10	1000	10	[1,50]	[5,10]	[2525,25257]	738.411	4.731	-2510.2	-1129.8	89.180 %	0.0071
10	1000	10	[1,50]	[5,10]	[5050,25257]	735.067	4.752	-5045.9	-3644.2	87.883 %	0.0125
10	1000	10	[1,50]	[1,30]	[2526,25265]	738.706	4.460	-2514.1	-1043.3	88.551 %	0.0088
10	1000	10	[1,50]	[1,30]	[5052,25265]	730.504	4.529	-5037.6	-3519.3	86.840 %	0.0067
10	1000	10	[1,50]	[15,30]	[2527,25272]	739.783	4.499	-2502.1	-1051.4	88.628 %	0.0061
10	1000	10	[1,50]	[15,30]	[5054,25272]	742.087	4.497	-5041.0	-3564.6	87.337 %	0.0079
10	1000	10	[16,50]	[1,10]	[3333,33335]	801.154	4.643	-3321.6	-991.2	86.524 %	0.0088
10	1000	10	[16,50]	[1,10]	[6666,33335]	805.712	4.565	-6652.1	-4379.5	85.336 %	0.0109
10	1000	10	[16,50]	[5,10]	[3333,33337]	796.035	4.659	-3320.1	-1174.0	87.541 %	0.0049
10	1000	10	[16,50]	[5,10]	[6666,33337]	803.343	4.738	-6653.5	-4431.7	85.687 %	0.0062
10	1000	10	[16,50]	[1,30]	[3334,33345]	822.135	4.514	-3317.4	-983.1	86.561 %	0.0097
10	1000	10	[16,50]	[1,30]	[6668,33345]	818.322	4.632	-6633.9	-4129.9	84.069 %	0.0074
10	1000	10	[16,50]	[15,30]	[3335,33352]	811.558	4.496	-3305.5	-1031.9	86.938 %	0.0053
10	1000	10	[16,50]	[15,30]	[6670,33352]	812.177	4.569	-6639.3	-4201.8	84.587 %	0.0062
10	1000	10	[32,50]	[1,10]	[4141,41415]	840.583	4.623	-4134.1	-880.0	85.215 %	0.0096
10	1000	10	[32,50]	[1,10]	[8282,41415]	833.290	4.648	-8270.4	-5047.2	83.711 %	0.0116
10	1000	10	[32,50]	[5,10]	[4141,41417]	830.306	4.723	-4136.4	-1133.7	86.172 %	0.0051
10	1000	10	[32,50]	[5,10]	[8282,41417]	834.340	4.780	-8299.8	-5314.1	84.789 %	0.0115
10	1000	10	[32,50]	[1,30]	[4142,41425]	855.598	4.452	-4128.5	-683.5	84.129 %	0.0104
10	1000	10	[32,50]	[1,30]	[8284,41425]	863.387	4.535	-8255.4	-4881.5	83.233 %	0.0151
10	1000	10	[32,50]	[15,30]	[4143,41432]	840.903	4.537	-4112.3	-878.2	85.202 %	0.0111
10	1000	10	[32,50]	[15,30]	[8286,41432]	844.355	4.486	-8254.4	-4891.4	83.134 %	0.0086

Tiempo Promedio Total H_2: 796.382 seg.

Tiempo Promedio Total H_1: 4.594 seg.

Rendimiento Promedio Total: 86.168 %

Tabla de Experimentos

$n : 10, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	20	[1,50]	[1,10]	[25,257]	0.024	0.010	-27.3	-19.6	94.737 %	0.1579
10	10	20	[1,50]	[1,10]	[50,257]	0.019	0.009	-37.8	-37.8	100.000 %	0.0000
10	10	20	[1,50]	[5,10]	[25,259]	0.024	0.006	-30.7	-30.7	100.000 %	0.0000
10	10	20	[1,50]	[5,10]	[50,259]	0.022	0.008	-45.5	-45.5	100.000 %	0.0000
10	10	20	[1,50]	[1,30]	[26,267]	0.021	0.009	-13.5	-13.5	100.000 %	0.0000
10	10	20	[1,50]	[1,30]	[52,267]	0.020	0.008	-28.5	-28.5	100.000 %	0.0000
10	10	20	[1,50]	[15,30]	[27,274]	0.021	0.008	-10.9	-10.9	100.000 %	0.0000
10	10	20	[1,50]	[15,30]	[54,274]	0.020	0.009	-39.8	-39.8	100.000 %	0.0000
10	10	20	[16,50]	[1,10]	[33,338]	0.031	0.007	-36.1	-36.1	100.000 %	0.0000
10	10	20	[16,50]	[1,10]	[66,338]	0.025	0.010	-48.7	-48.7	100.000 %	0.0000
10	10	20	[16,50]	[5,10]	[34,340]	0.020	0.008	-17.2	-17.2	100.000 %	0.0000
10	10	20	[16,50]	[5,10]	[68,340]	0.036	0.017	-64.6	-64.6	100.000 %	0.0000
10	10	20	[16,50]	[1,30]	[34,348]	0.029	0.010	-6.3	-6.3	100.000 %	0.0000
10	10	20	[16,50]	[1,30]	[68,348]	0.026	0.009	-51.6	-51.6	100.000 %	0.0000
10	10	20	[16,50]	[15,30]	[35,355]	0.023	0.010	-12.0	-12.0	100.000 %	0.0000
10	10	20	[16,50]	[15,30]	[70,355]	0.028	0.012	-54.6	-54.6	100.000 %	0.0000
10	10	20	[32,50]	[1,10]	[41,419]	0.047	0.020	-15.6	-15.6	100.000 %	0.0000
10	10	20	[32,50]	[1,10]	[82,419]	0.023	0.008	-68.1	-68.1	100.000 %	0.0000
10	10	20	[32,50]	[5,10]	[42,421]	0.018	0.012	-37.1	-32.5	97.347 %	0.0796
10	10	20	[32,50]	[5,10]	[84,421]	0.023	0.007	-70.3	-70.3	100.000 %	0.0000
10	10	20	[32,50]	[1,30]	[42,429]	0.028	0.012	-11.2	-11.2	100.000 %	0.0000
10	10	20	[32,50]	[1,30]	[84,429]	0.025	0.008	-67.0	-67.0	100.000 %	0.0000
10	10	20	[32,50]	[15,30]	[43,436]	0.025	0.009	-21.4	-21.4	100.000 %	0.0000
10	10	20	[32,50]	[15,30]	[86,436]	0.022	0.010	-48.0	-48.0	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.025 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 99.670 %

Tabla de Experimentos

$n : 20, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	20	[1,50]	[1,10]	[51,510]	0.046	0.012	-51.4	-51.4	100.000 %	0.0000
10	20	20	[1,50]	[1,10]	[102,510]	0.045	0.012	-97.6	-97.6	100.000 %	0.0000
10	20	20	[1,50]	[5,10]	[51,512]	0.047	0.015	-53.2	-53.2	100.000 %	0.0000
10	20	20	[1,50]	[5,10]	[102,512]	0.041	0.010	-92.0	-91.4	99.760 %	0.0072
10	20	20	[1,50]	[1,30]	[52,520]	0.051	0.015	-49.7	-49.7	100.000 %	0.0000
10	20	20	[1,50]	[1,30]	[104,520]	0.047	0.010	-80.6	-80.5	99.952 %	0.0014
10	20	20	[1,50]	[15,30]	[52,527]	0.048	0.018	-22.8	-21.5	99.504 %	0.0103
10	20	20	[1,50]	[15,30]	[104,527]	0.058	0.020	-81.1	-81.1	100.000 %	0.0000
10	20	20	[16,50]	[1,10]	[67,671]	0.051	0.012	-59.9	-59.9	100.000 %	0.0000
10	20	20	[16,50]	[1,10]	[134,671]	0.076	0.025	-126.6	-126.6	100.000 %	0.0000
10	20	20	[16,50]	[5,10]	[67,673]	0.048	0.014	-53.5	-53.5	100.000 %	0.0000
10	20	20	[16,50]	[5,10]	[134,673]	0.048	0.013	-119.1	-117.5	99.542 %	0.0137
10	20	20	[16,50]	[1,30]	[68,681]	0.125	0.030	-42.1	-42.1	100.000 %	0.0000
10	20	20	[16,50]	[1,30]	[136,681]	0.059	0.013	-109.3	-108.8	99.831 %	0.0051
10	20	20	[16,50]	[15,30]	[68,688]	0.057	0.013	-37.3	-36.3	99.736 %	0.0042
10	20	20	[16,50]	[15,30]	[136,688]	0.061	0.015	-111.8	-109.8	99.334 %	0.0137
10	20	20	[32,50]	[1,10]	[83,833]	0.046	0.012	-62.3	-61.7	99.853 %	0.0044
10	20	20	[32,50]	[1,10]	[166,833]	0.047	0.013	-148.1	-147.8	99.923 %	0.0023
10	20	20	[32,50]	[5,10]	[83,835]	0.040	0.013	-67.9	-67.9	100.000 %	0.0000
10	20	20	[32,50]	[5,10]	[166,835]	0.043	0.015	-150.9	-149.4	99.620 %	0.0114
10	20	20	[32,50]	[1,30]	[84,843]	0.060	0.012	-53.1	-53.1	100.000 %	0.0000
10	20	20	[32,50]	[1,30]	[168,843]	0.065	0.010	-178.3	-178.0	99.917 %	0.0025
10	20	20	[32,50]	[15,30]	[85,850]	0.054	0.013	-79.1	-79.0	99.968 %	0.0010
10	20	20	[32,50]	[15,30]	[170,850]	0.056	0.014	-141.6	-139.0	99.269 %	0.0147

Tiempo Promedio Total H_2: 0.055 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 99.842 %

Tabla de Experimentos

$n : 30, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	20	[1,50]	[1,10]	[76,762]	0.077	0.016	-70.7	-70.3	99.888 %	0.0034
10	30	20	[1,50]	[1,10]	[152,762]	0.081	0.017	-139.6	-139.3	99.904 %	0.0029
10	30	20	[1,50]	[5,10]	[76,764]	0.080	0.024	-65.2	-63.1	99.447 %	0.0110
10	30	20	[1,50]	[5,10]	[152,764]	0.080	0.021	-139.7	-138.7	99.647 %	0.0073
10	30	20	[1,50]	[1,30]	[77,772]	0.083	0.019	-72.0	-69.5	99.333 %	0.0112
10	30	20	[1,50]	[1,30]	[154,772]	0.080	0.016	-152.9	-152.8	99.967 %	0.0010
10	30	20	[1,50]	[15,30]	[77,779]	0.118	0.019	-53.0	-52.9	99.970 %	0.0009
10	30	20	[1,50]	[15,30]	[154,779]	0.080	0.019	-126.7	-126.1	99.803 %	0.0059
10	30	20	[16,50]	[1,10]	[100,1004]	0.092	0.020	-87.9	-82.6	98.979 %	0.0127
10	30	20	[16,50]	[1,10]	[200,1004]	0.110	0.025	-193.1	-184.8	97.844 %	0.0257
10	30	20	[16,50]	[5,10]	[100,1006]	0.089	0.015	-99.9	-93.5	98.675 %	0.0147
10	30	20	[16,50]	[5,10]	[200,1006]	0.105	0.019	-192.9	-186.0	98.390 %	0.0201
10	30	20	[16,50]	[1,30]	[101,1015]	0.111	0.018	-83.3	-80.2	99.408 %	0.0094
10	30	20	[16,50]	[1,30]	[202,1015]	0.111	0.016	-186.1	-184.2	99.506 %	0.0068
10	30	20	[16,50]	[15,30]	[102,1022]	0.106	0.016	-64.8	-58.4	98.811 %	0.0129
10	30	20	[16,50]	[15,30]	[204,1022]	0.107	0.019	-174.2	-168.9	98.799 %	0.0157
10	30	20	[32,50]	[1,10]	[124,1247]	0.090	0.016	-100.1	-86.9	97.645 %	0.0239
10	30	20	[32,50]	[1,10]	[248,1247]	0.093	0.017	-239.8	-228.1	97.706 %	0.0268
10	30	20	[32,50]	[5,10]	[124,1249]	0.090	0.023	-120.4	-114.4	99.075 %	0.0185
10	30	20	[32,50]	[5,10]	[248,1249]	0.098	0.027	-254.1	-243.7	97.968 %	0.0230
10	30	20	[32,50]	[1,30]	[125,1257]	0.177	0.020	-123.5	-108.4	97.557 %	0.0073
10	30	20	[32,50]	[1,30]	[250,1257]	0.145	0.024	-224.1	-217.4	98.806 %	0.0151
10	30	20	[32,50]	[15,30]	[126,1264]	0.117	0.020	-112.3	-105.2	98.788 %	0.0190
10	30	20	[32,50]	[15,30]	[252,1264]	0.119	0.022	-217.5	-207.1	98.226 %	0.0195

Tiempo Promedio Total H_2: 0.102 seg.

Tiempo Promedio Total H_1: 0.020 seg.

Rendimiento Promedio Total: 98.923 %

Tabla de Experimentos

$n : 50, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	20	[1,50]	[1,10]	[126,1267]	0.164	0.027	-124.0	-117.5	98.929 %	0.0101
10	50	20	[1,50]	[1,10]	[252,1267]	0.163	0.028	-249.4	-243.6	98.810 %	0.0168
10	50	20	[1,50]	[5,10]	[126,1269]	0.157	0.026	-122.1	-117.4	99.221 %	0.0077
10	50	20	[1,50]	[5,10]	[252,1269]	0.203	0.032	-257.8	-248.4	98.261 %	0.0162
10	50	20	[1,50]	[1,30]	[127,1277]	0.201	0.038	-107.7	-103.6	99.340 %	0.0086
10	50	20	[1,50]	[1,30]	[254,1277]	0.172	0.029	-235.4	-229.5	98.886 %	0.0135
10	50	20	[1,50]	[15,30]	[128,1284]	0.162	0.027	-109.0	-102.3	98.875 %	0.0140
10	50	20	[1,50]	[15,30]	[256,1284]	0.169	0.032	-236.4	-228.5	98.556 %	0.0093
10	50	20	[16,50]	[1,10]	[167,1671]	0.202	0.028	-181.7	-165.7	97.929 %	0.0168
10	50	20	[16,50]	[1,10]	[334,1671]	0.254	0.032	-329.7	-310.9	97.245 %	0.0249
10	50	20	[16,50]	[5,10]	[167,1673]	0.207	0.032	-174.8	-152.8	97.191 %	0.0185
10	50	20	[16,50]	[5,10]	[334,1673]	0.189	0.029	-313.0	-291.4	96.917 %	0.0232
10	50	20	[16,50]	[1,30]	[168,1681]	0.282	0.028	-157.4	-142.6	98.143 %	0.0092
10	50	20	[16,50]	[1,30]	[336,1681]	0.252	0.027	-304.8	-286.0	97.339 %	0.0152
10	50	20	[16,50]	[15,30]	[168,1688]	0.239	0.029	-148.6	-125.0	97.038 %	0.0173
10	50	20	[16,50]	[15,30]	[336,1688]	0.223	0.028	-310.2	-292.3	97.623 %	0.0158
10	50	20	[32,50]	[1,10]	[207,2075]	0.231	0.031	-200.8	-158.1	95.616 %	0.0199
10	50	20	[32,50]	[1,10]	[414,2075]	0.202	0.029	-394.4	-356.6	95.678 %	0.0203
10	50	20	[32,50]	[5,10]	[207,2077]	0.203	0.035	-204.8	-168.8	96.291 %	0.0238
10	50	20	[32,50]	[5,10]	[414,2077]	0.188	0.030	-392.1	-366.5	97.110 %	0.0275
10	50	20	[32,50]	[1,30]	[208,2085]	0.284	0.030	-178.9	-149.9	97.061 %	0.0186
10	50	20	[32,50]	[1,30]	[416,2085]	0.315	0.030	-380.6	-353.2	96.854 %	0.0180
10	50	20	[32,50]	[15,30]	[209,2092]	0.246	0.028	-166.5	-136.3	96.979 %	0.0193
10	50	20	[32,50]	[15,30]	[418,2092]	0.230	0.030	-379.4	-346.6	96.382 %	0.0209

Tiempo Promedio Total H_2: 0.214 seg.

Tiempo Promedio Total H_1: 0.030 seg.

Rendimiento Promedio Total: 97.595 %

Tabla de Experimentos

$n : 100, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	20	[1,50]	[1,10]	[253,2530]	0.814	0.066	-244.4	-208.6	96.989 %	0.0132
10	100	20	[1,50]	[1,10]	[506,2530]	0.746	0.079	-502.0	-472.5	97.205 %	0.0178
10	100	20	[1,50]	[5,10]	[253,2532]	0.716	0.068	-248.5	-229.9	98.415 %	0.0163
10	100	20	[1,50]	[5,10]	[506,2532]	0.764	0.069	-499.8	-470.4	97.138 %	0.0138
10	100	20	[1,50]	[1,30]	[254,2540]	0.619	0.066	-236.4	-212.7	98.047 %	0.0154
10	100	20	[1,50]	[1,30]	[508,2540]	0.611	0.066	-503.7	-479.5	97.712 %	0.0144
10	100	20	[1,50]	[15,30]	[254,2547]	0.674	0.067	-237.4	-208.3	97.566 %	0.0195
10	100	20	[1,50]	[15,30]	[508,2547]	0.705	0.067	-495.6	-466.6	97.194 %	0.0136
10	100	20	[16,50]	[1,10]	[333,3338]	0.937	0.070	-339.2	-286.8	96.755 %	0.0144
10	100	20	[16,50]	[1,10]	[666,3338]	0.900	0.064	-653.6	-584.2	95.188 %	0.0178
10	100	20	[16,50]	[5,10]	[334,3340]	0.861	0.072	-333.2	-276.2	96.524 %	0.0091
10	100	20	[16,50]	[5,10]	[668,3340]	0.886	0.072	-650.6	-589.1	95.807 %	0.0177
10	100	20	[16,50]	[1,30]	[334,3348]	1.019	0.068	-316.3	-270.7	97.119 %	0.0160
10	100	20	[16,50]	[1,30]	[668,3348]	1.042	0.066	-652.1	-583.0	95.187 %	0.0178
10	100	20	[16,50]	[15,30]	[335,3355]	0.967	0.070	-305.2	-238.9	95.896 %	0.0152
10	100	20	[16,50]	[15,30]	[670,3355]	1.023	0.067	-633.3	-575.3	95.923 %	0.0237
10	100	20	[32,50]	[1,10]	[414,4146]	0.880	0.065	-409.5	-334.3	96.169 %	0.0173
10	100	20	[32,50]	[1,10]	[828,4146]	0.885	0.067	-798.0	-699.4	94.543 %	0.0141
10	100	20	[32,50]	[5,10]	[414,4148]	0.847	0.071	-401.4	-306.3	95.059 %	0.0176
10	100	20	[32,50]	[5,10]	[828,4148]	0.820	0.067	-817.6	-728.1	95.035 %	0.0205
10	100	20	[32,50]	[1,30]	[415,4156]	1.205	0.067	-392.8	-301.2	95.439 %	0.0128
10	100	20	[32,50]	[1,30]	[830,4156]	1.160	0.068	-803.0	-697.2	94.109 %	0.0087
10	100	20	[32,50]	[15,30]	[416,4163]	0.990	0.068	-404.9	-306.7	95.190 %	0.0132
10	100	20	[32,50]	[15,30]	[832,4163]	1.041	0.066	-812.0	-735.1	95.736 %	0.0222

Tiempo Promedio Total H_2: 0.880 seg.

Tiempo Promedio Total H_1: 0.068 seg.

Rendimiento Promedio Total: 96.248 %

Tabla de Experimentos

$n : 200, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	20	[1,50]	[1,10]	[505,5055]	4.568	0.226	-497.4	-388.1	95.416 %	0.0147
10	200	20	[1,50]	[1,10]	[1010,5055]	4.410	0.216	-1011.5	-917.2	95.552 %	0.0151
10	200	20	[1,50]	[5,10]	[505,5057]	4.452	0.220	-485.9	-383.8	95.741 %	0.0083
10	200	20	[1,50]	[5,10]	[1010,5057]	4.298	0.226	-994.7	-929.0	96.973 %	0.0182
10	200	20	[1,50]	[1,30]	[506,5065]	4.128	0.215	-487.8	-403.9	96.489 %	0.0101
10	200	20	[1,50]	[1,30]	[1012,5065]	3.980	0.218	-994.3	-916.8	96.390 %	0.0147
10	200	20	[1,50]	[15,30]	[507,5072]	4.312	0.214	-488.8	-405.7	96.592 %	0.0130
10	200	20	[1,50]	[15,30]	[1014,5072]	4.152	0.214	-996.2	-913.0	96.128 %	0.0140
10	200	20	[16,50]	[1,10]	[667,6671]	5.538	0.216	-652.6	-522.8	95.844 %	0.0163
10	200	20	[16,50]	[1,10]	[1334,6671]	5.506	0.215	-1325.3	-1146.5	93.698 %	0.0116
10	200	20	[16,50]	[5,10]	[667,6673]	5.373	0.220	-666.3	-519.4	95.363 %	0.0101
10	200	20	[16,50]	[5,10]	[1334,6673]	5.259	0.224	-1334.1	-1157.0	93.771 %	0.0126
10	200	20	[16,50]	[1,30]	[668,6681]	5.680	0.223	-659.5	-485.6	94.573 %	0.0135
10	200	20	[16,50]	[1,30]	[1336,6681]	5.857	0.211	-1304.0	-1124.4	93.882 %	0.0145
10	200	20	[16,50]	[15,30]	[668,6688]	5.776	0.211	-640.3	-499.2	95.514 %	0.0210
10	200	20	[16,50]	[15,30]	[1336,6688]	5.787	0.226	-1313.6	-1150.6	94.273 %	0.0150
10	200	20	[32,50]	[1,10]	[828,8287]	5.707	0.216	-806.4	-583.9	94.463 %	0.0124
10	200	20	[32,50]	[1,10]	[1656,8287]	5.663	0.215	-1658.7	-1451.6	94.164 %	0.0189
10	200	20	[32,50]	[5,10]	[828,8289]	5.350	0.222	-815.8	-599.5	94.484 %	0.0187
10	200	20	[32,50]	[5,10]	[1656,8289]	5.328	0.222	-1639.1	-1405.9	93.403 %	0.0164
10	200	20	[32,50]	[1,30]	[829,8297]	6.550	0.214	-819.7	-584.6	94.152 %	0.0116
10	200	20	[32,50]	[1,30]	[1658,8297]	6.470	0.209	-1631.7	-1365.3	92.528 %	0.0092
10	200	20	[32,50]	[15,30]	[830,8304]	5.836	0.213	-805.1	-543.6	93.648 %	0.0127
10	200	20	[32,50]	[15,30]	[1660,8304]	5.805	0.212	-1634.2	-1422.4	94.118 %	0.0199

Tiempo Promedio Total H_2: 5.241 seg.

Tiempo Promedio Total H_1: 0.217 seg.

Rendimiento Promedio Total: 94.882 %

Tabla de Experimentos

$n : 300, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	20	[1,50]	[1,10]	[758,7580]	13.915	0.466	-760.1	-611.7	95.799 %	0.0122
10	300	20	[1,50]	[1,10]	[1516,7580]	13.954	0.455	-1495.9	-1331.5	94.877 %	0.0078
10	300	20	[1,50]	[5,10]	[758,7582]	14.545	0.464	-750.9	-613.4	96.114 %	0.0145
10	300	20	[1,50]	[5,10]	[1516,7582]	14.635	0.472	-1515.0	-1385.6	95.937 %	0.0171
10	300	20	[1,50]	[1,30]	[759,7590]	12.801	0.448	-763.4	-629.7	96.240 %	0.0104
10	300	20	[1,50]	[1,30]	[1518,7590]	12.861	0.439	-1503.5	-1343.5	95.015 %	0.0055
10	300	20	[1,50]	[15,30]	[759,7597]	13.821	0.449	-744.8	-599.4	95.909 %	0.0058
10	300	20	[1,50]	[15,30]	[1518,7597]	13.659	0.451	-1485.9	-1322.1	94.966 %	0.0100
10	300	20	[16,50]	[1,10]	[1000,10004]	17.296	0.454	-1018.6	-772.4	94.815 %	0.0188
10	300	20	[16,50]	[1,10]	[2000,10004]	17.393	0.453	-1985.0	-1690.7	93.122 %	0.0133
10	300	20	[16,50]	[5,10]	[1000,10006]	16.492	0.468	-990.4	-729.8	94.492 %	0.0123
10	300	20	[16,50]	[5,10]	[2000,10006]	17.386	0.460	-1988.4	-1727.4	93.901 %	0.0149
10	300	20	[16,50]	[1,30]	[1001,10014]	18.018	0.450	-982.0	-679.0	93.642 %	0.0116
10	300	20	[16,50]	[1,30]	[2002,10014]	17.895	0.443	-1984.6	-1696.2	93.173 %	0.0133
10	300	20	[16,50]	[15,30]	[1002,10021]	17.539	0.447	-983.6	-708.6	94.266 %	0.0124
10	300	20	[16,50]	[15,30]	[2004,10021]	17.912	0.452	-1990.9	-1709.1	93.492 %	0.0129
10	300	20	[32,50]	[1,10]	[1242,12428]	18.202	0.460	-1226.4	-797.6	92.873 %	0.0106
10	300	20	[32,50]	[1,10]	[2484,12428]	17.875	0.457	-2474.8	-2085.0	92.765 %	0.0200
10	300	20	[32,50]	[5,10]	[1243,12430]	17.318	0.472	-1229.0	-863.9	93.937 %	0.0142
10	300	20	[32,50]	[5,10]	[2486,12430]	17.074	0.467	-2491.7	-2138.2	93.486 %	0.0165
10	300	20	[32,50]	[1,30]	[1243,12438]	20.092	0.446	-1217.8	-813.0	93.237 %	0.0149
10	300	20	[32,50]	[1,30]	[2486,12438]	20.494	0.442	-2451.0	-2067.0	92.747 %	0.0088
10	300	20	[32,50]	[15,30]	[1244,12445]	18.577	0.447	-1208.6	-800.8	93.218 %	0.0102
10	300	20	[32,50]	[15,30]	[2488,12445]	19.015	0.455	-2449.0	-2089.0	93.336 %	0.0129

Tiempo Promedio Total H_2: 16.615 seg.

Tiempo Promedio Total H_1: 0.455 seg.

Rendimiento Promedio Total: 94.223 %

Tabla de Experimentos

$n : 500, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	20	[1,50]	[1,10]	[1263,12630]	66.180	1.191	-1255.2	-966.7	95.271 %	0.0133
10	500	20	[1,50]	[1,10]	[2526,12630]	67.046	1.189	-2523.5	-2235.7	94.636 %	0.0078
10	500	20	[1,50]	[5,10]	[1263,12632]	66.241	1.212	-1265.0	-968.7	95.083 %	0.0080
10	500	20	[1,50]	[5,10]	[2526,12632]	67.310	1.227	-2510.9	-2209.5	94.400 %	0.0094
10	500	20	[1,50]	[1,30]	[1264,12640]	62.606	1.146	-1262.4	-967.8	95.079 %	0.0154
10	500	20	[1,50]	[1,30]	[2528,12640]	62.646	1.152	-2515.3	-2222.3	94.540 %	0.0096
10	500	20	[1,50]	[15,30]	[1264,12647]	64.514	1.173	-1252.9	-960.1	95.193 %	0.0097
10	500	20	[1,50]	[15,30]	[2528,12647]	65.932	1.221	-2501.1	-2149.6	93.493 %	0.0068
10	500	20	[16,50]	[1,10]	[1667,16670]	79.197	1.171	-1669.6	-1201.5	94.118 %	0.0103
10	500	20	[16,50]	[1,10]	[3334,16670]	79.442	1.181	-3329.7	-2796.3	92.681 %	0.0091
10	500	20	[16,50]	[5,10]	[1667,16672]	79.279	1.210	-1669.3	-1211.4	94.289 %	0.0097
10	500	20	[16,50]	[5,10]	[3334,16672]	80.405	1.220	-3323.2	-2836.4	93.192 %	0.0081
10	500	20	[16,50]	[1,30]	[1668,16680]	81.816	1.153	-1648.5	-1099.7	93.157 %	0.0061
10	500	20	[16,50]	[1,30]	[3336,16680]	81.132	1.162	-3323.7	-2826.9	93.079 %	0.0048
10	500	20	[16,50]	[15,30]	[1668,16687]	79.648	1.164	-1624.8	-1125.2	93.817 %	0.0090
10	500	20	[16,50]	[15,30]	[3336,16687]	81.393	1.173	-3310.8	-2761.1	92.418 %	0.0067
10	500	20	[32,50]	[1,10]	[2071,20710]	85.146	1.189	-2056.4	-1407.1	93.497 %	0.0095
10	500	20	[32,50]	[1,10]	[4142,20710]	84.584	1.171	-4132.6	-3436.1	92.240 %	0.0151
10	500	20	[32,50]	[5,10]	[2071,20712]	81.285	1.219	-2051.6	-1416.9	93.621 %	0.0098
10	500	20	[32,50]	[5,10]	[4142,20712]	81.372	1.207	-4134.1	-3459.3	92.583 %	0.0110
10	500	20	[32,50]	[1,30]	[2072,20720]	91.137	1.152	-2061.6	-1309.8	92.529 %	0.0087
10	500	20	[32,50]	[1,30]	[4144,20720]	89.877	1.151	-4102.4	-3353.4	91.768 %	0.0056
10	500	20	[32,50]	[15,30]	[2072,20727]	85.403	1.166	-2039.0	-1341.5	93.040 %	0.0085
10	500	20	[32,50]	[15,30]	[4144,20727]	85.775	1.168	-4139.0	-3428.7	92.090 %	0.0080

Tiempo Promedio Total H_2: 77.057 seg.

Tiempo Promedio Total H_1: 1.182 seg.

Rendimiento Promedio Total: 93.576 %

Tabla de Experimentos

$n : 750, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	20	[1,50]	[1,10]	[1894,18942]	232.549	2.614	-1902.8	-1442.6	94.892 %	0.0102
10	750	20	[1,50]	[1,10]	[3788,18942]	229.150	2.626	-3787.1	-3309.5	94.035 %	0.0103
10	750	20	[1,50]	[5,10]	[1894,18944]	234.646	2.687	-1891.6	-1429.2	94.820 %	0.0052
10	750	20	[1,50]	[5,10]	[3788,18944]	235.444	2.690	-3773.1	-3319.6	94.381 %	0.0056
10	750	20	[1,50]	[1,30]	[1895,18952]	222.609	2.569	-1875.0	-1380.0	94.536 %	0.0072
10	750	20	[1,50]	[1,30]	[3790,18952]	227.646	2.548	-3768.9	-3294.8	94.115 %	0.0087
10	750	20	[1,50]	[15,30]	[1895,18959]	229.496	2.577	-1871.6	-1399.5	94.775 %	0.0062
10	750	20	[1,50]	[15,30]	[3790,18959]	225.005	2.567	-3775.9	-3285.3	93.933 %	0.0104
10	750	20	[16,50]	[1,10]	[2500,25002]	281.139	2.604	-2503.1	-1681.1	93.261 %	0.0080
10	750	20	[16,50]	[1,10]	[5000,25002]	282.312	2.610	-4989.3	-4208.7	92.774 %	0.0072
10	750	20	[16,50]	[5,10]	[2500,25004]	276.659	2.699	-2484.4	-1775.8	94.102 %	0.0119
10	750	20	[16,50]	[5,10]	[5000,25004]	278.653	2.693	-4990.8	-4272.5	93.337 %	0.0081
10	750	20	[16,50]	[1,30]	[2501,25012]	285.468	2.560	-2475.1	-1678.4	93.390 %	0.0110
10	750	20	[16,50]	[1,30]	[5002,25012]	279.951	2.543	-4985.5	-4187.7	92.630 %	0.0109
10	750	20	[16,50]	[15,30]	[2501,25019]	284.512	2.562	-2483.1	-1677.8	93.347 %	0.0106
10	750	20	[16,50]	[15,30]	[5002,25019]	281.547	2.624	-4973.6	-4205.1	92.984 %	0.0095
10	750	20	[32,50]	[1,10]	[3106,31062]	295.536	2.608	-3081.9	-1944.8	92.525 %	0.0096
10	750	20	[32,50]	[1,10]	[6212,31062]	298.806	2.636	-6218.8	-5115.2	91.799 %	0.0075
10	750	20	[32,50]	[5,10]	[3106,31064]	291.783	2.706	-3102.0	-2117.2	93.413 %	0.0105
10	750	20	[32,50]	[5,10]	[6212,31064]	293.526	2.706	-6191.6	-5164.0	92.387 %	0.0097
10	750	20	[32,50]	[1,30]	[3107,31072]	311.654	2.534	-3095.1	-2069.3	93.153 %	0.0117
10	750	20	[32,50]	[1,30]	[6214,31072]	317.436	2.549	-6182.4	-5038.2	91.556 %	0.0091
10	750	20	[32,50]	[15,30]	[3107,31079]	305.450	2.585	-3077.3	-2032.4	93.000 %	0.0120
10	750	20	[32,50]	[15,30]	[6214,31079]	304.224	2.561	-6180.9	-5082.9	91.969 %	0.0126

Tiempo Promedio Total H_2: 271.050 seg.

Tiempo Promedio Total H_1: 2.611 seg.

Rendimiento Promedio Total: 93.380 %

Tabla de Experimentos

$n : 1000, m : 20, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	20	[1,50]	[1,10]	[2525,25255]	576.987	4.647	-2525.1	-1885.8	94.626 %	0.0035
10	1000	20	[1,50]	[1,10]	[5050,25255]	569.036	4.668	-5040.2	-4377.5	93.838 %	0.0079
10	1000	20	[1,50]	[5,10]	[2525,25257]	570.806	4.715	-2520.0	-1901.1	94.844 %	0.0049
10	1000	20	[1,50]	[5,10]	[5050,25257]	573.575	4.784	-5036.1	-4411.8	94.143 %	0.0060
10	1000	20	[1,50]	[1,30]	[2526,25265]	555.023	4.479	-2518.3	-1837.8	94.405 %	0.0044
10	1000	20	[1,50]	[1,30]	[5052,25265]	560.106	4.501	-5026.2	-4363.6	93.885 %	0.0070
10	1000	20	[1,50]	[15,30]	[2527,25272]	564.978	4.560	-2514.1	-1873.4	94.650 %	0.0039
10	1000	20	[1,50]	[15,30]	[5054,25272]	566.473	4.524	-5027.9	-4348.6	93.638 %	0.0066
10	1000	20	[16,50]	[1,10]	[3333,33335]	682.411	4.724	-3330.0	-2268.1	93.425 %	0.0075
10	1000	20	[16,50]	[1,10]	[6666,33335]	680.421	4.768	-6657.6	-5594.4	92.591 %	0.0070
10	1000	20	[16,50]	[5,10]	[3333,33337]	677.923	4.824	-3316.4	-2394.7	94.239 %	0.0035
10	1000	20	[16,50]	[5,10]	[6666,33337]	679.200	4.777	-6663.8	-5573.6	92.425 %	0.0045
10	1000	20	[16,50]	[1,30]	[3334,33345]	693.628	4.524	-3302.3	-2153.0	92.931 %	0.0054
10	1000	20	[16,50]	[1,30]	[6668,33345]	692.976	4.467	-6649.8	-5659.4	93.144 %	0.0113
10	1000	20	[16,50]	[15,30]	[3335,33352]	692.238	4.594	-3325.2	-2220.4	93.176 %	0.0081
10	1000	20	[16,50]	[15,30]	[6670,33352]	690.489	4.580	-6652.7	-5540.0	92.369 %	0.0074
10	1000	20	[32,50]	[1,10]	[4141,41415]	726.417	4.679	-4121.8	-2514.2	92.062 %	0.0040
10	1000	20	[32,50]	[1,10]	[8282,41415]	724.602	4.609	-8285.5	-6782.0	91.702 %	0.0092
10	1000	20	[32,50]	[5,10]	[4141,41417]	728.715	4.708	-4120.2	-2722.9	93.049 %	0.0084
10	1000	20	[32,50]	[5,10]	[8282,41417]	720.186	4.727	-8285.1	-6896.8	92.277 %	0.0073
10	1000	20	[32,50]	[1,30]	[4142,41425]	753.327	4.576	-4144.8	-2492.7	91.855 %	0.0052
10	1000	20	[32,50]	[1,30]	[8284,41425]	752.330	4.591	-8249.9	-6651.6	91.200 %	0.0054
10	1000	20	[32,50]	[15,30]	[4143,41432]	740.873	4.528	-4116.2	-2560.6	92.326 %	0.0101
10	1000	20	[32,50]	[15,30]	[8286,41432]	740.887	4.561	-8282.2	-6727.2	91.406 %	0.0071

Tiempo Promedio Total H_2: 663.067 seg.

Tiempo Promedio Total H_1: 4.630 seg.

Rendimiento Promedio Total: 93.092 %

Tabla de Experimentos

$n : 10, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	50	[1,50]	[1,10]	[25,257]	0.023	0.012	-15.3	-15.3	100.000 %	0.0000
10	10	50	[1,50]	[1,10]	[50,257]	0.021	0.011	-43.6	-43.6	100.000 %	0.0000
10	10	50	[1,50]	[5,10]	[25,259]	0.022	0.009	-9.0	-9.0	100.000 %	0.0000
10	10	50	[1,50]	[5,10]	[50,259]	0.020	0.010	-41.9	-41.9	100.000 %	0.0000
10	10	50	[1,50]	[1,30]	[26,267]	0.023	0.009	-3.2	-0.4	97.903 %	0.0629
10	10	50	[1,50]	[1,30]	[52,267]	0.024	0.005	-42.3	-42.3	100.000 %	0.0000
10	10	50	[1,50]	[15,30]	[27,274]	0.023	0.009	-0.7	-0.7	100.000 %	0.0000
10	10	50	[1,50]	[15,30]	[54,274]	0.027	0.012	-22.0	-22.0	100.000 %	0.0000
10	10	50	[16,50]	[1,10]	[33,338]	0.026	0.011	-26.5	-26.5	100.000 %	0.0000
10	10	50	[16,50]	[1,10]	[66,338]	0.026	0.011	-54.5	-54.5	100.000 %	0.0000
10	10	50	[16,50]	[5,10]	[34,340]	0.023	0.011	-30.3	-30.3	100.000 %	0.0000
10	10	50	[16,50]	[5,10]	[68,340]	0.025	0.012	-50.6	-50.6	100.000 %	0.0000
10	10	50	[16,50]	[1,30]	[34,348]	0.051	0.023	-26.2	-26.2	100.000 %	0.0000
10	10	50	[16,50]	[1,30]	[68,348]	0.040	0.016	-50.1	-50.1	100.000 %	0.0000
10	10	50	[16,50]	[15,30]	[35,355]	0.025	0.012	-25.6	-17.7	96.159 %	0.1152
10	10	50	[16,50]	[15,30]	[70,355]	0.029	0.009	-38.9	-38.9	100.000 %	0.0000
10	10	50	[32,50]	[1,10]	[41,419]	0.023	0.012	-30.6	-30.6	100.000 %	0.0000
10	10	50	[32,50]	[1,10]	[82,419]	0.026	0.011	-86.6	-86.6	100.000 %	0.0000
10	10	50	[32,50]	[5,10]	[42,421]	0.021	0.009	-41.1	-41.1	100.000 %	0.0000
10	10	50	[32,50]	[5,10]	[84,421]	0.023	0.011	-54.2	-54.2	100.000 %	0.0000
10	10	50	[32,50]	[1,30]	[42,429]	0.029	0.011	-55.7	-55.7	100.000 %	0.0000
10	10	50	[32,50]	[1,30]	[84,429]	0.028	0.013	-56.5	-56.5	100.000 %	0.0000
10	10	50	[32,50]	[15,30]	[43,436]	0.022	0.008	-15.4	-15.4	100.000 %	0.0000
10	10	50	[32,50]	[15,30]	[86,436]	0.026	0.012	-46.7	-46.7	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.026 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 99.753 %

Tabla de Experimentos

$n : 20, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	50	[1,50]	[1,10]	[51,510]	0.044	0.014	-50.2	-50.2	100.000 %	0.0000
10	20	50	[1,50]	[1,10]	[102,510]	0.044	0.012	-96.0	-96.0	100.000 %	0.0000
10	20	50	[1,50]	[5,10]	[51,512]	0.049	0.016	-36.1	-36.1	100.000 %	0.0000
10	20	50	[1,50]	[5,10]	[102,512]	0.048	0.017	-91.0	-91.0	100.000 %	0.0000
10	20	50	[1,50]	[1,30]	[52,520]	0.052	0.015	-31.4	-31.4	100.000 %	0.0000
10	20	50	[1,50]	[1,30]	[104,520]	0.044	0.013	-90.6	-90.6	100.000 %	0.0000
10	20	50	[1,50]	[15,30]	[52,527]	0.054	0.013	-34.7	-34.7	100.000 %	0.0000
10	20	50	[1,50]	[15,30]	[104,527]	0.074	0.026	-76.3	-76.3	100.000 %	0.0000
10	20	50	[16,50]	[1,10]	[67,671]	0.061	0.020	-58.2	-58.2	100.000 %	0.0000
10	20	50	[16,50]	[1,10]	[134,671]	0.059	0.017	-124.0	-124.0	100.000 %	0.0000
10	20	50	[16,50]	[5,10]	[67,673]	0.092	0.026	-56.2	-56.2	100.000 %	0.0000
10	20	50	[16,50]	[5,10]	[134,673]	0.047	0.014	-116.2	-116.2	100.000 %	0.0000
10	20	50	[16,50]	[1,30]	[68,681]	0.063	0.016	-59.9	-59.9	100.000 %	0.0000
10	20	50	[16,50]	[1,30]	[136,681]	0.067	0.016	-126.4	-126.4	100.000 %	0.0000
10	20	50	[16,50]	[15,30]	[68,688]	0.058	0.017	-48.4	-48.4	100.000 %	0.0000
10	20	50	[16,50]	[15,30]	[136,688]	0.062	0.018	-113.0	-113.0	100.000 %	0.0000
10	20	50	[32,50]	[1,10]	[83,833]	0.056	0.019	-69.2	-69.2	100.000 %	0.0000
10	20	50	[32,50]	[1,10]	[166,833]	0.053	0.016	-177.8	-177.8	100.000 %	0.0000
10	20	50	[32,50]	[5,10]	[83,835]	0.041	0.016	-59.1	-59.1	100.000 %	0.0000
10	20	50	[32,50]	[5,10]	[166,835]	0.042	0.017	-157.0	-157.0	100.000 %	0.0000
10	20	50	[32,50]	[1,30]	[84,843]	0.068	0.014	-63.9	-63.9	100.000 %	0.0000
10	20	50	[32,50]	[1,30]	[168,843]	0.068	0.015	-127.8	-127.8	100.000 %	0.0000
10	20	50	[32,50]	[15,30]	[85,850]	0.063	0.016	-80.7	-80.7	100.000 %	0.0000
10	20	50	[32,50]	[15,30]	[170,850]	0.054	0.017	-127.3	-127.3	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.057 seg.

Tiempo Promedio Total H_1: 0.017 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 30, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	50	[1,50]	[1,10]	[76,762]	0.078	0.021	-70.5	-70.5	100.000 %	0.0000
10	30	50	[1,50]	[1,10]	[152,762]	0.084	0.018	-135.6	-135.6	100.000 %	0.0000
10	30	50	[1,50]	[5,10]	[76,764]	0.077	0.022	-61.1	-61.1	100.000 %	0.0000
10	30	50	[1,50]	[5,10]	[152,764]	0.077	0.023	-149.7	-149.7	100.000 %	0.0000
10	30	50	[1,50]	[1,30]	[77,772]	0.076	0.021	-59.6	-59.6	100.000 %	0.0000
10	30	50	[1,50]	[1,30]	[154,772]	0.077	0.020	-141.0	-141.0	100.000 %	0.0000
10	30	50	[1,50]	[15,30]	[77,779]	0.093	0.024	-64.5	-64.5	100.000 %	0.0000
10	30	50	[1,50]	[15,30]	[154,779]	0.077	0.018	-118.5	-118.5	100.000 %	0.0000
10	30	50	[16,50]	[1,10]	[100,1004]	0.101	0.020	-90.7	-90.7	100.000 %	0.0000
10	30	50	[16,50]	[1,10]	[200,1004]	0.135	0.026	-197.1	-197.1	100.000 %	0.0000
10	30	50	[16,50]	[5,10]	[100,1006]	0.081	0.020	-94.6	-94.6	100.000 %	0.0000
10	30	50	[16,50]	[5,10]	[200,1006]	0.094	0.025	-180.9	-180.9	100.000 %	0.0000
10	30	50	[16,50]	[1,30]	[101,1015]	0.109	0.021	-89.7	-89.7	100.000 %	0.0000
10	30	50	[16,50]	[1,30]	[202,1015]	0.113	0.019	-161.5	-161.5	100.000 %	0.0000
10	30	50	[16,50]	[15,30]	[102,1022]	0.108	0.021	-80.5	-80.5	100.000 %	0.0000
10	30	50	[16,50]	[15,30]	[204,1022]	0.112	0.020	-173.1	-173.1	100.000 %	0.0000
10	30	50	[32,50]	[1,10]	[124,1247]	0.082	0.020	-120.1	-120.1	100.000 %	0.0000
10	30	50	[32,50]	[1,10]	[248,1247]	0.086	0.021	-227.5	-227.5	100.000 %	0.0000
10	30	50	[32,50]	[5,10]	[124,1249]	0.073	0.021	-147.8	-147.8	100.000 %	0.0000
10	30	50	[32,50]	[5,10]	[248,1249]	0.066	0.020	-227.0	-227.0	100.000 %	0.0000
10	30	50	[32,50]	[1,30]	[125,1257]	0.131	0.021	-108.4	-108.4	100.000 %	0.0000
10	30	50	[32,50]	[1,30]	[250,1257]	0.132	0.019	-223.0	-223.0	100.000 %	0.0000
10	30	50	[32,50]	[15,30]	[126,1264]	0.103	0.021	-88.9	-88.9	100.000 %	0.0000
10	30	50	[32,50]	[15,30]	[252,1264]	0.107	0.021	-229.5	-229.5	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.095 seg.

Tiempo Promedio Total H_1: 0.021 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 50, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	50	[1,50]	[1,10]	[126,1267]	0.156	0.033	-111.3	-111.3	100.000 %	0.0000
10	50	50	[1,50]	[1,10]	[252,1267]	0.162	0.035	-241.7	-241.7	100.000 %	0.0000
10	50	50	[1,50]	[5,10]	[126,1269]	0.177	0.035	-106.7	-106.7	100.000 %	0.0000
10	50	50	[1,50]	[5,10]	[252,1269]	0.169	0.037	-245.5	-245.5	100.000 %	0.0000
10	50	50	[1,50]	[1,30]	[127,1277]	0.156	0.031	-114.5	-114.5	100.000 %	0.0000
10	50	50	[1,50]	[1,30]	[254,1277]	0.159	0.033	-238.2	-237.4	99.847 %	0.0046
10	50	50	[1,50]	[15,30]	[128,1284]	0.156	0.033	-110.7	-110.7	100.000 %	0.0000
10	50	50	[1,50]	[15,30]	[256,1284]	0.168	0.032	-223.7	-223.4	99.950 %	0.0015
10	50	50	[16,50]	[1,10]	[167,1671]	0.208	0.034	-182.6	-182.6	100.000 %	0.0000
10	50	50	[16,50]	[1,10]	[334,1671]	0.217	0.031	-335.4	-334.3	99.827 %	0.0052
10	50	50	[16,50]	[5,10]	[167,1673]	0.203	0.034	-163.5	-162.8	99.907 %	0.0028
10	50	50	[16,50]	[5,10]	[334,1673]	0.173	0.031	-337.9	-337.6	99.957 %	0.0013
10	50	50	[16,50]	[1,30]	[168,1681]	0.254	0.031	-132.5	-130.8	99.806 %	0.0058
10	50	50	[16,50]	[1,30]	[336,1681]	0.249	0.033	-304.1	-304.1	100.000 %	0.0000
10	50	50	[16,50]	[15,30]	[168,1688]	0.269	0.033	-167.3	-166.4	99.889 %	0.0033
10	50	50	[16,50]	[15,30]	[336,1688]	0.256	0.034	-316.0	-312.5	99.558 %	0.0084
10	50	50	[32,50]	[1,10]	[207,2075]	0.203	0.035	-201.2	-201.2	100.000 %	0.0000
10	50	50	[32,50]	[1,10]	[414,2075]	0.198	0.034	-386.4	-386.4	100.000 %	0.0000
10	50	50	[32,50]	[5,10]	[207,2077]	0.144	0.035	-190.8	-190.8	100.000 %	0.0000
10	50	50	[32,50]	[5,10]	[414,2077]	0.135	0.032	-388.9	-388.9	100.000 %	0.0000
10	50	50	[32,50]	[1,30]	[208,2085]	0.302	0.031	-191.3	-191.3	100.000 %	0.0000
10	50	50	[32,50]	[1,30]	[416,2085]	0.303	0.032	-391.5	-391.5	100.000 %	0.0000
10	50	50	[32,50]	[15,30]	[209,2092]	0.262	0.032	-188.2	-187.1	99.881 %	0.0025
10	50	50	[32,50]	[15,30]	[418,2092]	0.232	0.032	-409.1	-408.4	99.913 %	0.0026

Tiempo Promedio Total H_2: 0.205 seg.

Tiempo Promedio Total H_1: 0.033 seg.

Rendimiento Promedio Total: 99.939 %

Tabla de Experimentos

$n : 100, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	50	[1,50]	[1,10]	[253,2530]	0.550	0.082	-262.2	-257.2	99.568 %	0.0048
10	100	50	[1,50]	[1,10]	[506,2530]	0.554	0.083	-495.3	-493.8	99.855 %	0.0032
10	100	50	[1,50]	[5,10]	[253,2532]	0.600	0.079	-241.9	-238.4	99.704 %	0.0046
10	100	50	[1,50]	[5,10]	[506,2532]	0.602	0.093	-502.6	-500.1	99.758 %	0.0048
10	100	50	[1,50]	[1,30]	[254,2540]	0.460	0.083	-232.1	-232.0	99.992 %	0.0002
10	100	50	[1,50]	[1,30]	[508,2540]	0.430	0.077	-487.3	-486.7	99.944 %	0.0014
10	100	50	[1,50]	[15,30]	[254,2547]	0.543	0.077	-233.4	-231.4	99.829 %	0.0027
10	100	50	[1,50]	[15,30]	[508,2547]	0.488	0.081	-480.6	-477.2	99.684 %	0.0034
10	100	50	[16,50]	[1,10]	[333,3338]	0.817	0.077	-339.3	-329.6	99.352 %	0.0073
10	100	50	[16,50]	[1,10]	[666,3338]	0.781	0.079	-667.6	-656.5	99.202 %	0.0086
10	100	50	[16,50]	[5,10]	[334,3340]	0.692	0.080	-311.7	-298.6	99.126 %	0.0078
10	100	50	[16,50]	[5,10]	[668,3340]	0.744	0.078	-656.2	-644.8	99.131 %	0.0087
10	100	50	[16,50]	[1,30]	[334,3348]	0.854	0.077	-315.1	-308.6	99.550 %	0.0042
10	100	50	[16,50]	[1,30]	[668,3348]	0.861	0.077	-657.0	-649.4	99.435 %	0.0051
10	100	50	[16,50]	[15,30]	[335,3355]	0.904	0.083	-323.8	-316.6	99.528 %	0.0054
10	100	50	[16,50]	[15,30]	[670,3355]	0.902	0.079	-644.5	-635.8	99.394 %	0.0068
10	100	50	[32,50]	[1,10]	[414,4146]	0.701	0.079	-410.7	-392.1	99.029 %	0.0074
10	100	50	[32,50]	[1,10]	[828,4146]	0.695	0.079	-812.3	-795.3	98.999 %	0.0073
10	100	50	[32,50]	[5,10]	[414,4148]	0.620	0.079	-396.1	-381.0	99.216 %	0.0079
10	100	50	[32,50]	[5,10]	[828,4148]	0.586	0.081	-828.1	-802.1	98.428 %	0.0075
10	100	50	[32,50]	[1,30]	[415,4156]	1.162	0.078	-404.8	-390.1	99.232 %	0.0056
10	100	50	[32,50]	[1,30]	[830,4156]	1.110	0.080	-804.9	-787.8	98.972 %	0.0043
10	100	50	[32,50]	[15,30]	[416,4163]	0.885	0.075	-392.4	-376.4	99.163 %	0.0076
10	100	50	[32,50]	[15,30]	[832,4163]	0.857	0.079	-784.0	-761.6	98.713 %	0.0066

Tiempo Promedio Total H_2: 0.725 seg.

Tiempo Promedio Total H_1: 0.080 seg.

Rendimiento Promedio Total: 99.367 %

Tabla de Experimentos

$n : 200, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	50	[1,50]	[1,10]	[505,5055]	2.826	0.243	-506.0	-486.7	99.154 %	0.0049
10	200	50	[1,50]	[1,10]	[1010,5055]	2.896	0.250	-1022.8	-993.8	98.571 %	0.0067
10	200	50	[1,50]	[5,10]	[505,5057]	2.870	0.246	-492.0	-467.1	98.918 %	0.0065
10	200	50	[1,50]	[5,10]	[1010,5057]	2.745	0.244	-1010.6	-1001.8	99.562 %	0.0060
10	200	50	[1,50]	[1,30]	[506,5065]	2.061	0.243	-475.9	-458.0	99.224 %	0.0038
10	200	50	[1,50]	[1,30]	[1012,5065]	1.981	0.243	-1001.5	-984.7	99.153 %	0.0053
10	200	50	[1,50]	[15,30]	[507,5072]	2.374	0.234	-484.9	-464.8	99.125 %	0.0051
10	200	50	[1,50]	[15,30]	[1014,5072]	2.484	0.235	-993.2	-969.7	98.859 %	0.0071
10	200	50	[16,50]	[1,10]	[667,6671]	3.884	0.241	-652.3	-604.0	98.452 %	0.0063
10	200	50	[16,50]	[1,10]	[1334,6671]	4.206	0.246	-1323.1	-1276.2	98.283 %	0.0080
10	200	50	[16,50]	[5,10]	[667,6673]	3.798	0.245	-656.5	-607.6	98.381 %	0.0065
10	200	50	[16,50]	[5,10]	[1334,6673]	3.718	0.244	-1328.8	-1287.9	98.516 %	0.0078
10	200	50	[16,50]	[1,30]	[668,6681]	4.098	0.235	-642.4	-600.2	98.672 %	0.0080
10	200	50	[16,50]	[1,30]	[1336,6681]	4.223	0.239	-1313.4	-1286.5	98.987 %	0.0085
10	200	50	[16,50]	[15,30]	[668,6688]	4.269	0.238	-638.0	-608.2	99.042 %	0.0055
10	200	50	[16,50]	[15,30]	[1336,6688]	4.335	0.233	-1299.3	-1262.5	98.635 %	0.0039
10	200	50	[32,50]	[1,10]	[828,8287]	4.025	0.245	-825.6	-760.0	98.240 %	0.0100
10	200	50	[32,50]	[1,10]	[1656,8287]	4.103	0.238	-1638.4	-1581.6	98.309 %	0.0112
10	200	50	[32,50]	[5,10]	[828,8289]	3.434	0.250	-813.4	-757.9	98.561 %	0.0079
10	200	50	[32,50]	[5,10]	[1656,8289]	3.616	0.250	-1633.3	-1576.0	98.317 %	0.0085
10	200	50	[32,50]	[1,30]	[829,8297]	5.509	0.239	-802.2	-738.0	98.307 %	0.0065
10	200	50	[32,50]	[1,30]	[1658,8297]	5.302	0.232	-1636.9	-1578.3	98.293 %	0.0047
10	200	50	[32,50]	[15,30]	[830,8304]	4.472	0.236	-816.0	-759.5	98.541 %	0.0078
10	200	50	[32,50]	[15,30]	[1660,8304]	4.603	0.240	-1623.2	-1561.6	98.215 %	0.0076

Tiempo Promedio Total H_2: 3.660 seg.

Tiempo Promedio Total H_1: 0.241 seg.

Rendimiento Promedio Total: 98.680 %

Tabla de Experimentos

$n : 300, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	50	[1,50]	[1,10]	[758,7580]	8.048	0.488	-758.3	-706.6	98.527 %	0.0070
10	300	50	[1,50]	[1,10]	[1516,7580]	8.170	0.489	-1512.0	-1460.8	98.355 %	0.0065
10	300	50	[1,50]	[5,10]	[758,7582]	8.149	0.490	-742.2	-686.0	98.360 %	0.0051
10	300	50	[1,50]	[5,10]	[1516,7582]	8.311	0.498	-1521.5	-1482.4	98.712 %	0.0069
10	300	50	[1,50]	[1,30]	[759,7590]	6.113	0.478	-755.1	-716.4	98.864 %	0.0038
10	300	50	[1,50]	[1,30]	[1518,7590]	6.086	0.472	-1488.4	-1454.5	98.905 %	0.0061
10	300	50	[1,50]	[15,30]	[759,7597]	7.264	0.475	-731.4	-698.6	99.072 %	0.0062
10	300	50	[1,50]	[15,30]	[1518,7597]	7.405	0.473	-1499.7	-1459.4	98.679 %	0.0065
10	300	50	[16,50]	[1,10]	[1000,10004]	11.884	0.488	-998.8	-933.0	98.563 %	0.0102
10	300	50	[16,50]	[1,10]	[2000,10004]	11.496	0.477	-1986.8	-1916.0	98.276 %	0.0105
10	300	50	[16,50]	[5,10]	[1000,10006]	11.692	0.497	-999.7	-928.3	98.428 %	0.0060
10	300	50	[16,50]	[5,10]	[2000,10006]	11.619	0.506	-1994.3	-1904.9	97.820 %	0.0090
10	300	50	[16,50]	[1,30]	[1001,10014]	11.964	0.483	-984.6	-914.7	98.480 %	0.0079
10	300	50	[16,50]	[1,30]	[2002,10014]	11.969	0.474	-1990.1	-1927.2	98.456 %	0.0052
10	300	50	[16,50]	[15,30]	[1002,10021]	12.432	0.473	-970.8	-891.8	98.295 %	0.0057
10	300	50	[16,50]	[15,30]	[2004,10021]	12.496	0.481	-1973.0	-1898.2	98.182 %	0.0067
10	300	50	[32,50]	[1,10]	[1242,12428]	12.393	0.484	-1220.5	-1104.1	97.990 %	0.0060
10	300	50	[32,50]	[1,10]	[2484,12428]	11.969	0.492	-2459.8	-2335.0	97.555 %	0.0064
10	300	50	[32,50]	[5,10]	[1243,12430]	11.447	0.498	-1246.9	-1139.5	98.100 %	0.0094
10	300	50	[32,50]	[5,10]	[2486,12430]	11.157	0.491	-2467.8	-2365.9	98.015 %	0.0095
10	300	50	[32,50]	[1,30]	[1243,12438]	15.245	0.483	-1221.2	-1116.8	98.157 %	0.0070
10	300	50	[32,50]	[1,30]	[2486,12438]	14.971	0.487	-2458.9	-2340.9	97.690 %	0.0087
10	300	50	[32,50]	[15,30]	[1244,12445]	13.687	0.474	-1221.8	-1099.1	97.877 %	0.0045
10	300	50	[32,50]	[15,30]	[2488,12445]	13.353	0.482	-2443.7	-2304.3	97.289 %	0.0072

Tiempo Promedio Total H_2: 10.805 seg.

Tiempo Promedio Total H_1: 0.485 seg.

Rendimiento Promedio Total: 98.277 %

Tabla de Experimentos

$n : 500, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	50	[1,50]	[1,10]	[1263,12630]	36.584	1.249	-1262.6	-1169.5	98.380 %	0.0050
10	500	50	[1,50]	[1,10]	[2526,12630]	36.172	1.235	-2529.1	-2428.7	98.049 %	0.0042
10	500	50	[1,50]	[5,10]	[1263,12632]	36.578	1.271	-1264.5	-1191.0	98.735 %	0.0045
10	500	50	[1,50]	[5,10]	[2526,12632]	37.823	1.276	-2517.4	-2431.9	98.340 %	0.0071
10	500	50	[1,50]	[1,30]	[1264,12640]	30.166	1.240	-1245.0	-1156.2	98.456 %	0.0035
10	500	50	[1,50]	[1,30]	[2528,12640]	30.989	1.225	-2515.8	-2427.5	98.306 %	0.0060
10	500	50	[1,50]	[15,30]	[1264,12647]	34.947	1.225	-1236.3	-1141.2	98.385 %	0.0034
10	500	50	[1,50]	[15,30]	[2528,12647]	35.127	1.248	-2504.9	-2423.9	98.441 %	0.0062
10	500	50	[16,50]	[1,10]	[1667,16670]	52.888	1.231	-1659.5	-1511.0	98.071 %	0.0049
10	500	50	[16,50]	[1,10]	[3334,16670]	52.328	1.246	-3329.9	-3165.9	97.607 %	0.0069
10	500	50	[16,50]	[5,10]	[1667,16672]	52.143	1.283	-1653.8	-1531.2	98.404 %	0.0051
10	500	50	[16,50]	[5,10]	[3334,16672]	51.281	1.279	-3328.3	-3166.8	97.639 %	0.0052
10	500	50	[16,50]	[1,30]	[1668,16680]	51.839	1.198	-1647.4	-1526.8	98.428 %	0.0080
10	500	50	[16,50]	[1,30]	[3336,16680]	51.615	1.195	-3324.3	-3180.1	97.886 %	0.0071
10	500	50	[16,50]	[15,30]	[1668,16687]	53.649	1.221	-1645.6	-1504.5	98.156 %	0.0047
10	500	50	[16,50]	[15,30]	[3336,16687]	54.112	1.222	-3308.9	-3137.4	97.457 %	0.0067
10	500	50	[32,50]	[1,10]	[2071,20710]	55.862	1.247	-2057.7	-1821.0	97.516 %	0.0058
10	500	50	[32,50]	[1,10]	[4142,20710]	56.971	1.245	-4115.5	-3848.5	96.881 %	0.0045
10	500	50	[32,50]	[5,10]	[2071,20712]	53.794	1.262	-2055.1	-1858.5	97.938 %	0.0071
10	500	50	[32,50]	[5,10]	[4142,20712]	53.611	1.266	-4122.2	-3903.0	97.430 %	0.0076
10	500	50	[32,50]	[1,30]	[2072,20720]	65.074	1.216	-2073.9	-1858.5	97.731 %	0.0062
10	500	50	[32,50]	[1,30]	[4144,20720]	65.227	1.240	-4135.6	-3899.0	97.211 %	0.0049
10	500	50	[32,50]	[15,30]	[2072,20727]	60.731	1.228	-2057.6	-1783.4	97.197 %	0.0037
10	500	50	[32,50]	[15,30]	[4144,20727]	60.396	1.220	-4123.0	-3846.3	96.774 %	0.0052

Tiempo Promedio Total H_2: 48.746 seg.

Tiempo Promedio Total H_1: 1.240 seg.

Rendimiento Promedio Total: 97.892 %

Tabla de Experimentos

$n : 750, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	50	[1,50]	[1,10]	[1894,18942]	127.533	2.716	-1883.8	-1734.7	98.302 %	0.0043
10	750	50	[1,50]	[1,10]	[3788,18942]	124.937	2.683	-3793.2	-3621.9	97.764 %	0.0046
10	750	50	[1,50]	[5,10]	[1894,18944]	130.992	2.798	-1874.0	-1732.2	98.352 %	0.0044
10	750	50	[1,50]	[5,10]	[3788,18944]	128.062	2.775	-3770.7	-3630.7	98.177 %	0.0031
10	750	50	[1,50]	[1,30]	[1895,18952]	108.148	2.609	-1867.7	-1714.4	98.263 %	0.0051
10	750	50	[1,50]	[1,30]	[3790,18952]	107.936	2.622	-3775.7	-3651.3	98.397 %	0.0046
10	750	50	[1,50]	[15,30]	[1895,18959]	121.866	2.649	-1864.6	-1713.1	98.250 %	0.0055
10	750	50	[1,50]	[15,30]	[3790,18959]	118.659	2.658	-3768.6	-3602.6	97.839 %	0.0064
10	750	50	[16,50]	[1,10]	[2500,25002]	179.390	2.681	-2492.3	-2190.3	97.389 %	0.0033
10	750	50	[16,50]	[1,10]	[5000,25002]	181.461	2.672	-4999.4	-4723.1	97.298 %	0.0039
10	750	50	[16,50]	[5,10]	[2500,25004]	172.770	2.773	-2477.0	-2232.3	97.905 %	0.0044
10	750	50	[16,50]	[5,10]	[5000,25004]	178.816	2.732	-4985.4	-4739.6	97.606 %	0.0038
10	750	50	[16,50]	[1,30]	[2501,25012]	179.835	2.604	-2511.3	-2281.6	97.977 %	0.0051
10	750	50	[16,50]	[1,30]	[5002,25012]	177.392	2.611	-4971.6	-4682.3	97.182 %	0.0063
10	750	50	[16,50]	[15,30]	[2501,25019]	182.496	2.659	-2493.2	-2230.8	97.743 %	0.0036
10	750	50	[16,50]	[15,30]	[5002,25019]	184.070	2.642	-4961.9	-4667.5	97.157 %	0.0045
10	750	50	[32,50]	[1,10]	[3106,31062]	198.254	2.708	-3082.5	-2724.4	97.533 %	0.0089
10	750	50	[32,50]	[1,10]	[6212,31062]	196.164	2.682	-6203.6	-5795.7	96.844 %	0.0046
10	750	50	[32,50]	[5,10]	[3106,31064]	191.582	2.769	-3116.9	-2781.3	97.658 %	0.0045
10	750	50	[32,50]	[5,10]	[6212,31064]	194.466	2.770	-6192.5	-5817.4	97.085 %	0.0067
10	750	50	[32,50]	[1,30]	[3107,31072]	221.240	2.624	-3097.5	-2723.2	97.399 %	0.0064
10	750	50	[32,50]	[1,30]	[6214,31072]	222.981	2.609	-6190.1	-5818.0	97.095 %	0.0066
10	750	50	[32,50]	[15,30]	[3107,31079]	209.534	2.633	-3067.1	-2640.9	97.008 %	0.0029
10	750	50	[32,50]	[15,30]	[6214,31079]	210.650	2.639	-6181.6	-5797.1	97.020 %	0.0055

Tiempo Promedio Total H_2: 168.718 seg.

Tiempo Promedio Total H_1: 2.680 seg.

Rendimiento Promedio Total: 97.635 %

Tabla de Experimentos

$n : 1000, m : 50, p_{max} : 50$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	50	[1,50]	[1,10]	[2525,25255]	304.817	4.701	-2524.0	-2299.9	98.066 %	0.0039
10	1000	50	[1,50]	[1,10]	[5050,25255]	311.192	4.738	-5055.8	-4847.8	97.979 %	0.0048
10	1000	50	[1,50]	[5,10]	[2525,25257]	319.485	4.857	-2515.9	-2328.0	98.346 %	0.0053
10	1000	50	[1,50]	[5,10]	[5050,25257]	319.390	4.858	-5033.3	-4807.1	97.815 %	0.0051
10	1000	50	[1,50]	[1,30]	[2526,25265]	284.789	4.589	-2511.9	-2282.4	98.023 %	0.0043
10	1000	50	[1,50]	[1,30]	[5052,25265]	270.553	4.543	-5032.9	-4800.4	97.748 %	0.0035
10	1000	50	[1,50]	[15,30]	[2527,25272]	301.695	4.608	-2512.3	-2288.5	98.059 %	0.0049
10	1000	50	[1,50]	[15,30]	[5054,25272]	302.001	4.641	-5029.9	-4809.0	97.855 %	0.0046
10	1000	50	[16,50]	[1,10]	[3333,33335]	439.135	4.720	-3336.8	-2992.0	97.759 %	0.0046
10	1000	50	[16,50]	[1,10]	[6666,33335]	430.710	4.684	-6650.4	-6281.4	97.322 %	0.0048
10	1000	50	[16,50]	[5,10]	[3333,33337]	441.485	4.922	-3310.0	-2960.6	97.735 %	0.0039
10	1000	50	[16,50]	[5,10]	[6666,33337]	432.847	4.824	-6658.3	-6305.1	97.416 %	0.0050
10	1000	50	[16,50]	[1,30]	[3334,33345]	431.365	4.565	-3309.7	-2975.8	97.830 %	0.0054
10	1000	50	[16,50]	[1,30]	[6668,33345]	435.812	4.579	-6640.2	-6243.2	97.136 %	0.0037
10	1000	50	[16,50]	[15,30]	[3335,33352]	440.147	4.627	-3318.1	-2935.3	97.540 %	0.0038
10	1000	50	[16,50]	[15,30]	[6670,33352]	443.142	4.659	-6638.3	-6281.9	97.401 %	0.0058
10	1000	50	[32,50]	[1,10]	[4141,41415]	500.758	4.719	-4148.6	-3641.4	97.355 %	0.0069
10	1000	50	[32,50]	[1,10]	[8282,41415]	495.493	4.724	-8295.1	-7738.1	96.748 %	0.0052
10	1000	50	[32,50]	[5,10]	[4141,41417]	479.882	4.829	-4178.4	-3775.8	97.896 %	0.0065
10	1000	50	[32,50]	[5,10]	[8282,41417]	485.034	4.822	-8264.6	-7752.6	97.008 %	0.0039
10	1000	50	[32,50]	[1,30]	[4142,41425]	531.932	4.555	-4121.5	-3577.4	97.152 %	0.0037
10	1000	50	[32,50]	[1,30]	[8284,41425]	537.580	4.583	-8256.9	-7700.9	96.751 %	0.0065
10	1000	50	[32,50]	[15,30]	[4143,41432]	515.582	4.648	-4117.9	-3566.5	97.114 %	0.0037
10	1000	50	[32,50]	[15,30]	[8286,41432]	524.876	4.632	-8269.7	-7691.7	96.631 %	0.0045

Tiempo Promedio Total H_2: 415.821 seg.

Tiempo Promedio Total H_1: 4.693 seg.

Rendimiento Promedio Total: 97.529 %

Tabla de Experimentos

$n : 10, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	2	[1,100]	[1,10]	[51,510]	0.024	0.013	-55.4	43.7	72.806 %	0.1649
10	10	2	[1,100]	[1,10]	[102,510]	0.020	0.006	-59.9	26.1	72.682 %	0.0982
10	10	2	[1,100]	[5,10]	[51,512]	0.016	0.006	-53.9	22.6	77.125 %	0.1219
10	10	2	[1,100]	[5,10]	[102,512]	0.015	0.008	-100.9	-24.3	76.070 %	0.0931
10	10	2	[1,100]	[1,30]	[52,520]	0.021	0.010	-47.4	50.8	71.928 %	0.1005
10	10	2	[1,100]	[1,30]	[104,520]	0.023	0.008	-77.3	-0.3	76.159 %	0.0942
10	10	2	[1,100]	[15,30]	[52,527]	0.020	0.009	-41.1	42.0	75.953 %	0.1121
10	10	2	[1,100]	[15,30]	[104,527]	0.024	0.010	-71.2	31.7	70.258 %	0.0831
10	10	2	[33,100]	[1,10]	[67,671]	0.021	0.006	-58.0	81.1	72.734 %	0.1416
10	10	2	[33,100]	[1,10]	[134,671]	0.014	0.010	-114.7	32.5	66.992 %	0.1351
10	10	2	[33,100]	[5,10]	[67,673]	0.016	0.007	-44.4	106.8	67.515 %	0.1023
10	10	2	[33,100]	[5,10]	[134,673]	0.016	0.007	-112.2	55.8	67.071 %	0.1289
10	10	2	[33,100]	[1,30]	[68,681]	0.021	0.009	-36.1	99.7	72.817 %	0.1097
10	10	2	[33,100]	[1,30]	[136,681]	0.025	0.011	-97.0	58.3	67.798 %	0.1213
10	10	2	[33,100]	[15,30]	[68,688]	0.020	0.008	-51.9	83.4	70.948 %	0.0547
10	10	2	[33,100]	[15,30]	[136,688]	0.021	0.012	-94.0	52.2	70.003 %	0.0924
10	10	2	[66,100]	[1,10]	[84,843]	0.019	0.009	-83.3	134.5	63.898 %	0.0977
10	10	2	[66,100]	[1,10]	[168,843]	0.018	0.009	-160.0	41.2	64.586 %	0.0995
10	10	2	[66,100]	[5,10]	[84,845]	0.038	0.020	-40.4	147.0	70.462 %	0.0993
10	10	2	[66,100]	[5,10]	[168,845]	0.023	0.014	-132.7	40.1	71.311 %	0.1344
10	10	2	[66,100]	[1,30]	[85,853]	0.020	0.006	-70.7	135.3	66.453 %	0.0498
10	10	2	[66,100]	[1,30]	[170,853]	0.017	0.010	-120.0	66.5	68.161 %	0.1030
10	10	2	[66,100]	[15,30]	[86,860]	0.030	0.015	-69.3	122.5	70.852 %	0.1100
10	10	2	[66,100]	[15,30]	[172,860]	0.023	0.013	-98.0	72.7	72.315 %	0.0943

Tiempo Promedio Total H_2: 0.021 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 70.704 %

Tabla de Experimentos

$n : 20, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	2	[1,100]	[1,10]	[101,1015]	0.034	0.009	-85.2	153.5	65.592 %	0.0779
10	20	2	[1,100]	[1,10]	[202,1015]	0.033	0.008	-190.6	61.3	61.969 %	0.0684
10	20	2	[1,100]	[5,10]	[101,1017]	0.033	0.008	-112.3	100.6	67.001 %	0.0528
10	20	2	[1,100]	[5,10]	[202,1017]	0.032	0.010	-190.2	-35.3	74.270 %	0.1166
10	20	2	[1,100]	[1,30]	[102,1025]	0.041	0.009	-80.6	183.7	65.452 %	0.0702
10	20	2	[1,100]	[1,30]	[204,1025]	0.036	0.010	-184.0	57.1	64.075 %	0.0739
10	20	2	[1,100]	[15,30]	[103,1032]	0.033	0.011	-60.7	192.4	65.891 %	0.0479
10	20	2	[1,100]	[15,30]	[206,1032]	0.040	0.010	-162.2	51.3	68.421 %	0.0922
10	20	2	[33,100]	[1,10]	[133,1338]	0.038	0.016	-112.9	217.2	65.697 %	0.0912
10	20	2	[33,100]	[1,10]	[266,1338]	0.032	0.012	-228.0	142.8	60.355 %	0.0621
10	20	2	[33,100]	[5,10]	[134,1340]	0.033	0.010	-119.7	201.4	67.093 %	0.1038
10	20	2	[33,100]	[5,10]	[268,1340]	0.031	0.009	-224.2	83.7	66.288 %	0.0887
10	20	2	[33,100]	[1,30]	[134,1348]	0.064	0.033	-107.8	273.8	62.888 %	0.0645
10	20	2	[33,100]	[1,30]	[268,1348]	0.050	0.019	-220.6	190.6	58.398 %	0.0400
10	20	2	[33,100]	[15,30]	[135,1355]	0.039	0.010	-97.4	301.3	62.294 %	0.0818
10	20	2	[33,100]	[15,30]	[270,1355]	0.039	0.012	-214.6	190.8	58.965 %	0.0773
10	20	2	[66,100]	[1,10]	[168,1681]	0.035	0.008	-139.3	289.3	66.981 %	0.1055
10	20	2	[66,100]	[1,10]	[336,1681]	0.033	0.012	-290.6	223.2	60.636 %	0.1230
10	20	2	[66,100]	[5,10]	[168,1683]	0.037	0.011	-114.5	407.3	58.810 %	0.0484
10	20	2	[66,100]	[5,10]	[336,1683]	0.054	0.015	-312.8	195.1	59.199 %	0.0635
10	20	2	[66,100]	[1,30]	[169,1691]	0.042	0.013	-152.7	239.7	68.791 %	0.1421
10	20	2	[66,100]	[1,30]	[338,1691]	0.042	0.010	-278.3	282.9	56.172 %	0.0535
10	20	2	[66,100]	[15,30]	[169,1698]	0.040	0.013	-86.0	408.2	61.673 %	0.0539
10	20	2	[66,100]	[15,30]	[338,1698]	0.035	0.009	-294.5	204.8	58.841 %	0.0439

Tiempo Promedio Total H_2: 0.039 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 63.573 %

Tabla de Experimentos

$n : 30, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	2	[1,100]	[1,10]	[152,1520]	0.069	0.021	-167.0	222.4	64.188 %	0.0631
10	30	2	[1,100]	[1,10]	[304,1520]	0.061	0.012	-311.0	40.9	64.935 %	0.0691
10	30	2	[1,100]	[5,10]	[152,1522]	0.057	0.012	-135.7	163.7	70.396 %	0.0885
10	30	2	[1,100]	[5,10]	[304,1522]	0.057	0.011	-274.9	82.5	64.130 %	0.0964
10	30	2	[1,100]	[1,30]	[153,1530]	0.080	0.012	-152.3	167.6	69.164 %	0.0709
10	30	2	[1,100]	[1,30]	[306,1530]	0.073	0.014	-283.5	95.9	64.318 %	0.0968
10	30	2	[1,100]	[15,30]	[153,1537]	0.069	0.014	-140.8	214.1	66.397 %	0.0482
10	30	2	[1,100]	[15,30]	[306,1537]	0.067	0.014	-301.5	42.6	65.831 %	0.0696
10	30	2	[33,100]	[1,10]	[200,2004]	0.084	0.043	-183.0	538.2	54.533 %	0.0206
10	30	2	[33,100]	[1,10]	[400,2004]	0.062	0.016	-388.6	281.1	54.572 %	0.0376
10	30	2	[33,100]	[5,10]	[200,2006]	0.063	0.014	-182.1	375.0	62.652 %	0.0474
10	30	2	[33,100]	[5,10]	[400,2006]	0.125	0.025	-360.7	321.6	55.818 %	0.0387
10	30	2	[33,100]	[1,30]	[201,2014]	0.080	0.012	-174.9	448.8	59.792 %	0.0326
10	30	2	[33,100]	[1,30]	[402,2014]	0.108	0.016	-368.0	249.1	57.829 %	0.0519
10	30	2	[33,100]	[15,30]	[202,2022]	0.070	0.016	-172.9	471.8	59.443 %	0.0376
10	30	2	[33,100]	[15,30]	[404,2022]	0.068	0.014	-372.7	239.1	57.850 %	0.0593
10	30	2	[66,100]	[1,10]	[251,2519]	0.079	0.016	-208.2	608.8	58.991 %	0.0615
10	30	2	[66,100]	[1,10]	[502,2519]	0.075	0.019	-459.4	406.5	54.632 %	0.0583
10	30	2	[66,100]	[5,10]	[252,2521]	0.058	0.016	-230.1	636.4	56.549 %	0.0568
10	30	2	[66,100]	[5,10]	[504,2521]	0.061	0.014	-468.0	343.1	55.630 %	0.0414
10	30	2	[66,100]	[1,30]	[253,2530]	0.079	0.013	-242.5	608.5	58.269 %	0.0649
10	30	2	[66,100]	[1,30]	[506,2530]	0.079	0.015	-475.9	319.8	56.101 %	0.0565
10	30	2	[66,100]	[15,30]	[253,2537]	0.084	0.017	-230.7	614.1	59.372 %	0.0416
10	30	2	[66,100]	[15,30]	[506,2537]	0.075	0.015	-428.3	389.4	57.448 %	0.0641

Tiempo Promedio Total H_2: 0.074 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 60.368 %

Tabla de Experimentos

$n : 50, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	2	[1,100]	[1,10]	[253,2530]	0.170	0.023	-252.4	391.5	64.075 %	0.0738
10	50	2	[1,100]	[1,10]	[506,2530]	0.171	0.023	-482.7	170.8	61.585 %	0.0631
10	50	2	[1,100]	[5,10]	[253,2532]	0.158	0.026	-257.7	456.8	61.963 %	0.0698
10	50	2	[1,100]	[5,10]	[506,2532]	0.161	0.022	-495.7	167.4	60.179 %	0.0501
10	50	2	[1,100]	[1,30]	[254,2540]	0.339	0.039	-221.0	417.0	64.035 %	0.0340
10	50	2	[1,100]	[1,30]	[508,2540]	0.219	0.025	-502.3	184.8	60.516 %	0.0708
10	50	2	[1,100]	[15,30]	[254,2547]	0.185	0.023	-243.5	385.1	65.691 %	0.0842
10	50	2	[1,100]	[15,30]	[508,2547]	0.195	0.023	-466.2	201.4	61.810 %	0.0674
10	50	2	[33,100]	[1,10]	[333,3338]	0.173	0.024	-335.5	716.4	58.982 %	0.0500
10	50	2	[33,100]	[1,10]	[666,3338]	0.179	0.026	-625.0	493.0	55.079 %	0.0292
10	50	2	[33,100]	[5,10]	[334,3340]	0.161	0.024	-322.7	769.4	57.900 %	0.0512
10	50	2	[33,100]	[5,10]	[668,3340]	0.167	0.024	-618.3	470.6	55.702 %	0.0307
10	50	2	[33,100]	[1,30]	[334,3348]	0.215	0.022	-318.2	787.0	58.413 %	0.0659
10	50	2	[33,100]	[1,30]	[668,3348]	0.216	0.021	-658.3	466.7	55.711 %	0.0294
10	50	2	[33,100]	[15,30]	[335,3355]	0.189	0.023	-343.7	767.4	56.534 %	0.0595
10	50	2	[33,100]	[15,30]	[670,3355]	0.203	0.022	-646.4	504.0	53.724 %	0.0486
10	50	2	[66,100]	[1,10]	[419,4196]	0.174	0.020	-370.8	1103.9	56.703 %	0.0484
10	50	2	[66,100]	[1,10]	[838,4196]	0.175	0.023	-776.5	615.6	56.074 %	0.0350
10	50	2	[66,100]	[5,10]	[419,4198]	0.170	0.024	-390.1	1011.7	56.909 %	0.0280
10	50	2	[66,100]	[5,10]	[838,4198]	0.166	0.023	-791.1	639.5	55.636 %	0.0398
10	50	2	[66,100]	[1,30]	[420,4206]	0.222	0.026	-355.3	1086.1	57.814 %	0.0398
10	50	2	[66,100]	[1,30]	[840,4206]	0.215	0.023	-780.1	873.0	50.574 %	0.0314
10	50	2	[66,100]	[15,30]	[421,4213]	0.189	0.025	-386.7	1233.2	54.404 %	0.0485
10	50	2	[66,100]	[15,30]	[842,4213]	0.192	0.022	-811.8	727.3	53.097 %	0.0343

Tiempo Promedio Total H_2: 0.192 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 58.046 %

Tabla de Experimentos

$n : 100, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	2	[1,100]	[1,10]	[505,5055]	1.066	0.060	-526.4	907.8	61.706 %	0.0370
10	100	2	[1,100]	[1,10]	[1010,5055]	0.990	0.063	-1002.3	454.3	58.376 %	0.0362
10	100	2	[1,100]	[5,10]	[505,5057]	0.945	0.063	-477.1	948.1	61.030 %	0.0367
10	100	2	[1,100]	[5,10]	[1010,5057]	0.961	0.066	-955.6	547.2	57.942 %	0.0335
10	100	2	[1,100]	[1,30]	[506,5065]	1.132	0.060	-505.0	982.7	61.131 %	0.0279
10	100	2	[1,100]	[1,30]	[1012,5065]	1.123	0.059	-1009.4	574.2	56.411 %	0.0363
10	100	2	[1,100]	[15,30]	[507,5072]	1.029	0.060	-483.1	1003.7	61.123 %	0.0359
10	100	2	[1,100]	[15,30]	[1014,5072]	1.032	0.061	-970.3	474.7	59.144 %	0.0578
10	100	2	[33,100]	[1,10]	[667,6671]	0.994	0.062	-667.0	1755.5	55.525 %	0.0373
10	100	2	[33,100]	[1,10]	[1334,6671]	0.992	0.059	-1297.3	996.0	53.807 %	0.0447
10	100	2	[33,100]	[5,10]	[667,6673]	0.939	0.068	-679.9	1568.2	56.487 %	0.0287
10	100	2	[33,100]	[5,10]	[1334,6673]	0.966	0.061	-1291.5	1059.7	53.166 %	0.0343
10	100	2	[33,100]	[1,30]	[668,6681]	1.173	0.060	-629.9	1912.1	55.069 %	0.0310
10	100	2	[33,100]	[1,30]	[1336,6681]	1.167	0.060	-1277.6	1344.3	50.499 %	0.0164
10	100	2	[33,100]	[15,30]	[668,6688]	1.037	0.059	-628.0	1678.6	57.580 %	0.0256
10	100	2	[33,100]	[15,30]	[1336,6688]	1.051	0.061	-1301.9	1214.7	52.130 %	0.0255
10	100	2	[66,100]	[1,10]	[838,8388]	0.982	0.062	-819.2	2232.0	55.823 %	0.0344
10	100	2	[66,100]	[1,10]	[1676,8388]	0.981	0.060	-1624.7	1608.4	51.371 %	0.0268
10	100	2	[66,100]	[5,10]	[839,8390]	0.933	0.061	-794.7	2474.4	53.842 %	0.0318
10	100	2	[66,100]	[5,10]	[1678,8390]	0.952	0.058	-1635.6	1416.9	52.789 %	0.0165
10	100	2	[66,100]	[1,30]	[839,8398]	1.172	0.061	-782.1	2475.5	54.550 %	0.0489
10	100	2	[66,100]	[1,30]	[1678,8398]	1.173	0.058	-1625.2	1764.0	50.788 %	0.0307
10	100	2	[66,100]	[15,30]	[840,8405]	1.023	0.060	-774.5	2551.3	53.681 %	0.0370
10	100	2	[66,100]	[15,30]	[1680,8405]	1.037	0.059	-1642.2	1889.7	49.380 %	0.0243

Tiempo Promedio Total H_2: 1.035 seg.

Tiempo Promedio Total H_1: 0.061 seg.

Rendimiento Promedio Total: 55.556 %

Tabla de Experimentos

$n : 200, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	2	[1,100]	[1,10]	[1010,10105]	7.331	0.210	-995.0	2333.8	57.379 %	0.0210
10	200	2	[1,100]	[1,10]	[2020,10105]	7.319	0.215	-1974.9	1090.8	56.677 %	0.0311
10	200	2	[1,100]	[5,10]	[1010,10107]	6.881	0.208	-1007.7	2040.7	59.959 %	0.0243
10	200	2	[1,100]	[5,10]	[2020,10107]	6.888	0.206	-2011.0	987.9	57.713 %	0.0176
10	200	2	[1,100]	[1,30]	[1011,10115]	7.633	0.201	-1012.1	2424.7	57.154 %	0.0167
10	200	2	[1,100]	[1,30]	[2022,10115]	7.708	0.201	-1991.0	1279.1	55.794 %	0.0207
10	200	2	[1,100]	[15,30]	[1012,10122]	7.281	0.203	-1017.8	2194.2	58.760 %	0.0338
10	200	2	[1,100]	[15,30]	[2024,10122]	7.321	0.204	-1968.5	1390.0	55.278 %	0.0243
10	200	2	[33,100]	[1,10]	[1333,13337]	7.145	0.201	-1299.6	3969.1	53.214 %	0.0172
10	200	2	[33,100]	[1,10]	[2666,13337]	7.063	0.205	-2646.0	2363.0	52.304 %	0.0193
10	200	2	[33,100]	[5,10]	[1333,13339]	6.917	0.206	-1331.1	3533.4	55.619 %	0.0202
10	200	2	[33,100]	[5,10]	[2666,13339]	6.903	0.207	-2628.9	2114.0	53.176 %	0.0212
10	200	2	[33,100]	[1,30]	[1334,13347]	7.744	0.200	-1311.8	4045.5	52.958 %	0.0178
10	200	2	[33,100]	[1,30]	[2668,13347]	7.702	0.194	-2655.4	2708.9	49.686 %	0.0138
10	200	2	[33,100]	[15,30]	[1335,13354]	7.273	0.198	-1348.0	3716.8	54.359 %	0.0214
10	200	2	[33,100]	[15,30]	[2670,13354]	7.330	0.199	-2619.6	2689.2	50.289 %	0.0263
10	200	2	[66,100]	[1,10]	[1677,16771]	7.079	0.201	-1650.6	5016.0	53.309 %	0.0171
10	200	2	[66,100]	[1,10]	[3354,16771]	7.045	0.211	-3329.5	3341.1	50.847 %	0.0144
10	200	2	[66,100]	[5,10]	[1677,16773]	6.951	0.206	-1616.1	5078.7	53.526 %	0.0246
10	200	2	[66,100]	[5,10]	[3354,16773]	7.076	0.206	-3323.8	3141.5	50.971 %	0.0204
10	200	2	[66,100]	[1,30]	[1678,16781]	7.798	0.199	-1621.0	5680.5	50.865 %	0.0082
10	200	2	[66,100]	[1,30]	[3356,16781]	7.742	0.200	-3321.0	3752.5	48.414 %	0.0167
10	200	2	[66,100]	[15,30]	[1678,16788]	7.289	0.197	-1635.8	5443.2	51.890 %	0.0183
10	200	2	[66,100]	[15,30]	[3356,16788]	7.274	0.199	-3279.2	3794.6	48.437 %	0.0138

Tiempo Promedio Total H_2: 7.279 seg.

Tiempo Promedio Total H_1: 0.203 seg.

Rendimiento Promedio Total: 53.691 %

Tabla de Experimentos

$n : 300, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	2	[1,100]	[1,10]	[1515,15155]	22.922	0.447	-1504.8	3164.5	59.639 %	0.0177
10	300	2	[1,100]	[1,10]	[3030,15155]	22.906	0.436	-3005.3	1974.8	55.557 %	0.0235
10	300	2	[1,100]	[5,10]	[1515,15157]	22.605	0.445	-1490.5	3305.3	58.585 %	0.0179
10	300	2	[1,100]	[5,10]	[3030,15157]	23.043	0.446	-3021.0	1536.7	56.989 %	0.0181
10	300	2	[1,100]	[1,30]	[1516,15165]	24.152	0.432	-1497.6	3506.2	57.805 %	0.0244
10	300	2	[1,100]	[1,30]	[3032,15165]	24.037	0.420	-2982.7	2017.3	54.883 %	0.0195
10	300	2	[1,100]	[15,30]	[1517,15172]	23.151	0.441	-1470.9	3562.2	57.262 %	0.0185
10	300	2	[1,100]	[15,30]	[3034,15172]	23.196	0.428	-3020.2	2065.9	54.090 %	0.0171
10	300	2	[33,100]	[1,10]	[2000,20003]	22.985	0.438	-1985.9	5483.1	54.566 %	0.0114
10	300	2	[33,100]	[1,10]	[4000,20003]	22.850	0.432	-3973.7	3657.9	51.902 %	0.0179
10	300	2	[33,100]	[5,10]	[2000,20005]	22.669	0.445	-2011.7	5116.7	55.663 %	0.0152
10	300	2	[33,100]	[5,10]	[4000,20005]	22.520	0.439	-3946.9	3355.8	52.476 %	0.0144
10	300	2	[33,100]	[1,30]	[2001,20013]	24.257	0.426	-1968.0	6141.1	52.569 %	0.0124
10	300	2	[33,100]	[1,30]	[4002,20013]	24.224	0.426	-3958.3	4207.0	49.726 %	0.0122
10	300	2	[33,100]	[15,30]	[2002,20020]	23.463	0.426	-1983.5	5921.1	53.581 %	0.0180
10	300	2	[33,100]	[15,30]	[4004,20020]	23.341	0.435	-3971.0	3842.4	51.857 %	0.0276
10	300	2	[66,100]	[1,10]	[2515,25154]	23.008	0.439	-2510.0	7894.7	52.498 %	0.0180
10	300	2	[66,100]	[1,10]	[5030,25154]	22.699	0.435	-5009.1	5528.2	49.237 %	0.0105
10	300	2	[66,100]	[5,10]	[2515,25156]	22.602	0.445	-2510.8	7255.9	54.046 %	0.0223
10	300	2	[66,100]	[5,10]	[5030,25156]	22.693	0.445	-5026.2	4821.0	50.665 %	0.0148
10	300	2	[66,100]	[1,30]	[2516,25164]	24.455	0.428	-2467.1	8323.5	51.205 %	0.0091
10	300	2	[66,100]	[1,30]	[5032,25164]	24.483	0.425	-4964.4	6202.3	47.178 %	0.0093
10	300	2	[66,100]	[15,30]	[2517,25171]	23.305	0.430	-2450.1	8480.1	51.104 %	0.0125
10	300	2	[66,100]	[15,30]	[5034,25171]	23.656	0.442	-4992.7	5864.4	48.455 %	0.0152

Tiempo Promedio Total H_2: 23.301 seg.

Tiempo Promedio Total H_1: 0.435 seg.

Rendimiento Promedio Total: 53.397 %

Tabla de Experimentos

$n : 500, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	2	[1,100]	[1,10]	[2525,25255]	107.092	1.156	-2513.4	5612.2	58.700 %	0.0123
10	500	2	[1,100]	[1,10]	[5050,25255]	107.422	1.157	-5025.4	3369.5	54.728 %	0.0155
10	500	2	[1,100]	[5,10]	[2525,25257]	107.088	1.193	-2504.0	5257.3	59.614 %	0.0130
10	500	2	[1,100]	[5,10]	[5050,25257]	106.656	1.185	-5039.2	2803.3	56.136 %	0.0112
10	500	2	[1,100]	[1,30]	[2526,25265]	111.425	1.121	-2513.0	6207.0	56.484 %	0.0086
10	500	2	[1,100]	[1,30]	[5052,25265]	111.338	1.135	-5028.7	3750.0	53.366 %	0.0114
10	500	2	[1,100]	[15,30]	[2527,25272]	108.858	1.145	-2500.7	5977.0	57.401 %	0.0154
10	500	2	[1,100]	[15,30]	[5054,25272]	108.624	1.140	-5010.0	3704.8	53.941 %	0.0164
10	500	2	[33,100]	[1,10]	[3333,33335]	108.355	1.155	-3323.0	9834.1	53.602 %	0.0141
10	500	2	[33,100]	[1,10]	[6666,33335]	108.778	1.154	-6649.3	6880.9	49.584 %	0.0129
10	500	2	[33,100]	[5,10]	[3333,33337]	107.438	1.196	-3300.5	9073.8	54.704 %	0.0108
10	500	2	[33,100]	[5,10]	[6666,33337]	107.691	1.205	-6628.3	5798.4	52.017 %	0.0136
10	500	2	[33,100]	[1,30]	[3334,33345]	112.791	1.124	-3322.4	10424.9	52.186 %	0.0093
10	500	2	[33,100]	[1,30]	[6668,33345]	112.231	1.123	-6600.1	7218.2	49.563 %	0.0085
10	500	2	[33,100]	[15,30]	[3335,33352]	109.468	1.161	-3309.8	10373.0	52.507 %	0.0081
10	500	2	[33,100]	[15,30]	[6670,33352]	110.275	1.156	-6636.8	6817.7	49.534 %	0.0121
10	500	2	[66,100]	[1,10]	[4192,41920]	108.108	1.157	-4166.3	13419.8	51.794 %	0.0135
10	500	2	[66,100]	[1,10]	[8384,41920]	109.009	1.166	-8365.5	9306.1	48.692 %	0.0131
10	500	2	[66,100]	[5,10]	[4192,41922]	107.682	1.191	-4162.1	12711.1	53.406 %	0.0058
10	500	2	[66,100]	[5,10]	[8384,41922]	107.646	1.185	-8378.7	8035.6	50.625 %	0.0145
10	500	2	[66,100]	[1,30]	[4193,41930]	112.826	1.131	-4178.3	14773.9	49.669 %	0.0084
10	500	2	[66,100]	[1,30]	[8386,41930]	113.730	1.144	-8356.3	9787.6	48.049 %	0.0087
10	500	2	[66,100]	[15,30]	[4193,41937]	110.261	1.157	-4131.2	14100.8	50.825 %	0.0136
10	500	2	[66,100]	[15,30]	[8386,41937]	110.212	1.138	-8331.8	10046.9	47.634 %	0.0081

Tiempo Promedio Total H_2: 109.375 seg.

Tiempo Promedio Total H_1: 1.157 seg.

Rendimiento Promedio Total: 52.698 %

Tabla de Experimentos

$n : 750, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	2	[1,100]	[1,10]	[3788,37880]	378.778	2.662	-3770.4	8671.3	57.949 %	0.0085
10	750	2	[1,100]	[1,10]	[7576,37880]	379.231	2.601	-7586.9	5180.5	54.285 %	0.0077
10	750	2	[1,100]	[5,10]	[3788,37882]	375.995	2.674	-3748.5	7889.5	59.329 %	0.0075
10	750	2	[1,100]	[5,10]	[7576,37882]	375.174	2.668	-7551.3	4461.5	55.789 %	0.0106
10	750	2	[1,100]	[1,30]	[3789,37890]	388.990	2.527	-3775.7	9517.4	56.041 %	0.0124
10	750	2	[1,100]	[1,30]	[7578,37890]	385.434	2.518	-7560.5	5899.6	52.949 %	0.0110
10	750	2	[1,100]	[15,30]	[3789,37897]	381.096	2.548	-3774.8	9200.6	56.781 %	0.0053
10	750	2	[1,100]	[15,30]	[7578,37897]	382.104	2.558	-7531.4	5559.2	53.501 %	0.0118
10	750	2	[33,100]	[1,10]	[5000,50000]	381.378	2.589	-4981.9	14795.0	53.156 %	0.0062
10	750	2	[33,100]	[1,10]	[10000,50000]	380.060	2.589	-10017.8	10070.1	49.857 %	0.0072
10	750	2	[33,100]	[5,10]	[5000,50002]	379.199	2.680	-4970.7	13745.5	54.928 %	0.0054
10	750	2	[33,100]	[5,10]	[10000,50002]	378.155	2.685	-9998.9	8683.4	51.744 %	0.0072
10	750	2	[33,100]	[1,30]	[5001,50010]	391.715	2.518	-4935.1	16032.3	51.917 %	0.0114
10	750	2	[33,100]	[1,30]	[10002,50010]	391.667	2.534	-9978.7	10950.4	49.000 %	0.0083
10	750	2	[33,100]	[15,30]	[5001,50017]	382.047	2.583	-4949.3	15644.3	52.242 %	0.0112
10	750	2	[33,100]	[15,30]	[10002,50017]	382.834	2.540	-9963.0	10673.7	49.260 %	0.0062
10	750	2	[66,100]	[1,10]	[6287,62877]	381.646	2.589	-6193.4	20450.8	51.633 %	0.0069
10	750	2	[66,100]	[1,10]	[12574,62877]	384.052	2.588	-12524.2	13854.9	48.599 %	0.0082
10	750	2	[66,100]	[5,10]	[6287,62879]	381.311	2.666	-6245.2	18617.9	53.452 %	0.0109
10	750	2	[66,100]	[5,10]	[12574,62879]	379.308	2.661	-12525.6	12577.3	49.663 %	0.0060
10	750	2	[66,100]	[1,30]	[6288,62887]	393.700	2.513	-6259.7	22136.6	49.960 %	0.0051
10	750	2	[66,100]	[1,30]	[12576,62887]	391.730	2.533	-12512.8	16004.0	46.909 %	0.0071
10	750	2	[66,100]	[15,30]	[6289,62894]	386.639	2.553	-6191.9	21631.0	50.580 %	0.0102
10	750	2	[66,100]	[15,30]	[12578,62894]	386.973	2.571	-12492.9	15482.3	47.542 %	0.0133

Tiempo Promedio Total H_2: 383.301 seg.

Tiempo Promedio Total H_1: 2.590 seg.

Rendimiento Promedio Total: 52.378 %

Tabla de Experimentos

$n : 1000, m : 2, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	2	[1,100]	[1,10]	[5050,50505]	937.792	4.706	-5044.0	11835.2	57.332 %	0.0095
10	1000	2	[1,100]	[1,10]	[10100,50505]	935.630	4.628	-10102.1	6361.1	54.895 %	0.0100
10	1000	2	[1,100]	[5,10]	[5050,50507]	928.344	4.828	-5068.7	10518.7	58.957 %	0.0098
10	1000	2	[1,100]	[5,10]	[10100,50507]	930.198	4.744	-10070.9	5733.0	55.921 %	0.0063
10	1000	2	[1,100]	[1,30]	[5051,50515]	955.533	4.515	-5043.4	12963.2	55.724 %	0.0051
10	1000	2	[1,100]	[1,30]	[10102,50515]	950.371	4.478	-10073.3	7524.6	53.619 %	0.0113
10	1000	2	[1,100]	[15,30]	[5052,50522]	941.163	4.563	-5025.7	12258.3	56.908 %	0.0105
10	1000	2	[1,100]	[15,30]	[10104,50522]	940.958	4.580	-10070.2	7448.0	53.778 %	0.0105
10	1000	2	[33,100]	[1,10]	[6666,66665]	940.939	4.601	-6656.2	20341.1	52.305 %	0.0064
10	1000	2	[33,100]	[1,10]	[13332,66665]	939.151	4.687	-13349.5	13183.4	50.104 %	0.0070
10	1000	2	[33,100]	[5,10]	[6666,66667]	936.165	4.841	-6655.0	18528.6	54.236 %	0.0085
10	1000	2	[33,100]	[5,10]	[13332,66667]	935.596	4.774	-13323.4	11661.0	51.745 %	0.0094
10	1000	2	[33,100]	[1,30]	[6667,66675]	960.507	4.495	-6662.1	21724.8	51.356 %	0.0082
10	1000	2	[33,100]	[1,30]	[13334,66675]	961.472	4.489	-13324.5	14811.7	48.673 %	0.0087
10	1000	2	[33,100]	[15,30]	[6668,66682]	945.151	4.598	-6683.1	20674.1	52.497 %	0.0155
10	1000	2	[33,100]	[15,30]	[13336,66682]	943.714	4.596	-13293.7	14364.5	49.121 %	0.0067
10	1000	2	[66,100]	[1,10]	[8383,83835]	945.849	4.675	-8362.8	27559.2	51.160 %	0.0076
10	1000	2	[66,100]	[1,10]	[16766,83835]	945.455	4.686	-16733.1	18870.8	48.575 %	0.0109
10	1000	2	[66,100]	[5,10]	[8383,83837]	937.971	4.804	-8356.7	25642.1	52.597 %	0.0061
10	1000	2	[66,100]	[5,10]	[16766,83837]	943.641	4.818	-16754.5	16987.0	49.924 %	0.0058
10	1000	2	[66,100]	[1,30]	[8384,83845]	966.937	4.555	-8365.0	29689.7	49.704 %	0.0097
10	1000	2	[66,100]	[1,30]	[16768,83845]	958.849	4.516	-16724.5	20810.7	46.969 %	0.0131
10	1000	2	[66,100]	[15,30]	[8385,83852]	945.739	4.618	-8363.5	29111.4	50.223 %	0.0046
10	1000	2	[66,100]	[15,30]	[16770,83852]	951.188	4.586	-16700.7	20644.5	47.306 %	0.0073

Tiempo Promedio Total H_2: 944.930 seg.

Tiempo Promedio Total H_1: 4.641 seg.

Rendimiento Promedio Total: 52.235 %

Tabla de Experimentos

$n : 10, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	4	[1,100]	[1,10]	[51,510]	0.017	0.008	-56.6	-33.8	91.149 %	0.0502
10	10	4	[1,100]	[1,10]	[102,510]	0.022	0.010	-86.0	-63.4	91.996 %	0.1141
10	10	4	[1,100]	[5,10]	[51,512]	0.017	0.008	-43.2	-17.6	91.207 %	0.0654
10	10	4	[1,100]	[5,10]	[102,512]	0.016	0.010	-82.1	-44.7	85.574 %	0.0750
10	10	4	[1,100]	[1,30]	[52,520]	0.021	0.008	-70.6	-49.5	91.662 %	0.0819
10	10	4	[1,100]	[1,30]	[104,520]	0.022	0.007	-80.1	-53.1	90.118 %	0.0680
10	10	4	[1,100]	[15,30]	[52,527]	0.029	0.014	-33.2	-13.3	92.700 %	0.0814
10	10	4	[1,100]	[15,30]	[104,527]	0.024	0.010	-81.3	-55.4	90.403 %	0.0825
10	10	4	[33,100]	[1,10]	[67,671]	0.018	0.009	-68.4	-10.7	85.350 %	0.0806
10	10	4	[33,100]	[1,10]	[134,671]	0.019	0.008	-131.2	-83.2	86.819 %	0.0994
10	10	4	[33,100]	[5,10]	[67,673]	0.018	0.009	-39.8	2.4	89.356 %	0.1086
10	10	4	[33,100]	[5,10]	[134,673]	0.018	0.006	-128.3	-85.1	86.106 %	0.0676
10	10	4	[33,100]	[1,30]	[68,681]	0.047	0.029	-38.4	-1.1	90.682 %	0.0673
10	10	4	[33,100]	[1,30]	[136,681]	0.028	0.014	-112.2	-54.9	83.783 %	0.0693
10	10	4	[33,100]	[15,30]	[68,688]	0.019	0.010	-31.5	17.3	87.044 %	0.0808
10	10	4	[33,100]	[15,30]	[136,688]	0.025	0.009	-103.1	-30.2	78.719 %	0.0818
10	10	4	[66,100]	[1,10]	[84,843]	0.021	0.007	-106.8	-35.7	84.393 %	0.0668
10	10	4	[66,100]	[1,10]	[168,843]	0.023	0.011	-152.2	-55.1	79.201 %	0.0895
10	10	4	[66,100]	[5,10]	[84,845]	0.026	0.009	-49.3	47.9	81.395 %	0.1028
10	10	4	[66,100]	[5,10]	[168,845]	0.021	0.006	-130.8	-47.9	82.297 %	0.0888
10	10	4	[66,100]	[1,30]	[85,853]	0.022	0.008	-41.0	23.4	87.483 %	0.0820
10	10	4	[66,100]	[1,30]	[170,853]	0.021	0.010	-111.4	-49.8	87.051 %	0.0829
10	10	4	[66,100]	[15,30]	[86,860]	0.019	0.008	-36.6	33.7	86.221 %	0.0810
10	10	4	[66,100]	[15,30]	[172,860]	0.021	0.010	-102.6	-16.0	82.747 %	0.0919

Tiempo Promedio Total H_2: 0.022 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 86.811 %

Tabla de Experimentos

$n : 20, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	4	[1,100]	[1,10]	[101,1015]	0.040	0.010	-90.0	-18.0	86.340 %	0.0757
10	20	4	[1,100]	[1,10]	[202,1015]	0.036	0.010	-207.8	-122.6	81.889 %	0.0547
10	20	4	[1,100]	[5,10]	[101,1017]	0.034	0.009	-84.6	-15.1	87.363 %	0.0469
10	20	4	[1,100]	[5,10]	[202,1017]	0.032	0.010	-179.7	-105.4	85.259 %	0.0355
10	20	4	[1,100]	[1,30]	[102,1025]	0.043	0.010	-98.1	-26.8	87.548 %	0.0838
10	20	4	[1,100]	[1,30]	[204,1025]	0.046	0.009	-167.6	-83.5	84.433 %	0.0564
10	20	4	[1,100]	[15,30]	[103,1032]	0.040	0.010	-63.7	-2.9	89.496 %	0.0691
10	20	4	[1,100]	[15,30]	[206,1032]	0.046	0.011	-177.3	-86.3	83.952 %	0.0751
10	20	4	[33,100]	[1,10]	[133,1338]	0.051	0.011	-109.8	2.8	85.370 %	0.0798
10	20	4	[33,100]	[1,10]	[266,1338]	0.067	0.018	-254.6	-131.7	82.339 %	0.0998
10	20	4	[33,100]	[5,10]	[134,1340]	0.038	0.009	-129.0	6.6	80.896 %	0.0527
10	20	4	[33,100]	[5,10]	[268,1340]	0.043	0.015	-263.4	-157.1	84.154 %	0.0875
10	20	4	[33,100]	[1,30]	[134,1348]	0.082	0.015	-103.4	28.8	83.456 %	0.0771
10	20	4	[33,100]	[1,30]	[268,1348]	0.047	0.012	-236.4	-74.9	78.042 %	0.0936
10	20	4	[33,100]	[15,30]	[135,1355]	0.043	0.010	-131.6	34.9	78.807 %	0.0723
10	20	4	[33,100]	[15,30]	[270,1355]	0.044	0.010	-235.1	-104.1	82.047 %	0.0719
10	20	4	[66,100]	[1,10]	[168,1681]	0.037	0.011	-204.2	-8.6	79.134 %	0.0981
10	20	4	[66,100]	[1,10]	[336,1681]	0.044	0.013	-301.2	-119.6	79.123 %	0.0835
10	20	4	[66,100]	[5,10]	[168,1683]	0.039	0.010	-155.0	-9.4	84.575 %	0.0686
10	20	4	[66,100]	[5,10]	[336,1683]	0.036	0.011	-287.3	-89.3	78.561 %	0.0800
10	20	4	[66,100]	[1,30]	[169,1691]	0.070	0.019	-114.2	108.0	77.918 %	0.0580
10	20	4	[66,100]	[1,30]	[338,1691]	0.049	0.009	-307.7	-85.4	75.581 %	0.0823
10	20	4	[66,100]	[15,30]	[169,1698]	0.052	0.015	-170.5	42.8	79.623 %	0.0956
10	20	4	[66,100]	[15,30]	[338,1698]	0.041	0.011	-252.4	-49.7	78.782 %	0.0941

Tiempo Promedio Total H_2: 0.046 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 82.279 %

Tabla de Experimentos

$n : 30, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	4	[1,100]	[1,10]	[152,1520]	0.072	0.018	-158.1	-45.2	86.518 %	0.0899
10	30	4	[1,100]	[1,10]	[304,1520]	0.073	0.016	-301.7	-149.3	80.915 %	0.0475
10	30	4	[1,100]	[5,10]	[152,1522]	0.065	0.014	-145.0	-22.1	85.741 %	0.0809
10	30	4	[1,100]	[5,10]	[304,1522]	0.062	0.013	-296.3	-162.2	82.170 %	0.0564
10	30	4	[1,100]	[1,30]	[153,1530]	0.078	0.018	-159.9	-34.2	85.093 %	0.0487
10	30	4	[1,100]	[1,30]	[306,1530]	0.088	0.016	-293.6	-146.1	81.971 %	0.0687
10	30	4	[1,100]	[15,30]	[153,1537]	0.081	0.016	-118.9	9.1	84.956 %	0.0663
10	30	4	[1,100]	[15,30]	[306,1537]	0.092	0.025	-289.9	-137.0	80.686 %	0.0512
10	30	4	[33,100]	[1,10]	[200,2004]	0.072	0.015	-195.8	30.8	80.200 %	0.0638
10	30	4	[33,100]	[1,10]	[400,2004]	0.074	0.016	-381.0	-79.1	72.589 %	0.0519
10	30	4	[33,100]	[5,10]	[200,2006]	0.074	0.019	-190.6	39.3	79.823 %	0.0635
10	30	4	[33,100]	[5,10]	[400,2006]	0.083	0.017	-381.1	-104.8	74.807 %	0.0689
10	30	4	[33,100]	[1,30]	[201,2014]	0.149	0.034	-155.8	115.8	77.545 %	0.0459
10	30	4	[33,100]	[1,30]	[402,2014]	0.087	0.017	-384.4	-135.7	77.718 %	0.0838
10	30	4	[33,100]	[15,30]	[202,2022]	0.077	0.015	-174.0	63.4	80.002 %	0.0693
10	30	4	[33,100]	[15,30]	[404,2022]	0.078	0.017	-384.4	-103.9	73.954 %	0.0586
10	30	4	[66,100]	[1,10]	[251,2519]	0.070	0.017	-221.5	150.9	75.837 %	0.0471
10	30	4	[66,100]	[1,10]	[502,2519]	0.072	0.015	-481.9	-167.4	78.022 %	0.1050
10	30	4	[66,100]	[5,10]	[252,2521]	0.065	0.012	-266.0	104.8	76.201 %	0.0524
10	30	4	[66,100]	[5,10]	[504,2521]	0.063	0.012	-456.0	-107.5	75.435 %	0.0547
10	30	4	[66,100]	[1,30]	[253,2530]	0.105	0.016	-228.3	174.7	74.010 %	0.0540
10	30	4	[66,100]	[1,30]	[506,2530]	0.103	0.014	-504.9	-232.0	78.618 %	0.0805
10	30	4	[66,100]	[15,30]	[253,2537]	0.079	0.014	-221.2	148.3	76.454 %	0.0578
10	30	4	[66,100]	[15,30]	[506,2537]	0.079	0.014	-486.1	-178.7	77.683 %	0.0641

Tiempo Promedio Total H_2: 0.081 seg.

Tiempo Promedio Total H_1: 0.017 seg.

Rendimiento Promedio Total: 79.039 %

Tabla de Experimentos

$n : 50, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	4	[1,100]	[1,10]	[253,2530]	0.175	0.023	-262.2	-35.9	83.628 %	0.0346
10	50	4	[1,100]	[1,10]	[506,2530]	0.180	0.026	-480.9	-185.7	77.750 %	0.0394
10	50	4	[1,100]	[5,10]	[253,2532]	0.168	0.025	-247.8	-16.1	83.550 %	0.0554
10	50	4	[1,100]	[5,10]	[506,2532]	0.170	0.023	-530.7	-303.2	81.672 %	0.0720
10	50	4	[1,100]	[1,30]	[254,2540]	0.243	0.026	-203.8	44.2	82.645 %	0.0465
10	50	4	[1,100]	[1,30]	[508,2540]	0.226	0.023	-490.0	-178.3	78.018 %	0.0650
10	50	4	[1,100]	[15,30]	[254,2547]	0.196	0.022	-229.0	11.0	83.140 %	0.0596
10	50	4	[1,100]	[15,30]	[508,2547]	0.190	0.023	-488.8	-204.0	78.650 %	0.0523
10	50	4	[33,100]	[1,10]	[333,3338]	0.188	0.023	-314.9	114.3	78.565 %	0.0522
10	50	4	[33,100]	[1,10]	[666,3338]	0.189	0.024	-665.9	-169.8	72.223 %	0.0362
10	50	4	[33,100]	[5,10]	[334,3340]	0.178	0.027	-327.5	64.1	79.913 %	0.0751
10	50	4	[33,100]	[5,10]	[668,3340]	0.181	0.024	-680.3	-288.5	77.409 %	0.0525
10	50	4	[33,100]	[1,30]	[334,3348]	0.231	0.022	-346.9	96.1	77.674 %	0.0355
10	50	4	[33,100]	[1,30]	[668,3348]	0.229	0.024	-638.9	-221.3	77.301 %	0.0657
10	50	4	[33,100]	[15,30]	[335,3355]	0.198	0.025	-312.5	79.7	79.805 %	0.0362
10	50	4	[33,100]	[15,30]	[670,3355]	0.198	0.023	-637.5	-91.8	70.854 %	0.0221
10	50	4	[66,100]	[1,10]	[419,4196]	0.189	0.023	-404.0	244.2	74.202 %	0.0527
10	50	4	[66,100]	[1,10]	[838,4196]	0.189	0.025	-840.6	-117.0	70.327 %	0.0306
10	50	4	[66,100]	[5,10]	[419,4198]	0.181	0.025	-400.1	209.6	76.256 %	0.0650
10	50	4	[66,100]	[5,10]	[838,4198]	0.173	0.024	-806.9	-234.7	74.921 %	0.0600
10	50	4	[66,100]	[1,30]	[420,4206]	0.237	0.024	-395.3	240.6	74.866 %	0.0394
10	50	4	[66,100]	[1,30]	[840,4206]	0.228	0.024	-827.9	-147.7	71.989 %	0.0453
10	50	4	[66,100]	[15,30]	[421,4213]	0.205	0.024	-407.7	273.7	73.546 %	0.0425
10	50	4	[66,100]	[15,30]	[842,4213]	0.206	0.023	-799.1	-162.1	73.760 %	0.0603

Tiempo Promedio Total H_2: 0.198 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 77.194 %

Tabla de Experimentos

$n : 100, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	4	[1,100]	[1,10]	[505,5055]	1.002	0.066	-501.2	163.5	77.449 %	0.0252
10	100	4	[1,100]	[1,10]	[1010,5055]	0.996	0.065	-1004.5	-434.1	78.238 %	0.0524
10	100	4	[1,100]	[5,10]	[505,5057]	0.973	0.060	-496.5	167.6	77.052 %	0.0357
10	100	4	[1,100]	[5,10]	[1010,5057]	0.963	0.063	-1011.2	-361.7	75.766 %	0.0373
10	100	4	[1,100]	[1,30]	[506,5065]	1.090	0.060	-504.8	127.6	79.091 %	0.0279
10	100	4	[1,100]	[1,30]	[1012,5065]	1.103	0.059	-981.3	-328.5	75.642 %	0.0422
10	100	4	[1,100]	[15,30]	[507,5072]	1.025	0.063	-494.1	104.5	79.479 %	0.0416
10	100	4	[1,100]	[15,30]	[1014,5072]	1.005	0.062	-994.2	-340.3	75.704 %	0.0441
10	100	4	[33,100]	[1,10]	[667,6671]	0.993	0.060	-699.8	401.4	72.978 %	0.0273
10	100	4	[33,100]	[1,10]	[1334,6671]	1.033	0.062	-1316.9	-194.2	70.252 %	0.0263
10	100	4	[33,100]	[5,10]	[667,6673]	0.961	0.065	-656.9	355.2	75.591 %	0.0306
10	100	4	[33,100]	[5,10]	[1334,6673]	0.982	0.063	-1290.0	-269.7	72.447 %	0.0365
10	100	4	[33,100]	[1,30]	[668,6681]	1.177	0.062	-627.4	459.1	73.755 %	0.0206
10	100	4	[33,100]	[1,30]	[1336,6681]	1.181	0.058	-1300.9	-168.5	70.285 %	0.0360
10	100	4	[33,100]	[15,30]	[668,6688]	1.061	0.064	-636.0	496.5	72.180 %	0.0278
10	100	4	[33,100]	[15,30]	[1336,6688]	1.075	0.060	-1321.3	-218.4	70.843 %	0.0267
10	100	4	[66,100]	[1,10]	[838,8388]	1.012	0.060	-814.8	671.8	71.983 %	0.0372
10	100	4	[66,100]	[1,10]	[1676,8388]	1.024	0.064	-1633.2	-153.1	69.931 %	0.0413
10	100	4	[66,100]	[5,10]	[839,8390]	0.966	0.062	-783.1	680.7	72.203 %	0.0320
10	100	4	[66,100]	[5,10]	[1678,8390]	0.978	0.061	-1652.9	-101.9	68.346 %	0.0251
10	100	4	[66,100]	[1,30]	[839,8398]	1.207	0.062	-800.1	602.4	73.382 %	0.0322
10	100	4	[66,100]	[1,30]	[1678,8398]	1.181	0.060	-1685.5	-235.4	70.234 %	0.0303
10	100	4	[66,100]	[15,30]	[840,8405]	1.063	0.061	-836.6	669.9	71.301 %	0.0328
10	100	4	[66,100]	[15,30]	[1680,8405]	1.033	0.059	-1631.4	-179.0	69.903 %	0.0332

Tiempo Promedio Total H_2: 1.045 seg.

Tiempo Promedio Total H_1: 0.062 seg.

Rendimiento Promedio Total: 73.501 %

Tabla de Experimentos

$n : 200, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	4	[1,100]	[1,10]	[1010,10105]	6.937	0.203	-1001.0	459.2	75.766 %	0.0236
10	200	4	[1,100]	[1,10]	[2020,10105]	6.829	0.203	-2001.2	-672.4	75.373 %	0.0404
10	200	4	[1,100]	[5,10]	[1010,10107]	6.647	0.210	-1003.5	344.6	77.403 %	0.0181
10	200	4	[1,100]	[5,10]	[2020,10107]	6.723	0.211	-1991.5	-707.6	76.443 %	0.0222
10	200	4	[1,100]	[1,30]	[1011,10115]	7.420	0.203	-979.9	423.9	76.450 %	0.0229
10	200	4	[1,100]	[1,30]	[2022,10115]	7.248	0.204	-1993.1	-471.3	72.673 %	0.0224
10	200	4	[1,100]	[15,30]	[1012,10122]	6.951	0.205	-979.9	482.2	75.677 %	0.0145
10	200	4	[1,100]	[15,30]	[2024,10122]	6.882	0.211	-2020.4	-630.4	74.499 %	0.0264
10	200	4	[33,100]	[1,10]	[1333,13337]	6.908	0.207	-1312.2	1065.4	71.962 %	0.0252
10	200	4	[33,100]	[1,10]	[2666,13337]	6.895	0.213	-2645.8	-395.8	70.348 %	0.0206
10	200	4	[33,100]	[5,10]	[1333,13339]	6.841	0.207	-1321.9	880.9	73.240 %	0.0203
10	200	4	[33,100]	[5,10]	[2666,13339]	6.924	0.212	-2659.5	-423.8	70.379 %	0.0197
10	200	4	[33,100]	[1,30]	[1334,13347]	7.625	0.199	-1346.0	1017.3	72.300 %	0.0197
10	200	4	[33,100]	[1,30]	[2668,13347]	7.630	0.200	-2630.2	-216.9	68.267 %	0.0346
10	200	4	[33,100]	[15,30]	[1335,13354]	7.140	0.205	-1316.1	1024.1	71.878 %	0.0165
10	200	4	[33,100]	[15,30]	[2670,13354]	7.146	0.204	-2633.4	-350.9	70.283 %	0.0319
10	200	4	[66,100]	[1,10]	[1677,16771]	6.903	0.203	-1659.1	1388.8	71.575 %	0.0237
10	200	4	[66,100]	[1,10]	[3354,16771]	6.953	0.209	-3358.7	-223.0	68.100 %	0.0214
10	200	4	[66,100]	[5,10]	[1677,16773]	6.832	0.209	-1695.8	1249.0	71.791 %	0.0260
10	200	4	[66,100]	[5,10]	[3354,16773]	6.874	0.208	-3351.6	-389.1	69.352 %	0.0188
10	200	4	[66,100]	[1,30]	[1678,16781]	7.632	0.204	-1644.2	1378.2	71.448 %	0.0264
10	200	4	[66,100]	[1,30]	[3356,16781]	7.588	0.205	-3381.0	-3.6	66.763 %	0.0214
10	200	4	[66,100]	[15,30]	[1678,16788]	7.214	0.202	-1662.9	1598.8	69.742 %	0.0235
10	200	4	[66,100]	[15,30]	[3356,16788]	7.209	0.203	-3338.9	-58.2	66.959 %	0.0232

Tiempo Promedio Total H_2: 7.081 seg.

Tiempo Promedio Total H_1: 0.206 seg.

Rendimiento Promedio Total: 72.028 %

Tabla de Experimentos

$n : 300, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	4	[1,100]	[1,10]	[1515,15155]	22.539	0.435	-1501.5	703.0	75.892 %	0.0147
10	300	4	[1,100]	[1,10]	[3030,15155]	22.286	0.440	-3017.5	-919.4	74.294 %	0.0190
10	300	4	[1,100]	[5,10]	[1515,15157]	21.771	0.447	-1496.9	583.2	76.688 %	0.0175
10	300	4	[1,100]	[5,10]	[3030,15157]	21.790	0.450	-3016.5	-970.5	74.950 %	0.0160
10	300	4	[1,100]	[1,30]	[1516,15165]	23.721	0.423	-1488.2	803.5	75.035 %	0.0135
10	300	4	[1,100]	[1,30]	[3032,15165]	23.582	0.424	-3024.7	-783.2	73.023 %	0.0189
10	300	4	[1,100]	[15,30]	[1517,15172]	22.486	0.425	-1501.3	696.6	75.994 %	0.0251
10	300	4	[1,100]	[15,30]	[3034,15172]	22.551	0.427	-3008.4	-778.0	73.226 %	0.0213
10	300	4	[33,100]	[1,10]	[2000,20003]	22.595	0.434	-2013.4	1594.9	70.998 %	0.0194
10	300	4	[33,100]	[1,10]	[4000,20003]	22.642	0.441	-3978.6	-371.0	69.239 %	0.0214
10	300	4	[33,100]	[5,10]	[2000,20005]	22.311	0.457	-1977.2	1307.2	73.145 %	0.0144
10	300	4	[33,100]	[5,10]	[4000,20005]	22.373	0.452	-3976.8	-641.2	70.904 %	0.0187
10	300	4	[33,100]	[1,30]	[2001,20013]	24.370	0.429	-1967.7	1677.1	71.407 %	0.0194
10	300	4	[33,100]	[1,30]	[4002,20013]	24.150	0.432	-3988.6	-68.2	67.376 %	0.0096
10	300	4	[33,100]	[15,30]	[2002,20020]	22.886	0.433	-1981.8	1702.7	71.293 %	0.0163
10	300	4	[33,100]	[15,30]	[4004,20020]	23.028	0.424	-3957.3	-319.7	68.672 %	0.0148
10	300	4	[66,100]	[1,10]	[2515,25154]	22.750	0.438	-2489.1	2459.3	69.859 %	0.0189
10	300	4	[66,100]	[1,10]	[5030,25154]	22.851	0.436	-4991.2	-73.2	67.011 %	0.0144
10	300	4	[66,100]	[5,10]	[2515,25156]	22.369	0.444	-2480.3	2142.4	71.091 %	0.0192
10	300	4	[66,100]	[5,10]	[5030,25156]	22.395	0.450	-4990.8	-448.9	69.120 %	0.0215
10	300	4	[66,100]	[1,30]	[2516,25164]	24.540	0.430	-2492.8	2727.4	68.557 %	0.0200
10	300	4	[66,100]	[1,30]	[5032,25164]	24.372	0.420	-4981.8	134.7	66.398 %	0.0171
10	300	4	[66,100]	[15,30]	[2517,25171]	23.330	0.424	-2502.9	2733.8	68.331 %	0.0186
10	300	4	[66,100]	[15,30]	[5034,25171]	23.320	0.427	-4975.0	83.6	66.819 %	0.0205

Tiempo Promedio Total H_2: 22.959 seg.

Tiempo Promedio Total H_1: 0.435 seg.

Rendimiento Promedio Total: 71.222 %

Tabla de Experimentos

$n : 500, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	4	[1,100]	[1,10]	[2525,25255]	104.733	1.162	-2527.3	1379.2	74.377 %	0.0108
10	500	4	[1,100]	[1,10]	[5050,25255]	103.746	1.162	-5042.6	-1123.5	72.104 %	0.0136
10	500	4	[1,100]	[5,10]	[2525,25257]	103.947	1.186	-2525.0	1119.3	75.831 %	0.0114
10	500	4	[1,100]	[5,10]	[5050,25257]	103.686	1.213	-5044.6	-1480.7	74.121 %	0.0141
10	500	4	[1,100]	[1,30]	[2526,25265]	108.351	1.132	-2527.4	1374.1	74.503 %	0.0210
10	500	4	[1,100]	[1,30]	[5052,25265]	107.940	1.128	-5001.2	-971.9	71.520 %	0.0180
10	500	4	[1,100]	[15,30]	[2527,25272]	104.611	1.154	-2518.3	1387.2	74.267 %	0.0111
10	500	4	[1,100]	[15,30]	[5054,25272]	105.746	1.135	-5035.9	-1093.0	72.258 %	0.0219
10	500	4	[33,100]	[1,10]	[3333,33335]	106.008	1.151	-3332.3	2746.2	71.135 %	0.0171
10	500	4	[33,100]	[1,10]	[6666,33335]	106.766	1.159	-6653.2	-417.4	68.218 %	0.0136
10	500	4	[33,100]	[5,10]	[3333,33337]	105.684	1.181	-3324.2	2547.5	71.799 %	0.0160
10	500	4	[33,100]	[5,10]	[6666,33337]	105.299	1.187	-6638.3	-731.5	69.407 %	0.0122
10	500	4	[33,100]	[1,30]	[3334,33345]	110.877	1.131	-3325.1	3219.4	69.740 %	0.0162
10	500	4	[33,100]	[1,30]	[6668,33345]	111.449	1.132	-6655.5	105.9	66.405 %	0.0115
10	500	4	[33,100]	[15,30]	[3335,33352]	107.295	1.155	-3302.6	3025.7	70.469 %	0.0120
10	500	4	[33,100]	[15,30]	[6670,33352]	108.394	1.148	-6617.2	-198.7	67.807 %	0.0230
10	500	4	[66,100]	[1,10]	[4192,41920]	107.469	1.160	-4184.4	4168.2	69.506 %	0.0104
10	500	4	[66,100]	[1,10]	[8384,41920]	107.033	1.169	-8367.8	135.0	66.415 %	0.0139
10	500	4	[66,100]	[5,10]	[4192,41922]	105.350	1.195	-4183.0	4153.0	69.280 %	0.0046
10	500	4	[66,100]	[5,10]	[8384,41922]	105.909	1.182	-8409.8	-299.3	67.402 %	0.0083
10	500	4	[66,100]	[1,30]	[4193,41930]	111.787	1.128	-4145.2	4510.8	68.808 %	0.0164
10	500	4	[66,100]	[1,30]	[8386,41930]	111.073	1.136	-8394.1	837.6	64.277 %	0.0065
10	500	4	[66,100]	[15,30]	[4193,41937]	108.473	1.138	-4158.6	4525.9	68.846 %	0.0167
10	500	4	[66,100]	[15,30]	[8386,41937]	109.415	1.156	-8333.5	414.7	65.657 %	0.0126

Tiempo Promedio Total H_2: 107.127 seg.

Tiempo Promedio Total H_1: 1.158 seg.

Rendimiento Promedio Total: 70.173 %

Tabla de Experimentos

$n : 750, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	4	[1,100]	[1,10]	[3788,37880]	368.261	2.592	-3767.6	2150.1	74.339 %	0.0104
10	750	4	[1,100]	[1,10]	[7576,37880]	369.776	2.555	-7574.5	-1865.4	72.392 %	0.0122
10	750	4	[1,100]	[5,10]	[3788,37882]	365.947	2.617	-3778.1	1613.6	76.023 %	0.0150
10	750	4	[1,100]	[5,10]	[7576,37882]	365.313	2.614	-7564.1	-2268.2	74.066 %	0.0169
10	750	4	[1,100]	[1,30]	[3789,37890]	377.004	2.480	-3757.5	2482.4	73.316 %	0.0104
10	750	4	[1,100]	[1,30]	[7578,37890]	375.697	2.479	-7537.4	-1467.4	71.814 %	0.0155
10	750	4	[1,100]	[15,30]	[3789,37897]	371.167	2.480	-3742.5	2043.9	74.830 %	0.0187
10	750	4	[1,100]	[15,30]	[7578,37897]	369.676	2.505	-7557.0	-1703.0	72.179 %	0.0110
10	750	4	[33,100]	[1,10]	[5000,50000]	373.686	2.534	-4977.9	4335.8	70.729 %	0.0102
10	750	4	[33,100]	[1,10]	[10000,50000]	371.959	2.538	-9978.6	-402.1	67.567 %	0.0131
10	750	4	[33,100]	[5,10]	[5000,50002]	371.599	2.623	-4967.9	3729.5	72.139 %	0.0094
10	750	4	[33,100]	[5,10]	[10000,50002]	371.848	2.635	-9978.0	-1284.4	69.847 %	0.0094
10	750	4	[33,100]	[1,30]	[5001,50010]	382.680	2.466	-5000.6	4954.1	69.227 %	0.0094
10	750	4	[33,100]	[1,30]	[10002,50010]	382.723	2.463	-9980.2	-124.0	66.936 %	0.0092
10	750	4	[33,100]	[15,30]	[5001,50017]	376.164	2.654	-4989.3	5002.3	69.138 %	0.0101
10	750	4	[33,100]	[15,30]	[10002,50017]	377.306	2.519	-9973.7	-230.0	67.334 %	0.0145
10	750	4	[66,100]	[1,10]	[6287,62877]	374.811	2.533	-6290.2	6654.3	68.783 %	0.0078
10	750	4	[66,100]	[1,10]	[12574,62877]	378.345	2.568	-12543.8	427.7	65.809 %	0.0111
10	750	4	[66,100]	[5,10]	[6287,62879]	372.817	2.617	-6238.6	6200.6	69.624 %	0.0068
10	750	4	[66,100]	[5,10]	[12574,62879]	375.261	2.605	-12525.5	-295.4	67.226 %	0.0107
10	750	4	[66,100]	[1,30]	[6288,62887]	385.390	2.476	-6271.9	7390.1	67.310 %	0.0167
10	750	4	[66,100]	[1,30]	[12576,62887]	388.454	2.496	-12545.8	974.9	65.187 %	0.0125
10	750	4	[66,100]	[15,30]	[6289,62894]	378.858	2.493	-6260.5	6949.4	68.109 %	0.0136
10	750	4	[66,100]	[15,30]	[12578,62894]	378.076	2.507	-12543.4	1065.5	65.029 %	0.0104

Tiempo Promedio Total H_2: 375.117 seg.

Tiempo Promedio Total H_1: 2.544 seg.

Rendimiento Promedio Total: 69.956 %

Tabla de Experimentos

$n : 1000, m : 4, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	4	[1,100]	[1,10]	[5050,50505]	907.241	4.718	-5071.9	2620.4	74.823 %	0.0093
10	1000	4	[1,100]	[1,10]	[10100,50505]	903.880	4.680	-10081.1	-2304.9	72.313 %	0.0122
10	1000	4	[1,100]	[5,10]	[5050,50507]	898.209	4.764	-5038.3	2214.1	75.927 %	0.0099
10	1000	4	[1,100]	[5,10]	[10100,50507]	903.232	4.785	-10075.7	-2892.2	73.862 %	0.0122
10	1000	4	[1,100]	[1,30]	[5051,50515]	914.602	4.486	-5028.0	3165.0	73.480 %	0.0104
10	1000	4	[1,100]	[1,30]	[10102,50515]	919.395	4.488	-10073.5	-1813.3	70.943 %	0.0113
10	1000	4	[1,100]	[15,30]	[5052,50522]	903.054	4.602	-5046.8	2998.3	73.972 %	0.0088
10	1000	4	[1,100]	[15,30]	[10104,50522]	909.824	4.574	-10084.5	-2071.3	71.628 %	0.0116
10	1000	4	[33,100]	[1,10]	[6666,66665]	919.794	4.683	-6663.6	6072.0	69.922 %	0.0094
10	1000	4	[33,100]	[1,10]	[13332,66665]	917.552	4.671	-13337.7	-703.2	67.581 %	0.0102
10	1000	4	[33,100]	[5,10]	[6666,66667]	916.969	4.772	-6708.4	5174.9	71.625 %	0.0073
10	1000	4	[33,100]	[5,10]	[13332,66667]	914.441	4.736	-13340.6	-1513.2	69.336 %	0.0070
10	1000	4	[33,100]	[1,30]	[6667,66675]	935.439	4.655	-6687.4	6481.6	69.607 %	0.0148
10	1000	4	[33,100]	[1,30]	[13334,66675]	937.204	4.526	-13332.6	92.3	66.448 %	0.0092
10	1000	4	[33,100]	[15,30]	[6668,66682]	920.999	4.572	-6647.6	6484.5	69.558 %	0.0114
10	1000	4	[33,100]	[15,30]	[13336,66682]	922.115	4.526	-13303.1	-278.7	67.206 %	0.0135
10	1000	4	[66,100]	[1,10]	[8383,83835]	926.999	4.626	-8353.2	9340.9	68.328 %	0.0082
10	1000	4	[66,100]	[1,10]	[16766,83835]	928.994	4.640	-16746.2	957.9	65.413 %	0.0072
10	1000	4	[66,100]	[5,10]	[8383,83837]	918.891	4.763	-8365.3	8001.7	69.774 %	0.0063
10	1000	4	[66,100]	[5,10]	[16766,83837]	925.572	4.807	-16734.7	-301.5	67.253 %	0.0050
10	1000	4	[66,100]	[1,30]	[8384,83845]	946.047	4.500	-8368.7	9659.2	67.727 %	0.0092
10	1000	4	[66,100]	[1,30]	[16768,83845]	943.634	4.507	-16740.5	1964.6	64.319 %	0.0104
10	1000	4	[66,100]	[15,30]	[8385,83852]	934.330	4.571	-8409.4	9542.9	67.720 %	0.0085
10	1000	4	[66,100]	[15,30]	[16770,83852]	934.680	4.604	-16752.9	1177.8	65.230 %	0.0145

Tiempo Promedio Total H_2: 920.962 seg.

Tiempo Promedio Total H_1: 4.636 seg.

Rendimiento Promedio Total: 69.750 %

Tabla de Experimentos

$n : 10, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	6	[1,100]	[1,10]	[51,510]	0.023	0.008	-37.3	-32.1	97.699 %	0.0396
10	10	6	[1,100]	[1,10]	[102,510]	0.020	0.007	-92.0	-90.4	99.257 %	0.0223
10	10	6	[1,100]	[5,10]	[51,512]	0.022	0.008	-48.7	-43.2	97.594 %	0.0427
10	10	6	[1,100]	[5,10]	[102,512]	0.023	0.011	-99.1	-93.2	97.272 %	0.0568
10	10	6	[1,100]	[1,30]	[52,520]	0.018	0.007	-39.7	-35.8	98.810 %	0.0277
10	10	6	[1,100]	[1,30]	[104,520]	0.022	0.008	-106.7	-100.5	97.013 %	0.0570
10	10	6	[1,100]	[15,30]	[52,527]	0.021	0.009	-38.9	-20.1	93.751 %	0.1436
10	10	6	[1,100]	[15,30]	[104,527]	0.024	0.010	-64.7	-59.2	97.961 %	0.0344
10	10	6	[33,100]	[1,10]	[67,671]	0.028	0.009	-83.8	-60.4	92.361 %	0.0793
10	10	6	[33,100]	[1,10]	[134,671]	0.022	0.011	-124.5	-94.2	90.560 %	0.0678
10	10	6	[33,100]	[5,10]	[67,673]	0.023	0.010	-82.9	-56.6	91.068 %	0.0835
10	10	6	[33,100]	[5,10]	[134,673]	0.022	0.009	-121.7	-106.3	94.859 %	0.0580
10	10	6	[33,100]	[1,30]	[68,681]	0.025	0.011	-63.5	-47.5	95.508 %	0.0664
10	10	6	[33,100]	[1,30]	[136,681]	0.025	0.009	-120.0	-97.3	92.432 %	0.0687
10	10	6	[33,100]	[15,30]	[68,688]	0.028	0.009	-30.9	-6.6	93.774 %	0.0550
10	10	6	[33,100]	[15,30]	[136,688]	0.021	0.010	-102.1	-74.7	91.355 %	0.0621
10	10	6	[66,100]	[1,10]	[84,843]	0.021	0.008	-51.1	-0.2	88.577 %	0.0641
10	10	6	[66,100]	[1,10]	[168,843]	0.021	0.011	-149.6	-119.5	92.419 %	0.0764
10	10	6	[66,100]	[5,10]	[84,845]	0.054	0.021	-64.8	-41.2	94.300 %	0.0588
10	10	6	[66,100]	[5,10]	[168,845]	0.033	0.017	-135.8	-104.2	91.835 %	0.0639
10	10	6	[66,100]	[1,30]	[85,853]	0.025	0.009	-51.2	-8.8	90.821 %	0.0562
10	10	6	[66,100]	[1,30]	[170,853]	0.026	0.012	-158.7	-125.8	91.377 %	0.0746
10	10	6	[66,100]	[15,30]	[86,860]	0.025	0.011	-66.4	-27.8	90.879 %	0.1138
10	10	6	[66,100]	[15,30]	[172,860]	0.024	0.009	-135.4	-101.5	92.172 %	0.0789

Tiempo Promedio Total H_2: 0.025 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 93.902 %

Tabla de Experimentos

$n : 20, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	6	[1,100]	[1,10]	[101,1015]	0.041	0.009	-97.4	-51.0	91.302 %	0.0460
10	20	6	[1,100]	[1,10]	[202,1015]	0.040	0.013	-214.2	-160.7	88.842 %	0.0633
10	20	6	[1,100]	[5,10]	[101,1017]	0.041	0.014	-76.7	-30.9	91.046 %	0.0529
10	20	6	[1,100]	[5,10]	[202,1017]	0.038	0.012	-198.2	-164.2	92.801 %	0.0571
10	20	6	[1,100]	[1,30]	[102,1025]	0.045	0.011	-97.3	-65.9	93.892 %	0.0408
10	20	6	[1,100]	[1,30]	[204,1025]	0.047	0.011	-174.7	-137.2	92.375 %	0.0565
10	20	6	[1,100]	[15,30]	[103,1032]	0.047	0.011	-64.5	-18.4	91.084 %	0.0455
10	20	6	[1,100]	[15,30]	[206,1032]	0.047	0.011	-191.5	-149.1	91.965 %	0.0698
10	20	6	[33,100]	[1,10]	[133,1338]	0.048	0.009	-119.1	-16.8	86.304 %	0.0379
10	20	6	[33,100]	[1,10]	[266,1338]	0.049	0.009	-226.2	-134.1	86.181 %	0.0557
10	20	6	[33,100]	[5,10]	[134,1340]	0.040	0.010	-134.7	-73.0	91.722 %	0.0734
10	20	6	[33,100]	[5,10]	[268,1340]	0.039	0.008	-243.5	-182.1	90.601 %	0.0533
10	20	6	[33,100]	[1,30]	[134,1348]	0.110	0.021	-127.6	-51.7	89.127 %	0.0443
10	20	6	[33,100]	[1,30]	[268,1348]	0.066	0.014	-206.1	-117.4	87.177 %	0.0532
10	20	6	[33,100]	[15,30]	[135,1355]	0.048	0.011	-128.2	-34.6	87.386 %	0.0613
10	20	6	[33,100]	[15,30]	[270,1355]	0.050	0.013	-226.2	-140.7	86.625 %	0.0596
10	20	6	[66,100]	[1,10]	[168,1681]	0.042	0.010	-140.5	-13.3	85.084 %	0.0648
10	20	6	[66,100]	[1,10]	[336,1681]	0.043	0.012	-317.6	-221.2	89.150 %	0.0743
10	20	6	[66,100]	[5,10]	[168,1683]	0.043	0.010	-131.9	-47.8	90.511 %	0.0552
10	20	6	[66,100]	[5,10]	[336,1683]	0.041	0.011	-313.0	-191.1	85.364 %	0.0626
10	20	6	[66,100]	[1,30]	[169,1691]	0.054	0.010	-115.1	-49.0	92.860 %	0.0387
10	20	6	[66,100]	[1,30]	[338,1691]	0.053	0.011	-294.4	-162.4	84.805 %	0.0609
10	20	6	[66,100]	[15,30]	[169,1698]	0.072	0.021	-170.0	-41.8	85.688 %	0.0579
10	20	6	[66,100]	[15,30]	[338,1698]	0.054	0.014	-294.7	-180.9	86.905 %	0.0591

Tiempo Promedio Total H_2: 0.050 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 89.117 %

Tabla de Experimentos

$n : 30, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	6	[1,100]	[1,10]	[152,1520]	0.068	0.018	-160.5	-85.4	89.482 %	0.0463
10	30	6	[1,100]	[1,10]	[304,1520]	0.077	0.013	-298.6	-215.6	88.498 %	0.0593
10	30	6	[1,100]	[5,10]	[152,1522]	0.066	0.012	-149.1	-81.7	91.338 %	0.0450
10	30	6	[1,100]	[5,10]	[304,1522]	0.064	0.015	-325.2	-266.9	91.264 %	0.0560
10	30	6	[1,100]	[1,30]	[153,1530]	0.085	0.015	-133.9	-58.8	90.051 %	0.0316
10	30	6	[1,100]	[1,30]	[306,1530]	0.084	0.014	-261.9	-188.1	89.779 %	0.0522
10	30	6	[1,100]	[15,30]	[153,1537]	0.073	0.016	-124.7	-49.5	90.792 %	0.0536
10	30	6	[1,100]	[15,30]	[306,1537]	0.080	0.014	-280.1	-189.0	87.990 %	0.0558
10	30	6	[33,100]	[1,10]	[200,2004]	0.101	0.018	-230.3	-74.2	85.984 %	0.0582
10	30	6	[33,100]	[1,10]	[400,2004]	0.072	0.016	-377.3	-214.0	83.815 %	0.0272
10	30	6	[33,100]	[5,10]	[200,2006]	0.072	0.026	-207.1	-80.8	87.992 %	0.0643
10	30	6	[33,100]	[5,10]	[400,2006]	0.114	0.033	-379.6	-235.3	85.243 %	0.0584
10	30	6	[33,100]	[1,30]	[201,2014]	0.095	0.018	-199.9	-62.1	87.335 %	0.0521
10	30	6	[33,100]	[1,30]	[402,2014]	0.098	0.014	-365.9	-227.6	86.144 %	0.0579
10	30	6	[33,100]	[15,30]	[202,2022]	0.082	0.015	-162.4	-30.7	87.576 %	0.0566
10	30	6	[33,100]	[15,30]	[404,2022]	0.084	0.012	-368.1	-229.5	86.021 %	0.0588
10	30	6	[66,100]	[1,10]	[251,2519]	0.078	0.015	-281.9	-79.1	84.015 %	0.0462
10	30	6	[66,100]	[1,10]	[502,2519]	0.088	0.015	-484.1	-287.6	84.217 %	0.0618
10	30	6	[66,100]	[5,10]	[252,2521]	0.068	0.015	-223.5	-57.7	87.451 %	0.0456
10	30	6	[66,100]	[5,10]	[504,2521]	0.070	0.014	-455.9	-263.6	84.608 %	0.0488
10	30	6	[66,100]	[1,30]	[253,2530]	0.093	0.016	-188.5	30.7	84.536 %	0.0512
10	30	6	[66,100]	[1,30]	[506,2530]	0.095	0.016	-427.2	-185.3	80.674 %	0.0560
10	30	6	[66,100]	[15,30]	[253,2537]	0.120	0.018	-252.9	-67.7	86.338 %	0.0392
10	30	6	[66,100]	[15,30]	[506,2537]	0.089	0.015	-466.7	-291.1	85.266 %	0.0653

Tiempo Promedio Total H_2: 0.084 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 86.934 %

Tabla de Experimentos

$n : 50, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	6	[1,100]	[1,10]	[253,2530]	0.184	0.024	-254.7	-111.6	89.173 %	0.0287
10	50	6	[1,100]	[1,10]	[506,2530]	0.191	0.026	-496.7	-360.7	88.074 %	0.0449
10	50	6	[1,100]	[5,10]	[253,2532]	0.170	0.023	-232.0	-96.6	89.444 %	0.0649
10	50	6	[1,100]	[5,10]	[506,2532]	0.217	0.029	-496.3	-390.0	90.653 %	0.0477
10	50	6	[1,100]	[1,30]	[254,2540]	0.231	0.024	-236.8	-98.7	89.910 %	0.0469
10	50	6	[1,100]	[1,30]	[508,2540]	0.216	0.025	-488.0	-323.7	86.182 %	0.0390
10	50	6	[1,100]	[15,30]	[254,2547]	0.196	0.023	-243.1	-62.3	86.563 %	0.0330
10	50	6	[1,100]	[15,30]	[508,2547]	0.191	0.026	-471.4	-330.2	88.433 %	0.0447
10	50	6	[33,100]	[1,10]	[333,3338]	0.204	0.024	-323.0	-33.1	83.626 %	0.0480
10	50	6	[33,100]	[1,10]	[666,3338]	0.190	0.024	-660.3	-424.8	85.221 %	0.0416
10	50	6	[33,100]	[5,10]	[334,3340]	0.181	0.023	-326.7	-15.8	83.098 %	0.0248
10	50	6	[33,100]	[5,10]	[668,3340]	0.177	0.022	-675.9	-399.7	83.122 %	0.0430
10	50	6	[33,100]	[1,30]	[334,3348]	0.265	0.025	-304.1	-95.1	88.129 %	0.0329
10	50	6	[33,100]	[1,30]	[668,3348]	0.239	0.024	-654.3	-358.0	82.410 %	0.0555
10	50	6	[33,100]	[15,30]	[335,3355]	0.202	0.024	-322.7	-33.3	84.107 %	0.0374
10	50	6	[33,100]	[15,30]	[670,3355]	0.215	0.024	-659.6	-438.1	86.273 %	0.0436
10	50	6	[66,100]	[1,10]	[419,4196]	0.192	0.025	-407.9	31.8	81.328 %	0.0251
10	50	6	[66,100]	[1,10]	[838,4196]	0.193	0.022	-852.4	-403.8	79.457 %	0.0411
10	50	6	[66,100]	[5,10]	[419,4198]	0.182	0.021	-437.2	-56.8	83.807 %	0.0637
10	50	6	[66,100]	[5,10]	[838,4198]	0.184	0.023	-775.4	-437.8	84.337 %	0.0558
10	50	6	[66,100]	[1,30]	[420,4206]	0.244	0.026	-383.5	42.6	81.666 %	0.0228
10	50	6	[66,100]	[1,30]	[840,4206]	0.243	0.023	-809.3	-450.1	83.055 %	0.0564
10	50	6	[66,100]	[15,30]	[421,4213]	0.206	0.023	-400.3	1.5	83.260 %	0.0534
10	50	6	[66,100]	[15,30]	[842,4213]	0.212	0.024	-809.0	-380.7	80.026 %	0.0477

Tiempo Promedio Total H_2: 0.205 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 85.056 %

Tabla de Experimentos

$n : 100, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	6	[1,100]	[1,10]	[505,5055]	1.013	0.063	-493.5	-105.7	86.042 %	0.0353
10	100	6	[1,100]	[1,10]	[1010,5055]	1.011	0.071	-996.4	-623.4	84.478 %	0.0186
10	100	6	[1,100]	[5,10]	[505,5057]	0.943	0.063	-496.9	-136.3	86.207 %	0.0239
10	100	6	[1,100]	[5,10]	[1010,5057]	0.949	0.069	-1020.3	-624.1	83.473 %	0.0325
10	100	6	[1,100]	[1,30]	[506,5065]	1.093	0.061	-508.3	-165.3	87.026 %	0.0446
10	100	6	[1,100]	[1,30]	[1012,5065]	1.090	0.062	-998.4	-598.7	83.671 %	0.0309
10	100	6	[1,100]	[15,30]	[507,5072]	1.042	0.061	-487.1	-107.3	85.942 %	0.0290
10	100	6	[1,100]	[15,30]	[1014,5072]	1.020	0.063	-998.7	-580.3	83.227 %	0.0183
10	100	6	[33,100]	[1,10]	[667,6671]	1.005	0.069	-670.5	13.5	81.002 %	0.0245
10	100	6	[33,100]	[1,10]	[1334,6671]	1.010	0.064	-1331.7	-632.3	79.181 %	0.0265
10	100	6	[33,100]	[5,10]	[667,6673]	0.967	0.063	-648.6	-111.9	84.837 %	0.0281
10	100	6	[33,100]	[5,10]	[1334,6673]	0.981	0.062	-1330.3	-747.1	82.571 %	0.0368
10	100	6	[33,100]	[1,30]	[668,6681]	1.168	0.067	-644.4	20.4	82.040 %	0.0269
10	100	6	[33,100]	[1,30]	[1336,6681]	1.207	0.063	-1287.2	-619.0	80.123 %	0.0321
10	100	6	[33,100]	[15,30]	[668,6688]	1.056	0.064	-669.3	-65.6	83.230 %	0.0350
10	100	6	[33,100]	[15,30]	[1336,6688]	1.060	0.064	-1302.1	-707.2	82.260 %	0.0374
10	100	6	[66,100]	[1,10]	[838,8388]	1.017	0.063	-832.2	135.9	80.190 %	0.0179
10	100	6	[66,100]	[1,10]	[1676,8388]	1.010	0.064	-1646.8	-792.9	80.153 %	0.0393
10	100	6	[66,100]	[5,10]	[839,8390]	0.971	0.067	-813.5	25.6	82.173 %	0.0425
10	100	6	[66,100]	[5,10]	[1678,8390]	0.977	0.061	-1635.7	-699.9	78.481 %	0.0271
10	100	6	[66,100]	[1,30]	[839,8398]	1.209	0.064	-801.9	52.9	82.091 %	0.0420
10	100	6	[66,100]	[1,30]	[1678,8398]	1.177	0.063	-1604.9	-609.4	77.659 %	0.0291
10	100	6	[66,100]	[15,30]	[840,8405]	1.066	0.060	-824.6	152.6	79.258 %	0.0224
10	100	6	[66,100]	[15,30]	[1680,8405]	1.081	0.063	-1634.3	-649.7	77.927 %	0.0398

Tiempo Promedio Total H_2: 1.047 seg.

Tiempo Promedio Total H_1: 0.064 seg.

Rendimiento Promedio Total: 82.218 %

Tabla de Experimentos

$n : 200, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	6	[1,100]	[1,10]	[1010,10105]	7.004	0.210	-999.5	-178.3	84.873 %	0.0363
10	200	6	[1,100]	[1,10]	[2020,10105]	6.594	0.209	-2018.7	-1236.7	84.348 %	0.0220
10	200	6	[1,100]	[5,10]	[1010,10107]	6.618	0.216	-995.5	-256.5	86.179 %	0.0337
10	200	6	[1,100]	[5,10]	[2020,10107]	6.567	0.209	-1998.3	-1117.2	82.176 %	0.0161
10	200	6	[1,100]	[1,30]	[1011,10115]	6.984	0.204	-1028.6	-97.2	82.982 %	0.0174
10	200	6	[1,100]	[1,30]	[2022,10115]	7.156	0.206	-1999.9	-1174.8	83.388 %	0.0238
10	200	6	[1,100]	[15,30]	[1012,10122]	6.743	0.203	-989.2	-162.8	84.770 %	0.0306
10	200	6	[1,100]	[15,30]	[2024,10122]	6.848	0.200	-2008.5	-1133.2	81.950 %	0.0209
10	200	6	[33,100]	[1,10]	[1333,13337]	6.851	0.204	-1330.6	161.0	80.333 %	0.0180
10	200	6	[33,100]	[1,10]	[2666,13337]	6.893	0.208	-2650.4	-1185.2	78.698 %	0.0205
10	200	6	[33,100]	[5,10]	[1333,13339]	6.850	0.211	-1312.8	-27.9	82.588 %	0.0288
10	200	6	[33,100]	[5,10]	[2666,13339]	6.674	0.210	-2660.9	-1247.7	79.122 %	0.0254
10	200	6	[33,100]	[1,30]	[1334,13347]	7.665	0.200	-1348.4	194.9	79.417 %	0.0218
10	200	6	[33,100]	[1,30]	[2668,13347]	7.568	0.203	-2627.4	-1105.0	77.994 %	0.0215
10	200	6	[33,100]	[15,30]	[1335,13354]	7.124	0.203	-1308.3	137.3	80.573 %	0.0250
10	200	6	[33,100]	[15,30]	[2670,13354]	7.095	0.201	-2664.8	-1278.3	79.189 %	0.0255
10	200	6	[66,100]	[1,10]	[1677,16771]	6.972	0.204	-1699.4	213.0	79.473 %	0.0302
10	200	6	[66,100]	[1,10]	[3354,16771]	6.907	0.204	-3335.5	-1286.8	76.312 %	0.0239
10	200	6	[66,100]	[5,10]	[1677,16773]	6.853	0.212	-1672.5	250.7	79.531 %	0.0260
10	200	6	[66,100]	[5,10]	[3354,16773]	6.799	0.219	-3312.4	-1635.7	80.030 %	0.0316
10	200	6	[66,100]	[1,30]	[1678,16781]	7.632	0.201	-1633.8	449.1	79.202 %	0.0141
10	200	6	[66,100]	[1,30]	[3356,16781]	7.756	0.201	-3313.2	-1218.0	76.424 %	0.0186
10	200	6	[66,100]	[15,30]	[1678,16788]	7.087	0.204	-1675.0	385.8	78.489 %	0.0206
10	200	6	[66,100]	[15,30]	[3356,16788]	7.104	0.213	-3356.5	-1301.7	76.785 %	0.0268

Tiempo Promedio Total H_2: 7.014 seg.

Tiempo Promedio Total H_1: 0.206 seg.

Rendimiento Promedio Total: 80.618 %

Tabla de Experimentos

$n : 300, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	6	[1,100]	[1,10]	[1515,15155]	21.451	0.434	-1536.6	-267.8	84.422 %	0.0139
10	300	6	[1,100]	[1,10]	[3030,15155]	21.479	0.435	-3035.6	-1669.7	81.787 %	0.0197
10	300	6	[1,100]	[5,10]	[1515,15157]	21.130	0.452	-1479.8	-165.7	83.771 %	0.0147
10	300	6	[1,100]	[5,10]	[3030,15157]	21.292	0.445	-3037.6	-1726.2	82.314 %	0.0281
10	300	6	[1,100]	[1,30]	[1516,15165]	22.770	0.431	-1482.0	-56.0	83.048 %	0.0117
10	300	6	[1,100]	[1,30]	[3032,15165]	22.600	0.433	-3004.0	-1543.0	80.465 %	0.0171
10	300	6	[1,100]	[15,30]	[1517,15172]	21.887	0.438	-1496.3	-131.9	83.236 %	0.0243
10	300	6	[1,100]	[15,30]	[3034,15172]	21.454	0.426	-2983.9	-1626.5	81.906 %	0.0126
10	300	6	[33,100]	[1,10]	[2000,20003]	22.255	0.435	-2046.3	210.3	79.970 %	0.0261
10	300	6	[33,100]	[1,10]	[4000,20003]	22.505	0.445	-3986.3	-1688.5	77.793 %	0.0166
10	300	6	[33,100]	[5,10]	[2000,20005]	21.781	0.447	-1985.8	130.0	81.142 %	0.0206
10	300	6	[33,100]	[5,10]	[4000,20005]	21.741	0.442	-3981.0	-1827.3	79.010 %	0.0238
10	300	6	[33,100]	[1,30]	[2001,20013]	23.744	0.425	-2037.9	206.0	79.939 %	0.0107
10	300	6	[33,100]	[1,30]	[4002,20013]	23.845	0.432	-4010.5	-1518.9	76.113 %	0.0133
10	300	6	[33,100]	[15,30]	[2002,20020]	22.836	0.429	-1972.3	248.2	80.452 %	0.0220
10	300	6	[33,100]	[15,30]	[4004,20020]	22.655	0.431	-3987.9	-1733.3	78.210 %	0.0237
10	300	6	[66,100]	[1,10]	[2515,25154]	22.365	0.430	-2477.1	724.4	77.753 %	0.0137
10	300	6	[66,100]	[1,10]	[5030,25154]	22.194	0.439	-5009.3	-1914.4	76.319 %	0.0262
10	300	6	[66,100]	[5,10]	[2515,25156]	22.141	0.446	-2480.9	622.0	78.438 %	0.0103
10	300	6	[66,100]	[5,10]	[5030,25156]	21.934	0.447	-5020.6	-2073.1	77.394 %	0.0179
10	300	6	[66,100]	[1,30]	[2516,25164]	23.998	0.434	-2503.7	829.2	77.462 %	0.0136
10	300	6	[66,100]	[1,30]	[5032,25164]	24.181	0.444	-5020.0	-1620.1	74.792 %	0.0186
10	300	6	[66,100]	[15,30]	[2517,25171]	22.966	0.431	-2481.3	909.6	77.149 %	0.0131
10	300	6	[66,100]	[15,30]	[5034,25171]	22.920	0.432	-5004.2	-1648.9	74.951 %	0.0155

Tiempo Promedio Total H_2: 22.422 seg.

Tiempo Promedio Total H_1: 0.437 seg.

Rendimiento Promedio Total: 79.493 %

Tabla de Experimentos

$n : 500, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	6	[1,100]	[1,10]	[2525,25255]	100.083	1.160	-2534.9	-22.7	81.751 %	0.0124
10	500	6	[1,100]	[1,10]	[5050,25255]	100.612	1.163	-5046.1	-2717.6	81.219 %	0.0232
10	500	6	[1,100]	[5,10]	[2525,25257]	100.742	1.175	-2549.0	-243.0	83.242 %	0.0109
10	500	6	[1,100]	[5,10]	[5050,25257]	101.275	1.188	-5039.6	-2877.6	82.120 %	0.0145
10	500	6	[1,100]	[1,30]	[2526,25265]	103.132	1.130	-2495.3	135.5	81.222 %	0.0104
10	500	6	[1,100]	[1,30]	[5052,25265]	102.172	1.128	-5026.8	-2566.1	80.203 %	0.0083
10	500	6	[1,100]	[15,30]	[2527,25272]	101.458	1.143	-2530.0	-118.9	82.498 %	0.0219
10	500	6	[1,100]	[15,30]	[5054,25272]	102.218	1.159	-5014.3	-2758.7	81.876 %	0.0228
10	500	6	[33,100]	[1,10]	[3333,33335]	103.627	1.144	-3320.8	505.1	80.026 %	0.0181
10	500	6	[33,100]	[1,10]	[6666,33335]	103.104	1.165	-6677.5	-2727.6	77.170 %	0.0110
10	500	6	[33,100]	[5,10]	[3333,33337]	102.099	1.197	-3338.3	290.5	80.541 %	0.0102
10	500	6	[33,100]	[5,10]	[6666,33337]	102.753	1.181	-6652.2	-2896.9	78.008 %	0.0093
10	500	6	[33,100]	[1,30]	[3334,33345]	106.579	1.139	-3301.1	713.8	78.942 %	0.0133
10	500	6	[33,100]	[1,30]	[6668,33345]	107.432	1.127	-6652.4	-2550.0	76.645 %	0.0154
10	500	6	[33,100]	[15,30]	[3335,33352]	104.238	1.145	-3327.4	959.4	77.871 %	0.0136
10	500	6	[33,100]	[15,30]	[6670,33352]	104.506	1.166	-6646.5	-2573.7	76.555 %	0.0105
10	500	6	[66,100]	[1,10]	[4192,41920]	104.257	1.148	-4156.0	1284.1	77.572 %	0.0073
10	500	6	[66,100]	[1,10]	[8384,41920]	105.035	1.147	-8362.8	-2802.9	75.066 %	0.0131
10	500	6	[66,100]	[5,10]	[4192,41922]	103.951	1.194	-4165.5	1090.1	78.185 %	0.0105
10	500	6	[66,100]	[5,10]	[8384,41922]	103.252	1.176	-8341.2	-3226.3	76.805 %	0.0158
10	500	6	[66,100]	[1,30]	[4193,41930]	109.078	1.127	-4158.2	1594.8	77.081 %	0.0118
10	500	6	[66,100]	[1,30]	[8386,41930]	108.839	1.136	-8340.2	-2555.6	74.560 %	0.0094
10	500	6	[66,100]	[15,30]	[4193,41937]	105.546	1.149	-4194.3	1470.6	76.801 %	0.0095
10	500	6	[66,100]	[15,30]	[8386,41937]	106.137	1.137	-8372.5	-2534.2	73.808 %	0.0098

Tiempo Promedio Total H_2: 103.839 seg.

Tiempo Promedio Total H_1: 1.155 seg.

Rendimiento Promedio Total: 78.740 %

Tabla de Experimentos

$n : 750, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	6	[1,100]	[1,10]	[3788,37880]	360.061	2.579	-3807.0	-261.4	82.718 %	0.0164
10	750	6	[1,100]	[1,10]	[7576,37880]	356.688	2.537	-7579.2	-3870.1	80.316 %	0.0078
10	750	6	[1,100]	[5,10]	[3788,37882]	354.832	2.598	-3802.6	-433.1	83.519 %	0.0134
10	750	6	[1,100]	[5,10]	[7576,37882]	355.333	2.607	-7602.3	-4092.7	81.197 %	0.0088
10	750	6	[1,100]	[1,30]	[3789,37890]	364.315	2.480	-3752.7	-15.1	82.141 %	0.0105
10	750	6	[1,100]	[1,30]	[7578,37890]	362.548	2.475	-7577.3	-3618.6	79.270 %	0.0108
10	750	6	[1,100]	[15,30]	[3789,37897]	358.100	2.480	-3774.1	-54.2	82.195 %	0.0112
10	750	6	[1,100]	[15,30]	[7578,37897]	358.163	2.481	-7545.1	-3840.4	80.449 %	0.0148
10	750	6	[33,100]	[1,10]	[5000,50000]	368.866	2.568	-4996.2	1138.7	78.599 %	0.0152
10	750	6	[33,100]	[1,10]	[10000,50000]	367.418	2.529	-9978.4	-3800.2	76.427 %	0.0074
10	750	6	[33,100]	[5,10]	[5000,50002]	365.745	2.594	-4983.7	799.5	79.555 %	0.0119
10	750	6	[33,100]	[5,10]	[10000,50002]	365.502	2.589	-9985.5	-4216.3	77.687 %	0.0079
10	750	6	[33,100]	[1,30]	[5001,50010]	376.172	2.449	-4955.2	1314.5	77.970 %	0.0120
10	750	6	[33,100]	[1,30]	[10002,50010]	377.791	2.483	-9966.5	-3539.9	75.586 %	0.0149
10	750	6	[33,100]	[15,30]	[5001,50017]	368.432	2.497	-4983.4	1121.0	78.782 %	0.0090
10	750	6	[33,100]	[15,30]	[10002,50017]	370.869	2.507	-9973.0	-3675.1	76.307 %	0.0099
10	750	6	[66,100]	[1,10]	[6287,62877]	371.463	2.512	-6259.5	2286.6	76.612 %	0.0084
10	750	6	[66,100]	[1,10]	[12574,62877]	369.604	2.540	-12550.5	-3963.2	74.680 %	0.0062
10	750	6	[66,100]	[5,10]	[6287,62879]	367.779	2.604	-6284.3	1882.9	77.629 %	0.0069
10	750	6	[66,100]	[5,10]	[12574,62879]	369.916	2.609	-12547.7	-4545.9	75.757 %	0.0077
10	750	6	[66,100]	[1,30]	[6288,62887]	381.087	2.458	-6283.4	2863.3	75.656 %	0.0081
10	750	6	[66,100]	[1,30]	[12576,62887]	382.745	2.467	-12527.5	-3881.7	74.631 %	0.0102
10	750	6	[66,100]	[15,30]	[6289,62894]	376.152	2.486	-6303.7	2400.6	76.400 %	0.0157
10	750	6	[66,100]	[15,30]	[12578,62894]	372.655	2.485	-12547.4	-3998.8	74.637 %	0.0171

Tiempo Promedio Total H_2: 367.593 seg.

Tiempo Promedio Total H_1: 2.526 seg.

Rendimiento Promedio Total: 78.280 %

Tabla de Experimentos

$n : 1000, m : 6, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	6	[1,100]	[1,10]	[5050,50505]	881.470	4.636	-5085.6	-53.3	81.837 %	0.0093
10	1000	6	[1,100]	[1,10]	[10100,50505]	884.740	4.631	-10119.0	-5427.2	81.264 %	0.0121
10	1000	6	[1,100]	[5,10]	[5050,50507]	878.584	4.813	-5067.4	-362.7	82.890 %	0.0105
10	1000	6	[1,100]	[5,10]	[10100,50507]	882.103	4.759	-10095.8	-5341.3	80.892 %	0.0089
10	1000	6	[1,100]	[1,30]	[5051,50515]	896.806	4.469	-5022.2	347.8	80.806 %	0.0085
10	1000	6	[1,100]	[1,30]	[10102,50515]	896.353	4.573	-10087.1	-4749.9	79.189 %	0.0110
10	1000	6	[1,100]	[15,30]	[5052,50522]	873.454	4.579	-5039.6	117.5	81.453 %	0.0094
10	1000	6	[1,100]	[15,30]	[10104,50522]	884.991	4.695	-10107.2	-4967.6	79.598 %	0.0109
10	1000	6	[33,100]	[1,10]	[6666,66665]	909.540	4.600	-6663.6	1532.5	78.533 %	0.0101
10	1000	6	[33,100]	[1,10]	[13332,66665]	907.741	4.619	-13318.7	-5040.8	76.402 %	0.0074
10	1000	6	[33,100]	[5,10]	[6666,66667]	903.216	4.819	-6684.8	1014.1	79.553 %	0.0080
10	1000	6	[33,100]	[5,10]	[13332,66667]	896.905	4.769	-13336.8	-5660.3	77.747 %	0.0072
10	1000	6	[33,100]	[1,30]	[6667,66675]	929.038	4.500	-6671.2	1814.8	78.003 %	0.0114
10	1000	6	[33,100]	[1,30]	[13334,66675]	923.213	4.528	-13301.6	-4566.1	75.288 %	0.0115
10	1000	6	[33,100]	[15,30]	[6668,66682]	916.418	4.585	-6649.0	1809.2	77.974 %	0.0102
10	1000	6	[33,100]	[15,30]	[13336,66682]	911.884	4.543	-13331.4	-4998.9	76.244 %	0.0068
10	1000	6	[66,100]	[1,10]	[8383,83835]	918.781	4.628	-8438.4	3088.4	76.650 %	0.0094
10	1000	6	[66,100]	[1,10]	[16766,83835]	918.473	4.637	-16746.2	-5120.1	74.282 %	0.0061
10	1000	6	[66,100]	[5,10]	[8383,83837]	913.121	4.775	-8378.1	2246.5	78.008 %	0.0099
10	1000	6	[66,100]	[5,10]	[16766,83837]	911.386	4.840	-16774.5	-5940.3	75.544 %	0.0100
10	1000	6	[66,100]	[1,30]	[8384,83845]	936.616	4.461	-8337.6	3436.4	76.333 %	0.0071
10	1000	6	[66,100]	[1,30]	[16768,83845]	940.442	4.484	-16762.3	-4907.2	74.070 %	0.0075
10	1000	6	[66,100]	[15,30]	[8385,83852]	924.795	4.532	-8362.9	3308.0	76.495 %	0.0082
10	1000	6	[66,100]	[15,30]	[16770,83852]	921.410	4.492	-16721.5	-4783.9	73.956 %	0.0100

Tiempo Promedio Total H_2: 906.728 seg.

Tiempo Promedio Total H_1: 4.624 seg.

Rendimiento Promedio Total: 78.042 %

Tabla de Experimentos

$n : 10, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	10	[1,100]	[1,10]	[51,510]	0.021	0.010	-61.9	-61.9	100.000 %	0.0000
10	10	10	[1,100]	[1,10]	[102,510]	0.020	0.011	-84.8	-83.4	98.989 %	0.0303
10	10	10	[1,100]	[5,10]	[51,512]	0.021	0.007	-50.2	-50.2	100.000 %	0.0000
10	10	10	[1,100]	[5,10]	[102,512]	0.020	0.008	-72.1	-70.5	99.349 %	0.0195
10	10	10	[1,100]	[1,30]	[52,520]	0.020	0.009	-55.8	-55.8	100.000 %	0.0000
10	10	10	[1,100]	[1,30]	[104,520]	0.021	0.010	-99.3	-99.2	99.941 %	0.0018
10	10	10	[1,100]	[15,30]	[52,527]	0.021	0.012	-19.7	-19.7	100.000 %	0.0000
10	10	10	[1,100]	[15,30]	[104,527]	0.026	0.010	-87.1	-84.7	98.965 %	0.0200
10	10	10	[33,100]	[1,10]	[67,671]	0.024	0.009	-50.0	-49.8	99.944 %	0.0017
10	10	10	[33,100]	[1,10]	[134,671]	0.021	0.011	-107.8	-104.7	99.159 %	0.0252
10	10	10	[33,100]	[5,10]	[67,673]	0.021	0.010	-33.9	-28.3	98.409 %	0.0273
10	10	10	[33,100]	[5,10]	[134,673]	0.021	0.008	-129.9	-122.0	97.614 %	0.0449
10	10	10	[33,100]	[1,30]	[68,681]	0.031	0.010	-22.1	-13.9	97.387 %	0.0432
10	10	10	[33,100]	[1,30]	[136,681]	0.027	0.009	-111.8	-109.5	99.211 %	0.0237
10	10	10	[33,100]	[15,30]	[68,688]	0.023	0.010	-63.9	-35.1	91.765 %	0.1658
10	10	10	[33,100]	[15,30]	[136,688]	0.021	0.010	-125.8	-123.1	99.268 %	0.0220
10	10	10	[66,100]	[1,10]	[84,843]	0.025	0.011	-61.1	-57.0	99.168 %	0.0175
10	10	10	[66,100]	[1,10]	[168,843]	0.018	0.010	-159.6	-154.9	98.717 %	0.0253
10	10	10	[66,100]	[5,10]	[84,845]	0.022	0.010	-70.5	-69.8	99.833 %	0.0050
10	10	10	[66,100]	[5,10]	[168,845]	0.027	0.009	-107.1	-106.3	99.811 %	0.0039
10	10	10	[66,100]	[1,30]	[85,853]	0.030	0.009	-48.0	-48.0	100.000 %	0.0000
10	10	10	[66,100]	[1,30]	[170,853]	0.052	0.020	-142.8	-138.8	98.993 %	0.0171
10	10	10	[66,100]	[15,30]	[86,860]	0.041	0.014	-54.7	-49.1	98.692 %	0.0217
10	10	10	[66,100]	[15,30]	[172,860]	0.026	0.010	-118.5	-117.5	99.696 %	0.0073

Tiempo Promedio Total H_2: 0.025 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 98.955 %

Tabla de Experimentos

$n : 20, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	10	[1,100]	[1,10]	[101,1015]	0.045	0.012	-99.3	-86.6	97.322 %	0.0245
10	20	10	[1,100]	[1,10]	[202,1015]	0.045	0.014	-193.8	-182.3	97.394 %	0.0223
10	20	10	[1,100]	[5,10]	[101,1017]	0.044	0.015	-82.1	-77.2	99.058 %	0.0098
10	20	10	[1,100]	[5,10]	[202,1017]	0.040	0.015	-191.9	-184.5	98.252 %	0.0258
10	20	10	[1,100]	[1,30]	[102,1025]	0.052	0.013	-59.3	-48.3	97.961 %	0.0172
10	20	10	[1,100]	[1,30]	[204,1025]	0.053	0.012	-183.9	-177.5	98.581 %	0.0207
10	20	10	[1,100]	[15,30]	[103,1032]	0.051	0.013	-82.0	-66.6	97.117 %	0.0334
10	20	10	[1,100]	[15,30]	[206,1032]	0.056	0.013	-172.5	-161.2	97.666 %	0.0239
10	20	10	[33,100]	[1,10]	[133,1338]	0.052	0.013	-146.5	-100.9	93.106 %	0.0298
10	20	10	[33,100]	[1,10]	[266,1338]	0.050	0.013	-272.0	-240.9	93.797 %	0.0600
10	20	10	[33,100]	[5,10]	[134,1340]	0.075	0.031	-137.0	-96.4	93.313 %	0.0488
10	20	10	[33,100]	[5,10]	[268,1340]	0.049	0.012	-252.7	-220.8	95.003 %	0.0359
10	20	10	[33,100]	[1,30]	[134,1348]	0.061	0.012	-125.2	-91.1	94.916 %	0.0265
10	20	10	[33,100]	[1,30]	[268,1348]	0.061	0.014	-263.4	-219.5	92.015 %	0.0346
10	20	10	[33,100]	[15,30]	[135,1355]	0.057	0.013	-101.1	-61.5	94.065 %	0.0447
10	20	10	[33,100]	[15,30]	[270,1355]	0.057	0.011	-265.1	-239.4	95.824 %	0.0438
10	20	10	[66,100]	[1,10]	[168,1681]	0.052	0.010	-137.1	-107.1	96.107 %	0.0486
10	20	10	[66,100]	[1,10]	[336,1681]	0.051	0.016	-287.4	-248.9	94.781 %	0.0426
10	20	10	[66,100]	[5,10]	[168,1683]	0.041	0.013	-175.4	-148.9	96.982 %	0.0374
10	20	10	[66,100]	[5,10]	[336,1683]	0.046	0.012	-303.4	-246.8	92.066 %	0.0266
10	20	10	[66,100]	[1,30]	[169,1691]	0.061	0.012	-142.3	-96.3	94.330 %	0.0302
10	20	10	[66,100]	[1,30]	[338,1691]	0.068	0.013	-316.1	-270.8	93.866 %	0.0360
10	20	10	[66,100]	[15,30]	[169,1698]	0.056	0.011	-130.9	-73.1	93.682 %	0.0237
10	20	10	[66,100]	[15,30]	[338,1698]	0.057	0.012	-310.6	-280.0	95.838 %	0.0452

Tiempo Promedio Total H_2: 0.053 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 95.543 %

Tabla de Experimentos

$n : 30, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	10	[1,100]	[1,10]	[152,1520]	0.079	0.013	-162.6	-134.0	96.162 %	0.0301
10	30	10	[1,100]	[1,10]	[304,1520]	0.079	0.014	-296.3	-273.8	96.443 %	0.0358
10	30	10	[1,100]	[5,10]	[152,1522]	0.068	0.017	-161.3	-147.5	98.096 %	0.0198
10	30	10	[1,100]	[5,10]	[304,1522]	0.070	0.013	-286.7	-262.9	96.506 %	0.0378
10	30	10	[1,100]	[1,30]	[153,1530]	0.091	0.015	-123.1	-101.4	97.092 %	0.0274
10	30	10	[1,100]	[1,30]	[306,1530]	0.086	0.016	-305.9	-286.1	97.014 %	0.0212
10	30	10	[1,100]	[15,30]	[153,1537]	0.098	0.015	-138.1	-107.3	95.849 %	0.0304
10	30	10	[1,100]	[15,30]	[306,1537]	0.117	0.018	-275.0	-251.4	96.413 %	0.0243
10	30	10	[33,100]	[1,10]	[200,2004]	0.084	0.016	-190.0	-110.2	91.876 %	0.0359
10	30	10	[33,100]	[1,10]	[400,2004]	0.088	0.014	-405.1	-343.6	93.079 %	0.0252
10	30	10	[33,100]	[5,10]	[200,2006]	0.108	0.020	-211.9	-152.0	93.797 %	0.0381
10	30	10	[33,100]	[5,10]	[400,2006]	0.084	0.018	-377.2	-318.5	93.038 %	0.0364
10	30	10	[33,100]	[1,30]	[201,2014]	0.104	0.016	-192.2	-145.5	95.390 %	0.0318
10	30	10	[33,100]	[1,30]	[402,2014]	0.112	0.015	-385.0	-350.6	95.983 %	0.0305
10	30	10	[33,100]	[15,30]	[202,2022]	0.093	0.014	-176.5	-129.5	94.990 %	0.0457
10	30	10	[33,100]	[15,30]	[404,2022]	0.093	0.014	-372.0	-297.5	91.943 %	0.0455
10	30	10	[66,100]	[1,10]	[251,2519]	0.086	0.014	-236.2	-130.9	91.807 %	0.0355
10	30	10	[66,100]	[1,10]	[502,2519]	0.082	0.015	-509.4	-436.2	93.531 %	0.0555
10	30	10	[66,100]	[5,10]	[252,2521]	0.077	0.015	-228.6	-140.5	93.284 %	0.0283
10	30	10	[66,100]	[5,10]	[504,2521]	0.075	0.015	-456.7	-375.7	93.199 %	0.0507
10	30	10	[66,100]	[1,30]	[253,2530]	0.109	0.014	-229.1	-126.8	91.727 %	0.0452
10	30	10	[66,100]	[1,30]	[506,2530]	0.103	0.015	-482.7	-411.6	93.376 %	0.0401
10	30	10	[66,100]	[15,30]	[253,2537]	0.121	0.014	-220.9	-131.4	93.009 %	0.0367
10	30	10	[66,100]	[15,30]	[506,2537]	0.095	0.014	-497.3	-398.8	91.241 %	0.0333

Tiempo Promedio Total H_2: 0.092 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 94.369 %

Tabla de Experimentos

$n : 50, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	10	[1,100]	[1,10]	[253,2530]	0.191	0.027	-214.1	-150.3	95.047 %	0.0363
10	50	10	[1,100]	[1,10]	[506,2530]	0.187	0.027	-485.2	-422.9	94.043 %	0.0230
10	50	10	[1,100]	[5,10]	[253,2532]	0.187	0.025	-270.8	-193.7	93.532 %	0.0264
10	50	10	[1,100]	[5,10]	[506,2532]	0.220	0.022	-515.5	-440.9	93.281 %	0.0319
10	50	10	[1,100]	[1,30]	[254,2540]	0.220	0.027	-255.6	-203.8	95.631 %	0.0328
10	50	10	[1,100]	[1,30]	[508,2540]	0.229	0.027	-470.3	-397.5	93.616 %	0.0313
10	50	10	[1,100]	[15,30]	[254,2547]	0.199	0.022	-213.8	-150.8	95.148 %	0.0332
10	50	10	[1,100]	[15,30]	[508,2547]	0.206	0.024	-485.2	-406.7	92.864 %	0.0434
10	50	10	[33,100]	[1,10]	[333,3338]	0.210	0.028	-338.8	-229.2	93.258 %	0.0205
10	50	10	[33,100]	[1,10]	[666,3338]	0.201	0.023	-660.2	-503.9	89.782 %	0.0331
10	50	10	[33,100]	[5,10]	[334,3340]	0.199	0.031	-326.2	-188.4	91.736 %	0.0369
10	50	10	[33,100]	[5,10]	[668,3340]	0.193	0.022	-653.0	-547.0	92.978 %	0.0406
10	50	10	[33,100]	[1,30]	[334,3348]	0.264	0.027	-309.1	-186.3	92.505 %	0.0367
10	50	10	[33,100]	[1,30]	[668,3348]	0.274	0.024	-637.2	-512.3	91.514 %	0.0343
10	50	10	[33,100]	[15,30]	[335,3355]	0.224	0.025	-301.4	-164.0	91.949 %	0.0341
10	50	10	[33,100]	[15,30]	[670,3355]	0.238	0.025	-613.2	-455.5	90.136 %	0.0251
10	50	10	[66,100]	[1,10]	[419,4196]	0.207	0.022	-443.0	-248.8	90.587 %	0.0400
10	50	10	[66,100]	[1,10]	[838,4196]	0.201	0.025	-822.7	-561.0	86.718 %	0.0236
10	50	10	[66,100]	[5,10]	[419,4198]	0.198	0.029	-439.8	-260.7	91.650 %	0.0463
10	50	10	[66,100]	[5,10]	[838,4198]	0.193	0.025	-798.5	-640.5	91.802 %	0.0477
10	50	10	[66,100]	[1,30]	[420,4206]	0.260	0.026	-368.0	-183.7	91.137 %	0.0464
10	50	10	[66,100]	[1,30]	[840,4206]	0.284	0.023	-791.6	-587.7	89.528 %	0.0361
10	50	10	[66,100]	[15,30]	[421,4213]	0.228	0.023	-391.8	-175.7	90.117 %	0.0236
10	50	10	[66,100]	[15,30]	[842,4213]	0.223	0.025	-823.9	-598.9	87.884 %	0.0372

Tiempo Promedio Total H_2: 0.218 seg.

Tiempo Promedio Total H_1: 0.025 seg.

Rendimiento Promedio Total: 91.935 %

Tabla de Experimentos

$n : 100, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	10	[1,100]	[1,10]	[505,5055]	1.033	0.063	-523.9	-356.8	93.092 %	0.0312
10	100	10	[1,100]	[1,10]	[1010,5055]	0.970	0.065	-995.4	-815.4	91.922 %	0.0276
10	100	10	[1,100]	[5,10]	[505,5057]	0.963	0.065	-512.2	-304.4	91.717 %	0.0207
10	100	10	[1,100]	[5,10]	[1010,5057]	0.921	0.066	-989.7	-783.7	90.850 %	0.0231
10	100	10	[1,100]	[1,30]	[506,5065]	1.035	0.062	-485.2	-281.4	91.698 %	0.0231
10	100	10	[1,100]	[1,30]	[1012,5065]	1.059	0.061	-1050.2	-829.2	90.050 %	0.0168
10	100	10	[1,100]	[15,30]	[507,5072]	0.975	0.062	-474.6	-258.3	91.458 %	0.0215
10	100	10	[1,100]	[15,30]	[1014,5072]	0.969	0.065	-983.6	-774.5	90.778 %	0.0167
10	100	10	[33,100]	[1,10]	[667,6671]	1.000	0.061	-694.9	-357.7	89.565 %	0.0274
10	100	10	[33,100]	[1,10]	[1334,6671]	0.992	0.065	-1338.5	-935.7	86.901 %	0.0243
10	100	10	[33,100]	[5,10]	[667,6673]	0.963	0.066	-646.6	-304.1	89.827 %	0.0249
10	100	10	[33,100]	[5,10]	[1334,6673]	0.975	0.067	-1316.6	-990.5	89.286 %	0.0248
10	100	10	[33,100]	[1,30]	[668,6681]	1.214	0.071	-680.1	-382.5	90.943 %	0.0340
10	100	10	[33,100]	[1,30]	[1336,6681]	1.153	0.061	-1308.6	-956.2	88.248 %	0.0255
10	100	10	[33,100]	[15,30]	[668,6688]	1.041	0.062	-627.7	-253.4	89.032 %	0.0231
10	100	10	[33,100]	[15,30]	[1336,6688]	1.072	0.064	-1315.6	-916.1	87.058 %	0.0201
10	100	10	[66,100]	[1,10]	[838,8388]	1.069	0.068	-839.5	-330.5	88.187 %	0.0228
10	100	10	[66,100]	[1,10]	[1676,8388]	1.000	0.067	-1722.6	-1169.1	85.480 %	0.0233
10	100	10	[66,100]	[5,10]	[839,8390]	1.013	0.065	-780.3	-258.1	88.083 %	0.0211
10	100	10	[66,100]	[5,10]	[1678,8390]	0.970	0.062	-1629.8	-1206.0	88.860 %	0.0369
10	100	10	[66,100]	[1,30]	[839,8398]	1.212	0.060	-847.7	-387.7	88.862 %	0.0354
10	100	10	[66,100]	[1,30]	[1678,8398]	1.195	0.062	-1620.8	-1072.5	86.041 %	0.0218
10	100	10	[66,100]	[15,30]	[840,8405]	1.067	0.064	-844.2	-373.8	88.717 %	0.0323
10	100	10	[66,100]	[15,30]	[1680,8405]	1.056	0.063	-1622.2	-1141.7	87.819 %	0.0424

Tiempo Promedio Total H_2: 1.038 seg.

Tiempo Promedio Total H_1: 0.064 seg.

Rendimiento Promedio Total: 89.353 %

Tabla de Experimentos

$n : 200, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	10	[1,100]	[1,10]	[1010,10105]	6.425	0.213	-996.7	-566.7	91.410 %	0.0188
10	200	10	[1,100]	[1,10]	[2020,10105]	6.340	0.217	-2010.0	-1573.0	90.467 %	0.0250
10	200	10	[1,100]	[5,10]	[1010,10107]	6.224	0.226	-1002.9	-540.0	90.692 %	0.0206
10	200	10	[1,100]	[5,10]	[2020,10107]	6.368	0.219	-2011.6	-1592.4	90.648 %	0.0297
10	200	10	[1,100]	[1,30]	[1011,10115]	6.540	0.213	-979.2	-463.5	89.768 %	0.0151
10	200	10	[1,100]	[1,30]	[2022,10115]	6.523	0.209	-2012.4	-1548.9	89.861 %	0.0178
10	200	10	[1,100]	[15,30]	[1012,10122]	6.389	0.214	-998.9	-514.6	90.441 %	0.0184
10	200	10	[1,100]	[15,30]	[2024,10122]	6.437	0.213	-1995.4	-1543.2	90.089 %	0.0236
10	200	10	[33,100]	[1,10]	[1333,13337]	6.715	0.218	-1310.2	-554.2	89.028 %	0.0173
10	200	10	[33,100]	[1,10]	[2666,13337]	6.823	0.217	-2640.0	-1901.5	88.022 %	0.0292
10	200	10	[33,100]	[5,10]	[1333,13339]	6.457	0.216	-1331.6	-587.7	89.097 %	0.0186
10	200	10	[33,100]	[5,10]	[2666,13339]	6.683	0.214	-2636.1	-1884.1	87.712 %	0.0216
10	200	10	[33,100]	[1,30]	[1334,13347]	7.522	0.212	-1296.8	-490.1	88.092 %	0.0185
10	200	10	[33,100]	[1,30]	[2668,13347]	7.409	0.210	-2633.7	-1782.8	86.113 %	0.0146
10	200	10	[33,100]	[15,30]	[1335,13354]	6.983	0.212	-1332.6	-543.0	88.546 %	0.0242
10	200	10	[33,100]	[15,30]	[2670,13354]	6.752	0.216	-2673.7	-1818.4	86.200 %	0.0182
10	200	10	[66,100]	[1,10]	[1677,16771]	6.744	0.211	-1667.0	-532.8	86.859 %	0.0179
10	200	10	[66,100]	[1,10]	[3354,16771]	6.743	0.220	-3325.4	-2216.0	85.788 %	0.0214
10	200	10	[66,100]	[5,10]	[1677,16773]	6.531	0.219	-1650.5	-500.6	87.022 %	0.0105
10	200	10	[66,100]	[5,10]	[3354,16773]	6.663	0.217	-3307.9	-2232.5	86.212 %	0.0278
10	200	10	[66,100]	[1,30]	[1678,16781]	7.569	0.210	-1654.8	-537.6	87.040 %	0.0211
10	200	10	[66,100]	[1,30]	[3356,16781]	7.510	0.210	-3311.8	-2108.7	84.537 %	0.0377
10	200	10	[66,100]	[15,30]	[1678,16788]	7.042	0.224	-1630.5	-510.2	87.331 %	0.0307
10	200	10	[66,100]	[15,30]	[3356,16788]	6.935	0.225	-3314.2	-2247.8	86.658 %	0.0233

Tiempo Promedio Total H_2: 6.764 seg.

Tiempo Promedio Total H_1: 0.216 seg.

Rendimiento Promedio Total: 88.235 %

Tabla de Experimentos

$n : 300, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	10	[1,100]	[1,10]	[1515,15155]	20.863	0.445	-1496.3	-742.8	90.056 %	0.0101
10	300	10	[1,100]	[1,10]	[3030,15155]	20.715	0.450	-3039.3	-2323.1	89.211 %	0.0228
10	300	10	[1,100]	[5,10]	[1515,15157]	20.480	0.458	-1490.8	-820.7	90.976 %	0.0181
10	300	10	[1,100]	[5,10]	[3030,15157]	20.462	0.460	-3010.8	-2276.6	89.283 %	0.0157
10	300	10	[1,100]	[1,30]	[1516,15165]	21.219	0.440	-1535.3	-781.1	89.905 %	0.0172
10	300	10	[1,100]	[1,30]	[3032,15165]	21.127	0.447	-3021.5	-2236.7	88.535 %	0.0142
10	300	10	[1,100]	[15,30]	[1517,15172]	21.259	0.444	-1493.3	-653.3	89.108 %	0.0143
10	300	10	[1,100]	[15,30]	[3034,15172]	20.539	0.450	-3003.6	-2255.0	89.027 %	0.0124
10	300	10	[33,100]	[1,10]	[2000,20003]	22.068	0.447	-1976.8	-620.3	86.980 %	0.0114
10	300	10	[33,100]	[1,10]	[4000,20003]	21.575	0.443	-3995.7	-2808.9	87.328 %	0.0241
10	300	10	[33,100]	[5,10]	[2000,20005]	21.648	0.467	-2044.9	-900.2	88.696 %	0.0183
10	300	10	[33,100]	[5,10]	[4000,20005]	21.329	0.456	-3966.0	-2800.4	87.455 %	0.0241
10	300	10	[33,100]	[1,30]	[2001,20013]	23.172	0.445	-1973.2	-572.5	86.686 %	0.0132
10	300	10	[33,100]	[1,30]	[4002,20013]	23.305	0.438	-3990.5	-2623.3	85.453 %	0.0178
10	300	10	[33,100]	[15,30]	[2002,20020]	22.322	0.446	-1975.8	-619.9	86.824 %	0.0185
10	300	10	[33,100]	[15,30]	[4004,20020]	22.582	0.439	-3953.3	-2641.4	85.858 %	0.0193
10	300	10	[66,100]	[1,10]	[2515,25154]	22.088	0.449	-2499.8	-700.4	86.335 %	0.0155
10	300	10	[66,100]	[1,10]	[5030,25154]	22.233	0.451	-4986.8	-3205.5	84.969 %	0.0165
10	300	10	[66,100]	[5,10]	[2515,25156]	21.729	0.457	-2494.4	-704.3	86.351 %	0.0126
10	300	10	[66,100]	[5,10]	[5030,25156]	21.701	0.454	-4983.9	-3217.7	84.969 %	0.0166
10	300	10	[66,100]	[1,30]	[2516,25164]	23.774	0.449	-2477.4	-708.9	86.442 %	0.0243
10	300	10	[66,100]	[1,30]	[5032,25164]	23.409	0.435	-5012.2	-3069.8	83.556 %	0.0129
10	300	10	[66,100]	[15,30]	[2517,25171]	22.643	0.447	-2502.4	-503.4	85.308 %	0.0081
10	300	10	[66,100]	[15,30]	[5034,25171]	22.752	0.444	-4976.8	-3126.8	84.512 %	0.0194

Tiempo Promedio Total H_2: 21.875 seg.

Tiempo Promedio Total H_1: 0.448 seg.

Rendimiento Promedio Total: 87.243 %

Tabla de Experimentos

$n : 500, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	10	[1,100]	[1,10]	[2525,25255]	96.630	1.191	-2504.4	-1182.8	89.660 %	0.0117
10	500	10	[1,100]	[1,10]	[5050,25255]	96.072	1.172	-5040.9	-3705.3	88.375 %	0.0101
10	500	10	[1,100]	[5,10]	[2525,25257]	94.021	1.206	-2556.3	-1325.1	90.254 %	0.0187
10	500	10	[1,100]	[5,10]	[5050,25257]	95.445	1.202	-5030.3	-3812.9	89.299 %	0.0109
10	500	10	[1,100]	[1,30]	[2526,25265]	97.892	1.146	-2506.9	-1133.1	89.126 %	0.0149
10	500	10	[1,100]	[1,30]	[5052,25265]	97.455	1.144	-5042.4	-3686.5	88.134 %	0.0158
10	500	10	[1,100]	[15,30]	[2527,25272]	97.283	1.143	-2509.5	-1197.8	89.779 %	0.0118
10	500	10	[1,100]	[15,30]	[5054,25272]	97.520	1.147	-5041.1	-3670.6	87.989 %	0.0138
10	500	10	[33,100]	[1,10]	[3333,33335]	102.691	1.175	-3349.2	-1085.3	86.936 %	0.0123
10	500	10	[33,100]	[1,10]	[6666,33335]	101.337	1.177	-6666.2	-4492.5	86.049 %	0.0160
10	500	10	[33,100]	[5,10]	[3333,33337]	99.493	1.195	-3337.9	-1229.9	87.724 %	0.0095
10	500	10	[33,100]	[5,10]	[6666,33337]	99.864	1.204	-6654.1	-4490.7	85.976 %	0.0115
10	500	10	[33,100]	[1,30]	[3334,33345]	105.516	1.147	-3290.2	-998.8	86.789 %	0.0105
10	500	10	[33,100]	[1,30]	[6668,33345]	105.545	1.152	-6635.2	-4349.7	85.398 %	0.0115
10	500	10	[33,100]	[15,30]	[3335,33352]	103.158	1.166	-3268.4	-1158.9	87.798 %	0.0156
10	500	10	[33,100]	[15,30]	[6670,33352]	103.486	1.158	-6688.6	-4313.9	84.808 %	0.0145
10	500	10	[66,100]	[1,10]	[4192,41920]	102.615	1.185	-4196.7	-1215.2	86.439 %	0.0124
10	500	10	[66,100]	[1,10]	[8384,41920]	102.113	1.172	-8371.1	-5241.0	84.234 %	0.0134
10	500	10	[66,100]	[5,10]	[4192,41922]	102.105	1.215	-4178.0	-1108.5	85.939 %	0.0064
10	500	10	[66,100]	[5,10]	[8384,41922]	102.353	1.204	-8357.3	-5221.2	84.252 %	0.0082
10	500	10	[66,100]	[1,30]	[4193,41930]	107.353	1.146	-4191.8	-998.5	85.690 %	0.0090
10	500	10	[66,100]	[1,30]	[8386,41930]	108.544	1.150	-8351.2	-5167.4	84.208 %	0.0164
10	500	10	[66,100]	[15,30]	[4193,41937]	104.601	1.158	-4225.0	-1201.6	86.284 %	0.0171
10	500	10	[66,100]	[15,30]	[8386,41937]	104.344	1.158	-8351.7	-4959.7	83.196 %	0.0060

Tiempo Promedio Total H_2: 101.143 seg.

Tiempo Promedio Total H_1: 1.171 seg.

Rendimiento Promedio Total: 86.847 %

Tabla de Experimentos

$n : 750, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	10	[1,100]	[1,10]	[3788,37880]	339.365	2.611	-3788.4	-1720.3	89.140 %	0.0110
10	750	10	[1,100]	[1,10]	[7576,37880]	344.402	2.589	-7559.7	-5477.2	88.019 %	0.0102
10	750	10	[1,100]	[5,10]	[3788,37882]	339.608	2.664	-3775.2	-1783.6	89.532 %	0.0054
10	750	10	[1,100]	[5,10]	[7576,37882]	339.657	2.653	-7579.4	-5605.5	88.491 %	0.0075
10	750	10	[1,100]	[1,30]	[3789,37890]	346.816	2.543	-3782.7	-1634.3	88.828 %	0.0087
10	750	10	[1,100]	[1,30]	[7578,37890]	344.136	2.523	-7560.8	-5423.3	87.701 %	0.0130
10	750	10	[1,100]	[15,30]	[3789,37897]	341.724	2.529	-3760.0	-1662.9	89.112 %	0.0137
10	750	10	[1,100]	[15,30]	[7578,37897]	340.183	2.554	-7538.1	-5498.6	88.188 %	0.0093
10	750	10	[33,100]	[1,10]	[5000,50000]	354.899	2.587	-4999.3	-1545.9	86.739 %	0.0121
10	750	10	[33,100]	[1,10]	[10000,50000]	359.776	2.574	-9995.9	-6509.7	85.220 %	0.0131
10	750	10	[33,100]	[5,10]	[5000,50002]	357.270	2.660	-5023.8	-1681.2	87.156 %	0.0076
10	750	10	[33,100]	[5,10]	[10000,50002]	359.148	2.659	-9988.4	-6653.4	85.737 %	0.0085
10	750	10	[33,100]	[1,30]	[5001,50010]	370.207	2.514	-5043.8	-1404.0	86.118 %	0.0113
10	750	10	[33,100]	[1,30]	[10002,50010]	366.667	2.518	-9999.0	-6353.1	84.582 %	0.0109
10	750	10	[33,100]	[15,30]	[5001,50017]	359.740	2.542	-4964.0	-1579.8	86.851 %	0.0124
10	750	10	[33,100]	[15,30]	[10002,50017]	361.052	2.551	-9972.5	-6385.3	84.822 %	0.0112
10	750	10	[66,100]	[1,10]	[6287,62877]	363.582	2.601	-6265.7	-1399.0	85.220 %	0.0077
10	750	10	[66,100]	[1,10]	[12574,62877]	363.729	2.590	-12558.0	-7938.7	84.585 %	0.0124
10	750	10	[66,100]	[5,10]	[6287,62879]	360.713	2.663	-6262.5	-1752.0	86.248 %	0.0095
10	750	10	[66,100]	[5,10]	[12574,62879]	360.099	2.655	-12541.5	-7826.4	84.046 %	0.0067
10	750	10	[66,100]	[1,30]	[6288,62887]	376.273	2.499	-6237.1	-1047.9	84.494 %	0.0109
10	750	10	[66,100]	[1,30]	[12576,62887]	376.330	2.536	-12553.6	-7391.3	83.088 %	0.0057
10	750	10	[66,100]	[15,30]	[6289,62894]	367.073	2.554	-6255.0	-1311.6	85.096 %	0.0099
10	750	10	[66,100]	[15,30]	[12578,62894]	367.776	2.570	-12564.5	-7669.1	83.786 %	0.0109

Tiempo Promedio Total H_2: 356.676 seg.

Tiempo Promedio Total H_1: 2.581 seg.

Rendimiento Promedio Total: 86.367 %

Tabla de Experimentos

$n : 1000, m : 10, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	10	[1,100]	[1,10]	[5050,50505]	834.168	4.647	-5078.9	-2114.0	88.466 %	0.0045
10	1000	10	[1,100]	[1,10]	[10100,50505]	826.677	4.626	-10090.4	-7236.0	87.700 %	0.0079
10	1000	10	[1,100]	[5,10]	[5050,50507]	832.059	4.773	-5052.2	-2275.4	89.181 %	0.0063
10	1000	10	[1,100]	[5,10]	[10100,50507]	831.665	4.727	-10074.7	-7434.2	88.551 %	0.0054
10	1000	10	[1,100]	[1,30]	[5051,50515]	832.498	4.472	-5027.7	-2044.9	88.392 %	0.0102
10	1000	10	[1,100]	[1,30]	[10102,50515]	840.519	4.449	-10084.2	-7144.3	87.319 %	0.0113
10	1000	10	[1,100]	[15,30]	[5052,50522]	838.416	4.558	-5039.4	-2116.7	88.550 %	0.0106
10	1000	10	[1,100]	[15,30]	[10104,50522]	836.091	4.498	-10086.2	-7041.1	86.809 %	0.0083
10	1000	10	[33,100]	[1,10]	[6666,66665]	870.985	4.618	-6652.9	-1889.8	86.397 %	0.0086
10	1000	10	[33,100]	[1,10]	[13332,66665]	873.456	4.584	-13360.0	-8867.6	85.557 %	0.0076
10	1000	10	[33,100]	[5,10]	[6666,66667]	862.950	4.725	-6655.0	-2152.1	86.938 %	0.0070
10	1000	10	[33,100]	[5,10]	[13332,66667]	872.063	4.709	-13281.9	-8717.4	85.279 %	0.0063
10	1000	10	[33,100]	[1,30]	[6667,66675]	887.258	4.484	-6650.4	-1620.6	85.681 %	0.0089
10	1000	10	[33,100]	[1,30]	[13334,66675]	889.488	4.521	-13321.8	-8241.6	84.081 %	0.0057
10	1000	10	[33,100]	[15,30]	[6668,66682]	879.973	4.491	-6676.7	-1937.0	86.483 %	0.0096
10	1000	10	[33,100]	[15,30]	[13336,66682]	878.639	4.521	-13342.7	-8491.6	84.554 %	0.0085
10	1000	10	[66,100]	[1,10]	[8383,83835]	888.714	4.564	-8441.1	-1709.9	84.859 %	0.0071
10	1000	10	[66,100]	[1,10]	[16766,83835]	891.149	4.582	-16756.4	-10099.8	83.442 %	0.0061
10	1000	10	[66,100]	[5,10]	[8383,83837]	884.878	4.786	-8347.8	-2158.9	85.892 %	0.0071
10	1000	10	[66,100]	[5,10]	[16766,83837]	889.647	4.775	-16731.1	-10597.3	84.636 %	0.0068
10	1000	10	[66,100]	[1,30]	[8384,83845]	907.696	4.548	-8351.4	-1372.0	84.252 %	0.0079
10	1000	10	[66,100]	[1,30]	[16768,83845]	912.471	4.467	-16712.3	-10027.4	83.193 %	0.0112
10	1000	10	[66,100]	[15,30]	[8385,83852]	894.551	4.502	-8388.3	-1691.4	85.013 %	0.0084
10	1000	10	[66,100]	[15,30]	[16770,83852]	889.475	4.538	-16731.6	-9980.0	83.229 %	0.0054

Tiempo Promedio Total H_2: 868.562 seg.

Tiempo Promedio Total H_1: 4.590 seg.

Rendimiento Promedio Total: 86.019 %

Tabla de Experimentos

$n : 10, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	20	[1,100]	[1,10]	[51,510]	0.023	0.009	-47.3	-47.3	100.000 %	0.0000
10	10	20	[1,100]	[1,10]	[102,510]	0.023	0.007	-95.7	-95.7	100.000 %	0.0000
10	10	20	[1,100]	[5,10]	[51,512]	0.021	0.006	-77.6	-77.6	100.000 %	0.0000
10	10	20	[1,100]	[5,10]	[102,512]	0.023	0.010	-103.8	-103.8	100.000 %	0.0000
10	10	20	[1,100]	[1,30]	[52,520]	0.025	0.008	-38.7	-38.7	100.000 %	0.0000
10	10	20	[1,100]	[1,30]	[104,520]	0.022	0.009	-91.8	-91.8	100.000 %	0.0000
10	10	20	[1,100]	[15,30]	[52,527]	0.021	0.009	-25.6	-25.6	100.000 %	0.0000
10	10	20	[1,100]	[15,30]	[104,527]	0.021	0.011	-81.8	-81.8	100.000 %	0.0000
10	10	20	[33,100]	[1,10]	[67,671]	0.022	0.009	-73.2	-73.2	100.000 %	0.0000
10	10	20	[33,100]	[1,10]	[134,671]	0.023	0.008	-152.6	-152.6	100.000 %	0.0000
10	10	20	[33,100]	[5,10]	[67,673]	0.023	0.011	-58.0	-58.0	100.000 %	0.0000
10	10	20	[33,100]	[5,10]	[134,673]	0.023	0.010	-107.3	-107.3	100.000 %	0.0000
10	10	20	[33,100]	[1,30]	[68,681]	0.023	0.011	-43.3	-43.3	100.000 %	0.0000
10	10	20	[33,100]	[1,30]	[136,681]	0.023	0.011	-114.2	-114.2	100.000 %	0.0000
10	10	20	[33,100]	[15,30]	[68,688]	0.027	0.010	-55.1	-32.8	95.061 %	0.1482
10	10	20	[33,100]	[15,30]	[136,688]	0.032	0.012	-127.2	-127.2	100.000 %	0.0000
10	10	20	[66,100]	[1,10]	[84,843]	0.021	0.011	-91.5	-91.5	100.000 %	0.0000
10	10	20	[66,100]	[1,10]	[168,843]	0.023	0.009	-107.7	-107.7	100.000 %	0.0000
10	10	20	[66,100]	[5,10]	[84,845]	0.039	0.034	-42.2	-42.2	100.000 %	0.0000
10	10	20	[66,100]	[5,10]	[168,845]	0.040	0.018	-130.3	-130.3	100.000 %	0.0000
10	10	20	[66,100]	[1,30]	[85,853]	0.024	0.009	-78.3	-78.3	100.000 %	0.0000
10	10	20	[66,100]	[1,30]	[170,853]	0.024	0.013	-144.8	-144.8	100.000 %	0.0000
10	10	20	[66,100]	[15,30]	[86,860]	0.023	0.010	-39.2	-39.2	100.000 %	0.0000
10	10	20	[66,100]	[15,30]	[172,860]	0.022	0.011	-130.0	-130.0	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.025 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 99.794 %

Tabla de Experimentos

$n : 20, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	20	[1,100]	[1,10]	[101,1015]	0.053	0.014	-114.3	-114.3	100.000 %	0.0000
10	20	20	[1,100]	[1,10]	[202,1015]	0.052	0.013	-192.5	-192.5	100.000 %	0.0000
10	20	20	[1,100]	[5,10]	[101,1017]	0.046	0.013	-75.7	-75.7	100.000 %	0.0000
10	20	20	[1,100]	[5,10]	[202,1017]	0.048	0.010	-196.4	-196.4	100.000 %	0.0000
10	20	20	[1,100]	[1,30]	[102,1025]	0.057	0.014	-68.0	-68.0	100.000 %	0.0000
10	20	20	[1,100]	[1,30]	[204,1025]	0.055	0.013	-189.9	-189.3	99.851 %	0.0045
10	20	20	[1,100]	[15,30]	[103,1032]	0.055	0.015	-82.9	-80.4	99.548 %	0.0136
10	20	20	[1,100]	[15,30]	[206,1032]	0.059	0.011	-170.9	-170.9	100.000 %	0.0000
10	20	20	[33,100]	[1,10]	[133,1338]	0.102	0.020	-117.2	-112.7	99.291 %	0.0213
10	20	20	[33,100]	[1,10]	[266,1338]	0.056	0.011	-273.9	-273.9	100.000 %	0.0000
10	20	20	[33,100]	[5,10]	[134,1340]	0.059	0.016	-100.8	-94.5	99.142 %	0.0172
10	20	20	[33,100]	[5,10]	[268,1340]	0.084	0.035	-274.3	-273.0	99.773 %	0.0068
10	20	20	[33,100]	[1,30]	[134,1348]	0.066	0.016	-117.5	-116.7	99.888 %	0.0034
10	20	20	[33,100]	[1,30]	[268,1348]	0.064	0.012	-241.2	-235.8	99.147 %	0.0179
10	20	20	[33,100]	[15,30]	[135,1355]	0.060	0.015	-88.6	-85.4	99.559 %	0.0092
10	20	20	[33,100]	[15,30]	[270,1355]	0.059	0.013	-232.7	-232.7	100.000 %	0.0000
10	20	20	[66,100]	[1,10]	[168,1681]	0.055	0.011	-183.1	-182.0	99.863 %	0.0041
10	20	20	[66,100]	[1,10]	[336,1681]	0.055	0.013	-316.0	-316.0	100.000 %	0.0000
10	20	20	[66,100]	[5,10]	[168,1683]	0.047	0.013	-179.6	-179.6	100.000 %	0.0000
10	20	20	[66,100]	[5,10]	[336,1683]	0.044	0.014	-301.1	-300.8	99.947 %	0.0016
10	20	20	[66,100]	[1,30]	[169,1691]	0.069	0.013	-126.2	-126.2	100.000 %	0.0000
10	20	20	[66,100]	[1,30]	[338,1691]	0.096	0.029	-332.0	-332.0	100.000 %	0.0000
10	20	20	[66,100]	[15,30]	[169,1698]	0.064	0.017	-155.7	-155.7	100.000 %	0.0000
10	20	20	[66,100]	[15,30]	[338,1698]	0.058	0.013	-293.7	-293.7	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.061 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 99.834 %

Tabla de Experimentos

$n : 30, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	20	[1,100]	[1,10]	[152,1520]	0.087	0.014	-128.8	-128.1	99.904 %	0.0029
10	30	20	[1,100]	[1,10]	[304,1520]	0.102	0.017	-292.0	-289.5	99.547 %	0.0076
10	30	20	[1,100]	[5,10]	[152,1522]	0.093	0.019	-127.7	-126.0	99.747 %	0.0076
10	30	20	[1,100]	[5,10]	[304,1522]	0.102	0.015	-294.3	-292.0	99.663 %	0.0072
10	30	20	[1,100]	[1,30]	[153,1530]	0.107	0.021	-150.5	-148.8	99.750 %	0.0075
10	30	20	[1,100]	[1,30]	[306,1530]	0.100	0.017	-286.0	-286.0	100.000 %	0.0000
10	30	20	[1,100]	[15,30]	[153,1537]	0.122	0.016	-133.1	-132.8	99.958 %	0.0008
10	30	20	[1,100]	[15,30]	[306,1537]	0.098	0.017	-269.7	-265.8	99.346 %	0.0095
10	30	20	[33,100]	[1,10]	[200,2004]	0.104	0.016	-195.9	-184.8	98.808 %	0.0172
10	30	20	[33,100]	[1,10]	[400,2004]	0.156	0.026	-390.3	-384.9	99.423 %	0.0122
10	30	20	[33,100]	[5,10]	[200,2006]	0.096	0.016	-287.1	-281.0	99.261 %	0.0150
10	30	20	[33,100]	[5,10]	[400,2006]	0.096	0.017	-373.0	-349.9	97.277 %	0.0176
10	30	20	[33,100]	[1,30]	[201,2014]	0.125	0.017	-202.2	-194.7	99.261 %	0.0109
10	30	20	[33,100]	[1,30]	[402,2014]	0.126	0.018	-370.3	-353.5	97.971 %	0.0215
10	30	20	[33,100]	[15,30]	[202,2022]	0.120	0.018	-175.0	-160.4	98.534 %	0.0188
10	30	20	[33,100]	[15,30]	[404,2022]	0.105	0.017	-367.7	-350.9	97.929 %	0.0172
10	30	20	[66,100]	[1,10]	[251,2519]	0.098	0.016	-219.6	-184.8	97.158 %	0.0241
10	30	20	[66,100]	[1,10]	[502,2519]	0.100	0.019	-453.2	-416.0	96.792 %	0.0271
10	30	20	[66,100]	[5,10]	[252,2521]	0.099	0.020	-205.4	-190.7	98.712 %	0.0230
10	30	20	[66,100]	[5,10]	[504,2521]	0.103	0.022	-472.7	-438.4	96.954 %	0.0308
10	30	20	[66,100]	[1,30]	[253,2530]	0.126	0.018	-211.8	-196.7	98.828 %	0.0179
10	30	20	[66,100]	[1,30]	[506,2530]	0.141	0.019	-481.1	-452.0	97.292 %	0.0217
10	30	20	[66,100]	[15,30]	[253,2537]	0.124	0.018	-215.1	-182.1	97.356 %	0.0199
10	30	20	[66,100]	[15,30]	[506,2537]	0.119	0.017	-472.8	-456.6	98.430 %	0.0235

Tiempo Promedio Total H_2: 0.110 seg.

Tiempo Promedio Total H_1: 0.018 seg.

Rendimiento Promedio Total: 98.662 %

Tabla de Experimentos

$n : 50, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	20	[1,100]	[1,10]	[253,2530]	0.212	0.026	-259.6	-247.2	98.905 %	0.0148
10	50	20	[1,100]	[1,10]	[506,2530]	0.206	0.027	-498.8	-480.0	98.069 %	0.0185
10	50	20	[1,100]	[5,10]	[253,2532]	0.223	0.026	-229.0	-211.1	98.594 %	0.0132
10	50	20	[1,100]	[5,10]	[506,2532]	0.228	0.032	-491.9	-468.0	97.670 %	0.0222
10	50	20	[1,100]	[1,30]	[254,2540]	0.222	0.025	-245.6	-234.3	99.032 %	0.0119
10	50	20	[1,100]	[1,30]	[508,2540]	0.234	0.027	-485.2	-470.4	98.564 %	0.0153
10	50	20	[1,100]	[15,30]	[254,2547]	0.218	0.026	-237.5	-223.3	98.764 %	0.0126
10	50	20	[1,100]	[15,30]	[508,2547]	0.216	0.028	-478.3	-456.8	98.028 %	0.0164
10	50	20	[33,100]	[1,10]	[333,3338]	0.236	0.024	-347.6	-298.6	96.929 %	0.0168
10	50	20	[33,100]	[1,10]	[666,3338]	0.236	0.025	-665.4	-633.4	97.816 %	0.0216
10	50	20	[33,100]	[5,10]	[334,3340]	0.248	0.026	-332.0	-305.4	98.321 %	0.0219
10	50	20	[33,100]	[5,10]	[668,3340]	0.209	0.029	-641.5	-586.5	96.252 %	0.0208
10	50	20	[33,100]	[1,30]	[334,3348]	0.302	0.036	-335.4	-295.3	97.338 %	0.0198
10	50	20	[33,100]	[1,30]	[668,3348]	0.304	0.027	-642.8	-604.8	97.297 %	0.0217
10	50	20	[33,100]	[15,30]	[335,3355]	0.258	0.027	-348.4	-286.3	96.153 %	0.0161
10	50	20	[33,100]	[15,30]	[670,3355]	0.245	0.030	-630.9	-583.0	96.632 %	0.0169
10	50	20	[66,100]	[1,10]	[419,4196]	0.248	0.026	-402.3	-342.8	97.069 %	0.0220
10	50	20	[66,100]	[1,10]	[838,4196]	0.228	0.028	-803.8	-729.4	95.734 %	0.0204
10	50	20	[66,100]	[5,10]	[419,4198]	0.207	0.024	-398.0	-333.3	96.796 %	0.0189
10	50	20	[66,100]	[5,10]	[838,4198]	0.202	0.025	-793.1	-744.3	97.342 %	0.0244
10	50	20	[66,100]	[1,30]	[420,4206]	0.310	0.025	-396.8	-342.9	97.162 %	0.0236
10	50	20	[66,100]	[1,30]	[840,4206]	0.297	0.025	-778.6	-693.8	95.235 %	0.0163
10	50	20	[66,100]	[15,30]	[421,4213]	0.251	0.026	-372.7	-270.6	95.023 %	0.0217
10	50	20	[66,100]	[15,30]	[842,4213]	0.261	0.025	-781.3	-684.4	94.732 %	0.0266

Tiempo Promedio Total H_2: 0.242 seg.

Tiempo Promedio Total H_1: 0.027 seg.

Rendimiento Promedio Total: 97.227 %

Tabla de Experimentos

$n : 100, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	20	[1,100]	[1,10]	[505,5055]	1.005	0.072	-490.2	-413.4	96.811 %	0.0130
10	100	20	[1,100]	[1,10]	[1010,5055]	0.917	0.066	-994.9	-920.0	96.548 %	0.0136
10	100	20	[1,100]	[5,10]	[505,5057]	0.950	0.071	-497.2	-429.6	97.181 %	0.0156
10	100	20	[1,100]	[5,10]	[1010,5057]	0.887	0.066	-989.9	-924.3	96.864 %	0.0164
10	100	20	[1,100]	[1,30]	[506,5065]	0.907	0.066	-478.2	-409.1	97.092 %	0.0161
10	100	20	[1,100]	[1,30]	[1012,5065]	1.045	0.072	-1007.3	-931.8	96.544 %	0.0144
10	100	20	[1,100]	[15,30]	[507,5072]	0.911	0.069	-496.1	-420.4	96.803 %	0.0151
10	100	20	[1,100]	[15,30]	[1014,5072]	0.897	0.067	-987.9	-935.7	97.590 %	0.0146
10	100	20	[33,100]	[1,10]	[667,6671]	1.017	0.068	-630.3	-477.3	95.331 %	0.0130
10	100	20	[33,100]	[1,10]	[1334,6671]	1.033	0.070	-1324.2	-1252.5	97.367 %	0.0112
10	100	20	[33,100]	[5,10]	[667,6673]	0.982	0.070	-682.8	-600.4	97.155 %	0.0192
10	100	20	[33,100]	[5,10]	[1334,6673]	0.988	0.069	-1301.5	-1154.8	94.645 %	0.0188
10	100	20	[33,100]	[1,30]	[668,6681]	1.269	0.066	-664.1	-508.2	95.074 %	0.0144
10	100	20	[33,100]	[1,30]	[1336,6681]	1.232	0.069	-1319.6	-1177.7	95.130 %	0.0187
10	100	20	[33,100]	[15,30]	[668,6688]	1.122	0.067	-634.9	-479.0	95.096 %	0.0159
10	100	20	[33,100]	[15,30]	[1336,6688]	1.106	0.069	-1291.0	-1174.8	95.932 %	0.0168
10	100	20	[66,100]	[1,10]	[838,8388]	0.969	0.067	-806.3	-589.9	94.631 %	0.0238
10	100	20	[66,100]	[1,10]	[1676,8388]	1.022	0.069	-1635.4	-1460.4	95.344 %	0.0218
10	100	20	[66,100]	[5,10]	[839,8390]	0.952	0.070	-870.6	-687.1	95.452 %	0.0164
10	100	20	[66,100]	[5,10]	[1678,8390]	0.947	0.069	-1647.2	-1436.0	94.203 %	0.0155
10	100	20	[66,100]	[1,30]	[839,8398]	1.286	0.065	-826.7	-620.6	95.030 %	0.0162
10	100	20	[66,100]	[1,30]	[1678,8398]	1.220	0.069	-1630.7	-1451.6	95.065 %	0.0236
10	100	20	[66,100]	[15,30]	[840,8405]	1.088	0.066	-828.6	-636.0	95.255 %	0.0153
10	100	20	[66,100]	[15,30]	[1680,8405]	1.062	0.066	-1650.1	-1443.2	94.230 %	0.0211

Tiempo Promedio Total H_2: 1.034 seg.

Tiempo Promedio Total H_1: 0.068 seg.

Rendimiento Promedio Total: 95.849 %

Tabla de Experimentos

$n : 200, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	20	[1,100]	[1,10]	[1010,10105]	5.953	0.220	-1030.1	-846.6	96.096 %	0.0141
10	200	20	[1,100]	[1,10]	[2020,10105]	5.702	0.215	-1999.4	-1795.2	95.102 %	0.0140
10	200	20	[1,100]	[5,10]	[1010,10107]	5.670	0.225	-992.9	-847.7	96.921 %	0.0142
10	200	20	[1,100]	[5,10]	[2020,10107]	5.764	0.220	-1991.2	-1782.0	95.098 %	0.0088
10	200	20	[1,100]	[1,30]	[1011,10115]	5.784	0.210	-995.3	-808.7	96.015 %	0.0131
10	200	20	[1,100]	[1,30]	[2022,10115]	5.819	0.225	-1989.3	-1793.6	95.490 %	0.0113
10	200	20	[1,100]	[15,30]	[1012,10122]	5.604	0.215	-1020.5	-837.0	96.129 %	0.0185
10	200	20	[1,100]	[15,30]	[2024,10122]	5.781	0.215	-2043.6	-1868.9	95.922 %	0.0140
10	200	20	[33,100]	[1,10]	[1333,13337]	6.460	0.217	-1349.4	-1037.4	95.184 %	0.0173
10	200	20	[33,100]	[1,10]	[2666,13337]	6.386	0.216	-2653.5	-2337.6	94.517 %	0.0122
10	200	20	[33,100]	[5,10]	[1333,13339]	6.437	0.219	-1375.7	-1063.0	95.110 %	0.0203
10	200	20	[33,100]	[5,10]	[2666,13339]	6.405	0.222	-2664.1	-2337.5	94.373 %	0.0157
10	200	20	[33,100]	[1,30]	[1334,13347]	6.951	0.211	-1313.7	-907.9	93.509 %	0.0129
10	200	20	[33,100]	[1,30]	[2668,13347]	7.125	0.213	-2669.6	-2339.4	94.051 %	0.0146
10	200	20	[33,100]	[15,30]	[1335,13354]	6.514	0.212	-1317.5	-988.2	94.687 %	0.0175
10	200	20	[33,100]	[15,30]	[2670,13354]	6.589	0.212	-2657.2	-2377.6	95.143 %	0.0181
10	200	20	[66,100]	[1,10]	[1677,16771]	6.210	0.215	-1656.2	-1167.8	93.970 %	0.0169
10	200	20	[66,100]	[1,10]	[3354,16771]	6.247	0.219	-3297.4	-2811.0	93.162 %	0.0193
10	200	20	[66,100]	[5,10]	[1677,16773]	5.989	0.224	-1663.3	-1295.1	95.359 %	0.0150
10	200	20	[66,100]	[5,10]	[3354,16773]	6.236	0.227	-3343.6	-2927.0	94.202 %	0.0192
10	200	20	[66,100]	[1,30]	[1678,16781]	7.134	0.215	-1648.6	-1166.1	94.038 %	0.0130
10	200	20	[66,100]	[1,30]	[3356,16781]	7.179	0.214	-3314.1	-2887.3	94.127 %	0.0177
10	200	20	[66,100]	[15,30]	[1678,16788]	6.464	0.214	-1663.3	-1203.0	94.376 %	0.0218
10	200	20	[66,100]	[15,30]	[3356,16788]	6.750	0.218	-3334.8	-2766.1	92.030 %	0.0129

Tiempo Promedio Total H_2: 6.298 seg.

Tiempo Promedio Total H_1: 0.217 seg.

Rendimiento Promedio Total: 94.775 %

Tabla de Experimentos

$n : 300, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	20	[1,100]	[1,10]	[1515,15155]	18.317	0.459	-1512.9	-1210.2	95.810 %	0.0087
10	300	20	[1,100]	[1,10]	[3030,15155]	18.164	0.456	-3010.7	-2699.5	95.151 %	0.0191
10	300	20	[1,100]	[5,10]	[1515,15157]	18.479	0.462	-1504.7	-1257.8	96.522 %	0.0122
10	300	20	[1,100]	[5,10]	[3030,15157]	18.129	0.468	-3028.4	-2690.7	94.761 %	0.0090
10	300	20	[1,100]	[1,30]	[1516,15165]	18.131	0.441	-1523.7	-1210.8	95.532 %	0.0059
10	300	20	[1,100]	[1,30]	[3032,15165]	18.233	0.444	-3004.9	-2700.7	95.182 %	0.0111
10	300	20	[1,100]	[15,30]	[1517,15172]	18.323	0.463	-1489.1	-1148.1	95.191 %	0.0103
10	300	20	[1,100]	[15,30]	[3034,15172]	17.965	0.446	-2991.6	-2701.2	95.465 %	0.0131
10	300	20	[33,100]	[1,10]	[2000,20003]	20.115	0.467	-1985.3	-1467.9	94.525 %	0.0092
10	300	20	[33,100]	[1,10]	[4000,20003]	19.947	0.452	-3974.8	-3436.1	93.812 %	0.0128
10	300	20	[33,100]	[5,10]	[2000,20005]	19.913	0.462	-2003.6	-1484.0	94.500 %	0.0108
10	300	20	[33,100]	[5,10]	[4000,20005]	19.783	0.469	-3971.5	-3409.4	93.475 %	0.0115
10	300	20	[33,100]	[1,30]	[2001,20013]	21.872	0.447	-1947.8	-1288.5	93.270 %	0.0094
10	300	20	[33,100]	[1,30]	[4002,20013]	21.716	0.446	-3975.5	-3397.2	93.327 %	0.0116
10	300	20	[33,100]	[15,30]	[2002,20020]	20.323	0.452	-2017.5	-1477.7	94.385 %	0.0110
10	300	20	[33,100]	[15,30]	[4004,20020]	20.304	0.457	-3989.7	-3442.2	93.645 %	0.0118
10	300	20	[66,100]	[1,10]	[2515,25154]	20.396	0.465	-2517.8	-1637.2	92.793 %	0.0096
10	300	20	[66,100]	[1,10]	[5030,25154]	19.608	0.456	-5058.3	-4325.1	93.243 %	0.0129
10	300	20	[66,100]	[5,10]	[2515,25156]	19.791	0.462	-2485.6	-1705.8	93.489 %	0.0093
10	300	20	[66,100]	[5,10]	[5030,25156]	19.651	0.463	-5008.7	-4258.2	93.245 %	0.0092
10	300	20	[66,100]	[1,30]	[2516,25164]	22.119	0.447	-2490.3	-1720.0	93.668 %	0.0116
10	300	20	[66,100]	[1,30]	[5032,25164]	22.073	0.445	-5001.2	-4205.9	92.663 %	0.0260
10	300	20	[66,100]	[15,30]	[2517,25171]	20.895	0.447	-2494.3	-1717.6	93.654 %	0.0095
10	300	20	[66,100]	[15,30]	[5034,25171]	21.012	0.447	-4982.0	-4144.7	92.424 %	0.0154

Tiempo Promedio Total H_2: 19.802 seg.

Tiempo Promedio Total H_1: 0.455 seg.

Rendimiento Promedio Total: 94.155 %

Tabla de Experimentos

$n : 500, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	20	[1,100]	[1,10]	[2525,25255]	84.909	1.191	-2534.6	-1925.0	94.929 %	0.0073
10	500	20	[1,100]	[1,10]	[5050,25255]	85.424	1.196	-5021.6	-4476.9	94.929 %	0.0097
10	500	20	[1,100]	[5,10]	[2525,25257]	85.993	1.221	-2498.3	-1955.2	95.370 %	0.0093
10	500	20	[1,100]	[5,10]	[5050,25257]	84.162	1.222	-5046.9	-4485.7	94.764 %	0.0073
10	500	20	[1,100]	[1,30]	[2526,25265]	85.375	1.172	-2519.7	-1975.3	95.444 %	0.0124
10	500	20	[1,100]	[1,30]	[5052,25265]	82.977	1.163	-5039.5	-4428.9	94.371 %	0.0092
10	500	20	[1,100]	[15,30]	[2527,25272]	85.717	1.178	-2499.8	-1897.1	94.930 %	0.0100
10	500	20	[1,100]	[15,30]	[5054,25272]	85.675	1.170	-4995.8	-4393.8	94.391 %	0.0099
10	500	20	[33,100]	[1,10]	[3333,33335]	94.570	1.197	-3359.6	-2391.3	93.980 %	0.0083
10	500	20	[33,100]	[1,10]	[6666,33335]	95.790	1.187	-6665.2	-5671.5	93.076 %	0.0103
10	500	20	[33,100]	[5,10]	[3333,33337]	94.078	1.223	-3350.4	-2416.2	94.143 %	0.0110
10	500	20	[33,100]	[5,10]	[6666,33337]	93.447	1.221	-6651.0	-5695.0	93.270 %	0.0117
10	500	20	[33,100]	[1,30]	[3334,33345]	97.807	1.166	-3299.3	-2335.0	93.980 %	0.0054
10	500	20	[33,100]	[1,30]	[6668,33345]	99.221	1.172	-6652.6	-5647.9	93.029 %	0.0086
10	500	20	[33,100]	[15,30]	[3335,33352]	95.933	1.207	-3309.4	-2285.7	93.678 %	0.0084
10	500	20	[33,100]	[15,30]	[6670,33352]	95.642	1.188	-6652.6	-5544.8	92.378 %	0.0103
10	500	20	[66,100]	[1,10]	[4192,41920]	94.889	1.190	-4196.7	-2857.1	93.377 %	0.0095
10	500	20	[66,100]	[1,10]	[8384,41920]	95.300	1.193	-8367.7	-6884.2	91.940 %	0.0116
10	500	20	[66,100]	[5,10]	[4192,41922]	94.089	1.213	-4170.8	-2882.1	93.633 %	0.0118
10	500	20	[66,100]	[5,10]	[8384,41922]	94.722	1.219	-8382.9	-7056.5	92.648 %	0.0127
10	500	20	[66,100]	[1,30]	[4193,41930]	101.734	1.164	-4166.3	-2674.9	92.679 %	0.0115
10	500	20	[66,100]	[1,30]	[8386,41930]	102.635	1.165	-8361.2	-6819.3	91.527 %	0.0065
10	500	20	[66,100]	[15,30]	[4193,41937]	97.386	1.177	-4144.8	-2735.4	93.010 %	0.0133
10	500	20	[66,100]	[15,30]	[8386,41937]	97.727	1.183	-8370.9	-6965.6	92.306 %	0.0094

Tiempo Promedio Total H_2: 92.717 seg.

Tiempo Promedio Total H_1: 1.191 seg.

Rendimiento Promedio Total: 93.658 %

Tabla de Experimentos

$n : 750, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	20	[1,100]	[1,10]	[3788,37880]	298.393	2.606	-3759.5	-2805.9	94.778 %	0.0071
10	750	20	[1,100]	[1,10]	[7576,37880]	294.971	2.630	-7556.5	-6539.5	93.717 %	0.0075
10	750	20	[1,100]	[5,10]	[3788,37882]	294.398	2.700	-3787.6	-2844.5	94.799 %	0.0038
10	750	20	[1,100]	[5,10]	[7576,37882]	298.049	2.688	-7556.3	-6691.6	94.551 %	0.0072
10	750	20	[1,100]	[1,30]	[3789,37890]	296.348	2.548	-3778.3	-2808.6	94.638 %	0.0053
10	750	20	[1,100]	[1,30]	[7578,37890]	296.179	2.537	-7583.9	-6597.8	93.889 %	0.0078
10	750	20	[1,100]	[15,30]	[3789,37897]	300.420	2.566	-3776.2	-2844.8	94.858 %	0.0100
10	750	20	[1,100]	[15,30]	[7578,37897]	298.264	2.555	-7537.6	-6592.9	94.179 %	0.0092
10	750	20	[33,100]	[1,10]	[5000,50000]	329.216	2.591	-4974.9	-3446.8	93.640 %	0.0063
10	750	20	[33,100]	[1,10]	[10000,50000]	327.514	2.594	-9981.0	-8596.8	93.573 %	0.0127
10	750	20	[33,100]	[5,10]	[5000,50002]	325.107	2.711	-4999.9	-3593.3	94.035 %	0.0100
10	750	20	[33,100]	[5,10]	[10000,50002]	325.735	2.670	-9975.3	-8510.0	93.141 %	0.0063
10	750	20	[33,100]	[1,30]	[5001,50010]	338.592	2.581	-5004.1	-3290.5	92.983 %	0.0067
10	750	20	[33,100]	[1,30]	[10002,50010]	337.508	2.542	-9967.8	-8279.2	92.232 %	0.0090
10	750	20	[33,100]	[15,30]	[5001,50017]	326.825	2.575	-4978.7	-3270.5	92.942 %	0.0061
10	750	20	[33,100]	[15,30]	[10002,50017]	331.335	2.575	-9955.4	-8250.4	92.148 %	0.0067
10	750	20	[66,100]	[1,10]	[6287,62877]	336.168	2.596	-6256.4	-3854.6	92.151 %	0.0056
10	750	20	[66,100]	[1,10]	[12574,62877]	337.184	2.604	-12565.5	-10249.5	91.470 %	0.0106
10	750	20	[66,100]	[5,10]	[6287,62879]	331.157	2.653	-6280.6	-4121.2	92.914 %	0.0088
10	750	20	[66,100]	[5,10]	[12574,62879]	334.966	2.684	-12553.3	-10439.0	92.228 %	0.0061
10	750	20	[66,100]	[1,30]	[6288,62887]	351.758	2.534	-6308.9	-3897.6	92.203 %	0.0102
10	750	20	[66,100]	[1,30]	[12576,62887]	348.954	2.540	-12519.9	-10111.1	91.225 %	0.0060
10	750	20	[66,100]	[15,30]	[6289,62894]	339.677	2.568	-6247.5	-3826.6	92.142 %	0.0083
10	750	20	[66,100]	[15,30]	[12578,62894]	338.271	2.589	-12523.6	-10252.2	91.694 %	0.0057

Tiempo Promedio Total H_2: 322.375 seg.

Tiempo Promedio Total H_1: 2.602 seg.

Rendimiento Promedio Total: 93.172 %

Tabla de Experimentos

$n : 1000, m : 20, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	20	[1,100]	[1,10]	[5050,50505]	722.035	4.703	-5060.6	-3828.1	94.807 %	0.0054
10	1000	20	[1,100]	[1,10]	[10100,50505]	722.439	4.664	-10077.7	-8852.7	94.288 %	0.0074
10	1000	20	[1,100]	[5,10]	[5050,50507]	730.919	4.735	-5079.1	-3928.5	95.171 %	0.0078
10	1000	20	[1,100]	[5,10]	[10100,50507]	730.732	4.861	-10103.9	-8774.5	93.857 %	0.0043
10	1000	20	[1,100]	[1,30]	[5051,50515]	729.559	4.503	-5040.6	-3633.5	94.187 %	0.0042
10	1000	20	[1,100]	[1,30]	[10102,50515]	721.755	4.517	-10092.5	-8811.2	94.030 %	0.0120
10	1000	20	[1,100]	[15,30]	[5052,50522]	717.631	4.525	-5024.9	-3685.8	94.450 %	0.0072
10	1000	20	[1,100]	[15,30]	[10104,50522]	733.669	4.579	-10074.1	-8759.8	93.926 %	0.0090
10	1000	20	[33,100]	[1,10]	[6666,66665]	811.223	4.662	-6661.3	-4530.3	93.370 %	0.0070
10	1000	20	[33,100]	[1,10]	[13332,66665]	799.605	4.601	-13323.0	-11289.6	92.901 %	0.0110
10	1000	20	[33,100]	[5,10]	[6666,66667]	792.361	4.702	-6637.8	-4591.0	93.646 %	0.0078
10	1000	20	[33,100]	[5,10]	[13332,66667]	800.782	4.708	-13315.9	-11249.9	92.903 %	0.0080
10	1000	20	[33,100]	[1,30]	[6667,66675]	828.989	4.526	-6643.4	-4464.9	93.220 %	0.0092
10	1000	20	[33,100]	[1,30]	[13334,66675]	827.734	4.590	-13304.0	-10991.0	92.037 %	0.0081
10	1000	20	[33,100]	[15,30]	[6668,66682]	815.261	4.572	-6636.1	-4492.9	93.377 %	0.0044
10	1000	20	[33,100]	[15,30]	[13336,66682]	807.052	4.617	-13333.1	-11085.5	92.183 %	0.0034
10	1000	20	[66,100]	[1,10]	[8383,83835]	822.794	4.626	-8405.6	-5167.1	92.107 %	0.0021
10	1000	20	[66,100]	[1,10]	[16766,83835]	818.554	4.667	-16766.6	-13782.5	91.868 %	0.0084
10	1000	20	[66,100]	[5,10]	[8383,83837]	824.052	4.858	-8401.7	-5408.3	92.725 %	0.0055
10	1000	20	[66,100]	[5,10]	[16766,83837]	817.049	4.749	-16811.5	-13971.8	92.203 %	0.0068
10	1000	20	[66,100]	[1,30]	[8384,83845]	855.054	4.551	-8334.6	-5099.6	92.078 %	0.0070
10	1000	20	[66,100]	[1,30]	[16768,83845]	851.603	4.534	-16761.5	-13359.8	90.800 %	0.0052
10	1000	20	[66,100]	[15,30]	[8385,83852]	839.325	4.553	-8358.9	-5280.8	92.449 %	0.0081
10	1000	20	[66,100]	[15,30]	[16770,83852]	839.836	4.637	-16737.0	-13641.7	91.613 %	0.0088

Tiempo Promedio Total H_2: 790.001 seg.

Tiempo Promedio Total H_1: 4.635 seg.

Rendimiento Promedio Total: 93.092 %

Tabla de Experimentos

$n : 10, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	50	[1,100]	[1,10]	[51,510]	0.029	0.010	-37.0	-37.0	100.000 %	0.0000
10	10	50	[1,100]	[1,10]	[102,510]	0.027	0.012	-108.4	-108.4	100.000 %	0.0000
10	10	50	[1,100]	[5,10]	[51,512]	0.022	0.013	-52.1	-52.1	100.000 %	0.0000
10	10	50	[1,100]	[5,10]	[102,512]	0.023	0.006	-93.6	-93.6	100.000 %	0.0000
10	10	50	[1,100]	[1,30]	[52,520]	0.033	0.022	-44.3	-44.3	100.000 %	0.0000
10	10	50	[1,100]	[1,30]	[104,520]	0.028	0.010	-80.4	-80.4	100.000 %	0.0000
10	10	50	[1,100]	[15,30]	[52,527]	0.034	0.015	-26.6	-26.6	100.000 %	0.0000
10	10	50	[1,100]	[15,30]	[104,527]	0.037	0.015	-87.4	-87.4	100.000 %	0.0000
10	10	50	[33,100]	[1,10]	[67,671]	0.042	0.016	-75.9	-70.3	98.401 %	0.0480
10	10	50	[33,100]	[1,10]	[134,671]	0.027	0.012	-127.3	-127.3	100.000 %	0.0000
10	10	50	[33,100]	[5,10]	[67,673]	0.028	0.013	-43.2	-43.2	100.000 %	0.0000
10	10	50	[33,100]	[5,10]	[134,673]	0.025	0.010	-130.7	-130.7	100.000 %	0.0000
10	10	50	[33,100]	[1,30]	[68,681]	0.045	0.017	-49.7	-49.7	100.000 %	0.0000
10	10	50	[33,100]	[1,30]	[136,681]	0.047	0.014	-130.0	-130.0	100.000 %	0.0000
10	10	50	[33,100]	[15,30]	[68,688]	0.032	0.011	-28.3	-28.3	100.000 %	0.0000
10	10	50	[33,100]	[15,30]	[136,688]	0.036	0.017	-108.1	-108.1	100.000 %	0.0000
10	10	50	[66,100]	[1,10]	[84,843]	0.030	0.015	-65.1	-60.3	98.930 %	0.0321
10	10	50	[66,100]	[1,10]	[168,843]	0.027	0.017	-127.1	-127.1	100.000 %	0.0000
10	10	50	[66,100]	[5,10]	[84,845]	0.035	0.023	-80.5	-80.5	100.000 %	0.0000
10	10	50	[66,100]	[5,10]	[168,845]	0.028	0.012	-122.3	-122.3	100.000 %	0.0000
10	10	50	[66,100]	[1,30]	[85,853]	0.029	0.012	-76.9	-76.9	100.000 %	0.0000
10	10	50	[66,100]	[1,30]	[170,853]	0.028	0.010	-116.5	-116.5	100.000 %	0.0000
10	10	50	[66,100]	[15,30]	[86,860]	0.043	0.027	-17.1	-17.1	100.000 %	0.0000
10	10	50	[66,100]	[15,30]	[172,860]	0.034	0.014	-144.9	-144.9	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.032 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 99.889 %

Tabla de Experimentos

$n : 20, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	50	[1,100]	[1,10]	[101,1015]	0.057	0.014	-87.8	-87.8	100.000 %	0.0000
10	20	50	[1,100]	[1,10]	[202,1015]	0.056	0.013	-226.4	-226.4	100.000 %	0.0000
10	20	50	[1,100]	[5,10]	[101,1017]	0.049	0.018	-75.7	-75.7	100.000 %	0.0000
10	20	50	[1,100]	[5,10]	[202,1017]	0.057	0.020	-190.4	-190.4	100.000 %	0.0000
10	20	50	[1,100]	[1,30]	[102,1025]	0.067	0.017	-94.3	-94.3	100.000 %	0.0000
10	20	50	[1,100]	[1,30]	[204,1025]	0.059	0.014	-184.8	-184.8	100.000 %	0.0000
10	20	50	[1,100]	[15,30]	[103,1032]	0.055	0.016	-90.5	-90.5	100.000 %	0.0000
10	20	50	[1,100]	[15,30]	[206,1032]	0.059	0.019	-178.2	-178.2	100.000 %	0.0000
10	20	50	[33,100]	[1,10]	[133,1338]	0.063	0.016	-114.0	-114.0	100.000 %	0.0000
10	20	50	[33,100]	[1,10]	[266,1338]	0.058	0.018	-241.0	-241.0	100.000 %	0.0000
10	20	50	[33,100]	[5,10]	[134,1340]	0.051	0.018	-119.1	-119.1	100.000 %	0.0000
10	20	50	[33,100]	[5,10]	[268,1340]	0.075	0.024	-285.0	-285.0	100.000 %	0.0000
10	20	50	[33,100]	[1,30]	[134,1348]	0.087	0.019	-103.3	-103.3	100.000 %	0.0000
10	20	50	[33,100]	[1,30]	[268,1348]	0.075	0.013	-240.5	-240.5	100.000 %	0.0000
10	20	50	[33,100]	[15,30]	[135,1355]	0.066	0.017	-152.8	-152.8	100.000 %	0.0000
10	20	50	[33,100]	[15,30]	[270,1355]	0.065	0.017	-221.1	-221.1	100.000 %	0.0000
10	20	50	[66,100]	[1,10]	[168,1681]	0.055	0.016	-175.1	-175.1	100.000 %	0.0000
10	20	50	[66,100]	[1,10]	[336,1681]	0.061	0.017	-307.5	-307.5	100.000 %	0.0000
10	20	50	[66,100]	[5,10]	[168,1683]	0.061	0.017	-130.8	-130.8	100.000 %	0.0000
10	20	50	[66,100]	[5,10]	[336,1683]	0.052	0.013	-322.6	-322.6	100.000 %	0.0000
10	20	50	[66,100]	[1,30]	[169,1691]	0.070	0.017	-135.1	-135.1	100.000 %	0.0000
10	20	50	[66,100]	[1,30]	[338,1691]	0.075	0.019	-324.7	-324.7	100.000 %	0.0000
10	20	50	[66,100]	[15,30]	[169,1698]	0.060	0.014	-142.8	-142.8	100.000 %	0.0000
10	20	50	[66,100]	[15,30]	[338,1698]	0.061	0.018	-267.0	-267.0	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.062 seg.

Tiempo Promedio Total H_1: 0.017 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 30, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	50	[1,100]	[1,10]	[152,1520]	0.096	0.022	-134.2	-134.2	100.000 %	0.0000
10	30	50	[1,100]	[1,10]	[304,1520]	0.095	0.021	-301.5	-301.5	100.000 %	0.0000
10	30	50	[1,100]	[5,10]	[152,1522]	0.094	0.021	-168.9	-168.9	100.000 %	0.0000
10	30	50	[1,100]	[5,10]	[304,1522]	0.089	0.023	-296.0	-296.0	100.000 %	0.0000
10	30	50	[1,100]	[1,30]	[153,1530]	0.103	0.023	-128.2	-128.2	100.000 %	0.0000
10	30	50	[1,100]	[1,30]	[306,1530]	0.162	0.025	-282.6	-282.6	100.000 %	0.0000
10	30	50	[1,100]	[15,30]	[153,1537]	0.103	0.025	-153.6	-153.6	100.000 %	0.0000
10	30	50	[1,100]	[15,30]	[306,1537]	0.110	0.021	-296.5	-296.5	100.000 %	0.0000
10	30	50	[33,100]	[1,10]	[200,2004]	0.105	0.022	-188.9	-188.9	100.000 %	0.0000
10	30	50	[33,100]	[1,10]	[400,2004]	0.105	0.020	-420.2	-420.2	100.000 %	0.0000
10	30	50	[33,100]	[5,10]	[200,2006]	0.099	0.021	-205.6	-205.6	100.000 %	0.0000
10	30	50	[33,100]	[5,10]	[400,2006]	0.093	0.020	-387.8	-387.8	100.000 %	0.0000
10	30	50	[33,100]	[1,30]	[201,2014]	0.138	0.021	-177.6	-177.6	100.000 %	0.0000
10	30	50	[33,100]	[1,30]	[402,2014]	0.140	0.022	-387.9	-387.9	100.000 %	0.0000
10	30	50	[33,100]	[15,30]	[202,2022]	0.120	0.020	-153.3	-153.3	100.000 %	0.0000
10	30	50	[33,100]	[15,30]	[404,2022]	0.117	0.021	-386.4	-386.4	100.000 %	0.0000
10	30	50	[66,100]	[1,10]	[251,2519]	0.097	0.020	-248.8	-248.8	100.000 %	0.0000
10	30	50	[66,100]	[1,10]	[502,2519]	0.092	0.022	-483.8	-483.8	100.000 %	0.0000
10	30	50	[66,100]	[5,10]	[252,2521]	0.083	0.023	-272.3	-272.3	100.000 %	0.0000
10	30	50	[66,100]	[5,10]	[504,2521]	0.086	0.021	-458.9	-458.9	100.000 %	0.0000
10	30	50	[66,100]	[1,30]	[253,2530]	0.157	0.020	-262.3	-262.3	100.000 %	0.0000
10	30	50	[66,100]	[1,30]	[506,2530]	0.133	0.021	-495.5	-495.5	100.000 %	0.0000
10	30	50	[66,100]	[15,30]	[253,2537]	0.115	0.021	-225.9	-225.9	100.000 %	0.0000
10	30	50	[66,100]	[15,30]	[506,2537]	0.117	0.021	-472.0	-472.0	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.110 seg.

Tiempo Promedio Total H_1: 0.022 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 50, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	50	[1,100]	[1,10]	[253,2530]	0.260	0.038	-254.8	-254.8	100.000 %	0.0000
10	50	50	[1,100]	[1,10]	[506,2530]	0.255	0.031	-519.3	-519.3	100.000 %	0.0000
10	50	50	[1,100]	[5,10]	[253,2532]	0.266	0.038	-259.1	-259.1	100.000 %	0.0000
10	50	50	[1,100]	[5,10]	[506,2532]	0.223	0.034	-507.9	-507.9	100.000 %	0.0000
10	50	50	[1,100]	[1,30]	[254,2540]	0.254	0.034	-221.6	-221.6	100.000 %	0.0000
10	50	50	[1,100]	[1,30]	[508,2540]	0.247	0.032	-485.9	-485.9	100.000 %	0.0000
10	50	50	[1,100]	[15,30]	[254,2547]	0.239	0.033	-243.7	-243.7	100.000 %	0.0000
10	50	50	[1,100]	[15,30]	[508,2547]	0.251	0.033	-488.3	-488.3	100.000 %	0.0000
10	50	50	[33,100]	[1,10]	[333,3338]	0.265	0.033	-321.7	-321.7	100.000 %	0.0000
10	50	50	[33,100]	[1,10]	[666,3338]	0.255	0.035	-655.8	-655.8	100.000 %	0.0000
10	50	50	[33,100]	[5,10]	[334,3340]	0.238	0.035	-312.2	-312.2	100.000 %	0.0000
10	50	50	[33,100]	[5,10]	[668,3340]	0.224	0.038	-645.1	-645.1	100.000 %	0.0000
10	50	50	[33,100]	[1,30]	[334,3348]	0.389	0.032	-372.5	-372.5	100.000 %	0.0000
10	50	50	[33,100]	[1,30]	[668,3348]	0.369	0.033	-630.2	-629.6	99.956 %	0.0013
10	50	50	[33,100]	[15,30]	[335,3355]	0.299	0.032	-309.0	-309.0	100.000 %	0.0000
10	50	50	[33,100]	[15,30]	[670,3355]	0.291	0.033	-667.9	-665.3	99.794 %	0.0041
10	50	50	[66,100]	[1,10]	[419,4196]	0.241	0.032	-446.5	-446.2	99.986 %	0.0004
10	50	50	[66,100]	[1,10]	[838,4196]	0.213	0.037	-807.0	-805.2	99.906 %	0.0028
10	50	50	[66,100]	[5,10]	[419,4198]	0.178	0.033	-438.5	-438.5	100.000 %	0.0000
10	50	50	[66,100]	[5,10]	[838,4198]	0.177	0.036	-808.8	-808.8	100.000 %	0.0000
10	50	50	[66,100]	[1,30]	[420,4206]	0.323	0.034	-394.0	-393.8	99.990 %	0.0003
10	50	50	[66,100]	[1,30]	[840,4206]	0.362	0.033	-803.6	-803.6	100.000 %	0.0000
10	50	50	[66,100]	[15,30]	[421,4213]	0.253	0.035	-431.8	-431.8	100.000 %	0.0000
10	50	50	[66,100]	[15,30]	[842,4213]	0.248	0.035	-780.9	-779.6	99.934 %	0.0020

Tiempo Promedio Total H_2: 0.263 seg.

Tiempo Promedio Total H_1: 0.034 seg.

Rendimiento Promedio Total: 99.982 %

Tabla de Experimentos

$n : 100, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	50	[1,100]	[1,10]	[505,5055]	0.877	0.087	-491.8	-485.7	99.715 %	0.0048
10	100	50	[1,100]	[1,10]	[1010,5055]	0.867	0.083	-1002.8	-988.7	99.293 %	0.0053
10	100	50	[1,100]	[5,10]	[505,5057]	0.861	0.083	-496.6	-489.9	99.709 %	0.0038
10	100	50	[1,100]	[5,10]	[1010,5057]	0.871	0.081	-1009.4	-1001.6	99.612 %	0.0053
10	100	50	[1,100]	[1,30]	[506,5065]	0.791	0.082	-477.0	-471.9	99.784 %	0.0033
10	100	50	[1,100]	[1,30]	[1012,5065]	0.881	0.081	-1034.1	-1026.4	99.609 %	0.0048
10	100	50	[1,100]	[15,30]	[507,5072]	0.824	0.083	-471.9	-463.7	99.652 %	0.0031
10	100	50	[1,100]	[15,30]	[1014,5072]	0.916	0.085	-1010.2	-1002.2	99.585 %	0.0049
10	100	50	[33,100]	[1,10]	[667,6671]	1.092	0.088	-667.5	-649.1	99.396 %	0.0076
10	100	50	[33,100]	[1,10]	[1334,6671]	1.089	0.087	-1317.3	-1298.0	99.270 %	0.0091
10	100	50	[33,100]	[5,10]	[667,6673]	0.987	0.083	-656.8	-622.2	98.895 %	0.0079
10	100	50	[33,100]	[5,10]	[1334,6673]	1.049	0.082	-1334.3	-1304.3	98.949 %	0.0082
10	100	50	[33,100]	[1,30]	[668,6681]	1.357	0.084	-645.7	-620.2	99.143 %	0.0070
10	100	50	[33,100]	[1,30]	[1336,6681]	1.347	0.077	-1312.9	-1285.2	98.987 %	0.0076
10	100	50	[33,100]	[15,30]	[668,6688]	1.152	0.082	-648.6	-622.6	99.165 %	0.0074
10	100	50	[33,100]	[15,30]	[1336,6688]	1.153	0.079	-1294.3	-1261.6	98.784 %	0.0088
10	100	50	[66,100]	[1,10]	[838,8388]	0.923	0.081	-828.8	-782.6	98.728 %	0.0087
10	100	50	[66,100]	[1,10]	[1676,8388]	0.896	0.080	-1663.3	-1603.6	98.263 %	0.0068
10	100	50	[66,100]	[5,10]	[839,8390]	0.792	0.082	-821.6	-781.2	98.947 %	0.0071
10	100	50	[66,100]	[5,10]	[1678,8390]	0.863	0.084	-1660.0	-1644.8	99.539 %	0.0076
10	100	50	[66,100]	[1,30]	[839,8398]	1.279	0.079	-821.7	-764.8	98.537 %	0.0050
10	100	50	[66,100]	[1,30]	[1678,8398]	1.361	0.083	-1644.5	-1602.4	98.785 %	0.0078
10	100	50	[66,100]	[15,30]	[840,8405]	1.070	0.081	-826.1	-779.0	98.759 %	0.0078
10	100	50	[66,100]	[15,30]	[1680,8405]	1.044	0.081	-1615.5	-1572.2	98.743 %	0.0091

Tiempo Promedio Total H_2: 1.014 seg.

Tiempo Promedio Total H_1: 0.082 seg.

Rendimiento Promedio Total: 99.160 %

Tabla de Experimentos

$n : 200, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	50	[1,100]	[1,10]	[1010,10105]	4.633	0.260	-1000.2	-955.5	99.015 %	0.0052
10	200	50	[1,100]	[1,10]	[2020,10105]	4.352	0.237	-2033.7	-1982.2	98.769 %	0.0064
10	200	50	[1,100]	[5,10]	[1010,10107]	4.470	0.238	-1018.2	-978.0	99.119 %	0.0070
10	200	50	[1,100]	[5,10]	[2020,10107]	4.426	0.245	-2009.8	-1959.6	98.757 %	0.0077
10	200	50	[1,100]	[1,30]	[1011,10115]	3.966	0.238	-1037.5	-990.9	98.980 %	0.0058
10	200	50	[1,100]	[1,30]	[2022,10115]	4.138	0.243	-2007.0	-1958.0	98.797 %	0.0040
10	200	50	[1,100]	[15,30]	[1012,10122]	4.276	0.237	-1019.0	-990.2	99.384 %	0.0057
10	200	50	[1,100]	[15,30]	[2024,10122]	4.431	0.233	-1993.1	-1938.8	98.682 %	0.0053
10	200	50	[33,100]	[1,10]	[1333,13337]	5.569	0.239	-1342.9	-1260.8	98.677 %	0.0093
10	200	50	[33,100]	[1,10]	[2666,13337]	5.813	0.245	-2622.9	-2507.1	97.865 %	0.0095
10	200	50	[33,100]	[5,10]	[1333,13339]	5.287	0.242	-1313.1	-1223.5	98.541 %	0.0094
10	200	50	[33,100]	[5,10]	[2666,13339]	5.484	0.241	-2633.5	-2531.1	98.096 %	0.0093
10	200	50	[33,100]	[1,30]	[1334,13347]	6.425	0.237	-1342.8	-1279.5	98.959 %	0.0063
10	200	50	[33,100]	[1,30]	[2668,13347]	6.418	0.234	-2651.2	-2552.7	98.199 %	0.0086
10	200	50	[33,100]	[15,30]	[1335,13354]	5.796	0.237	-1316.9	-1207.6	98.220 %	0.0077
10	200	50	[33,100]	[15,30]	[2670,13354]	5.737	0.235	-2618.3	-2514.6	98.097 %	0.0072
10	200	50	[66,100]	[1,10]	[1677,16771]	5.045	0.237	-1640.1	-1488.0	98.029 %	0.0060
10	200	50	[66,100]	[1,10]	[3354,16771]	5.172	0.238	-3354.6	-3206.5	97.854 %	0.0116
10	200	50	[66,100]	[5,10]	[1677,16773]	4.709	0.246	-1643.6	-1507.8	98.238 %	0.0071
10	200	50	[66,100]	[5,10]	[3354,16773]	4.763	0.240	-3335.8	-3169.6	97.559 %	0.0064
10	200	50	[66,100]	[1,30]	[1678,16781]	6.223	0.235	-1668.3	-1551.5	98.500 %	0.0113
10	200	50	[66,100]	[1,30]	[3356,16781]	6.456	0.238	-3322.9	-3179.6	97.909 %	0.0082
10	200	50	[66,100]	[15,30]	[1678,16788]	5.405	0.238	-1615.2	-1479.1	98.298 %	0.0075
10	200	50	[66,100]	[15,30]	[3356,16788]	5.317	0.236	-3301.2	-3143.0	97.730 %	0.0084

Tiempo Promedio Total H_2: 5.180 seg.

Tiempo Promedio Total H_1: 0.240 seg.

Rendimiento Promedio Total: 98.428 %

Tabla de Experimentos

$n : 300, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	50	[1,100]	[1,10]	[1515,15155]	14.615	0.477	-1503.9	-1401.7	98.499 %	0.0047
10	300	50	[1,100]	[1,10]	[3030,15155]	13.547	0.473	-3005.3	-2923.3	98.688 %	0.0090
10	300	50	[1,100]	[5,10]	[1515,15157]	13.487	0.480	-1518.3	-1419.6	98.592 %	0.0048
10	300	50	[1,100]	[5,10]	[3030,15157]	13.549	0.475	-3039.5	-2969.3	98.844 %	0.0082
10	300	50	[1,100]	[1,30]	[1516,15165]	12.361	0.454	-1527.8	-1454.7	98.954 %	0.0072
10	300	50	[1,100]	[1,30]	[3032,15165]	12.200	0.459	-3009.4	-2942.6	98.918 %	0.0046
10	300	50	[1,100]	[15,30]	[1517,15172]	12.875	0.457	-1489.6	-1426.0	99.079 %	0.0061
10	300	50	[1,100]	[15,30]	[3034,15172]	13.156	0.483	-3019.3	-2924.1	98.465 %	0.0047
10	300	50	[33,100]	[1,10]	[2000,20003]	16.846	0.467	-1973.6	-1857.0	98.704 %	0.0062
10	300	50	[33,100]	[1,10]	[4000,20003]	16.671	0.464	-3979.3	-3812.0	97.951 %	0.0042
10	300	50	[33,100]	[5,10]	[2000,20005]	15.779	0.487	-1984.1	-1823.8	98.272 %	0.0076
10	300	50	[33,100]	[5,10]	[4000,20005]	16.423	0.475	-3991.7	-3836.7	98.101 %	0.0078
10	300	50	[33,100]	[1,30]	[2001,20013]	18.237	0.462	-1988.2	-1775.6	97.678 %	0.0045
10	300	50	[33,100]	[1,30]	[4002,20013]	18.213	0.451	-3972.9	-3806.1	97.979 %	0.0087
10	300	50	[33,100]	[15,30]	[2002,20020]	17.253	0.461	-1984.0	-1829.3	98.323 %	0.0060
10	300	50	[33,100]	[15,30]	[4004,20020]	17.353	0.461	-3952.0	-3800.5	98.153 %	0.0065
10	300	50	[66,100]	[1,10]	[2515,25154]	15.857	0.468	-2478.4	-2222.2	97.804 %	0.0074
10	300	50	[66,100]	[1,10]	[5030,25154]	15.449	0.475	-5044.1	-4810.2	97.694 %	0.0058
10	300	50	[66,100]	[5,10]	[2515,25156]	14.876	0.478	-2526.2	-2352.4	98.484 %	0.0073
10	300	50	[66,100]	[5,10]	[5030,25156]	14.983	0.485	-5060.4	-4841.2	97.870 %	0.0091
10	300	50	[66,100]	[1,30]	[2516,25164]	18.950	0.455	-2560.0	-2329.5	98.047 %	0.0108
10	300	50	[66,100]	[1,30]	[5032,25164]	18.810	0.462	-4978.4	-4693.6	97.277 %	0.0041
10	300	50	[66,100]	[15,30]	[2517,25171]	16.511	0.456	-2531.5	-2299.6	98.032 %	0.0085
10	300	50	[66,100]	[15,30]	[5034,25171]	16.677	0.460	-5020.3	-4738.5	97.345 %	0.0084

Tiempo Promedio Total H_2: 15.612 seg.

Tiempo Promedio Total H_1: 0.468 seg.

Rendimiento Promedio Total: 98.240 %

Tabla de Experimentos

$n : 500, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	50	[1,100]	[1,10]	[2525,25255]	59.481	1.242	-2548.4	-2321.2	98.011 %	0.0031
10	500	50	[1,100]	[1,10]	[5050,25255]	60.329	1.323	-5047.7	-4842.3	98.011 %	0.0058
10	500	50	[1,100]	[5,10]	[2525,25257]	60.788	1.282	-2530.5	-2360.6	98.535 %	0.0056
10	500	50	[1,100]	[5,10]	[5050,25257]	61.268	1.291	-5071.0	-4905.9	98.384 %	0.0067
10	500	50	[1,100]	[1,30]	[2526,25265]	56.166	1.206	-2513.9	-2343.3	98.541 %	0.0056
10	500	50	[1,100]	[1,30]	[5052,25265]	56.124	1.206	-5024.4	-4867.3	98.472 %	0.0072
10	500	50	[1,100]	[15,30]	[2527,25272]	58.001	1.227	-2525.2	-2291.5	97.986 %	0.0037
10	500	50	[1,100]	[15,30]	[5054,25272]	58.783	1.241	-5029.8	-4844.5	98.222 %	0.0073
10	500	50	[33,100]	[1,10]	[3333,33335]	74.177	1.238	-3324.4	-2984.0	97.776 %	0.0039
10	500	50	[33,100]	[1,10]	[6666,33335]	74.230	1.238	-6652.3	-6322.3	97.611 %	0.0066
10	500	50	[33,100]	[5,10]	[3333,33337]	72.552	1.274	-3349.2	-3061.5	98.113 %	0.0074
10	500	50	[33,100]	[5,10]	[6666,33337]	73.038	1.286	-6624.0	-6297.2	97.579 %	0.0055
10	500	50	[33,100]	[1,30]	[3334,33345]	78.466	1.217	-3286.8	-2927.2	97.690 %	0.0047
10	500	50	[33,100]	[1,30]	[6668,33345]	78.057	1.208	-6656.7	-6316.9	97.490 %	0.0044
10	500	50	[33,100]	[15,30]	[3335,33352]	75.688	1.235	-3331.9	-3024.7	97.982 %	0.0063
10	500	50	[33,100]	[15,30]	[6670,33352]	75.103	1.230	-6675.1	-6335.2	97.496 %	0.0092
10	500	50	[66,100]	[1,10]	[4192,41920]	72.678	1.251	-4180.8	-3669.0	97.386 %	0.0060
10	500	50	[66,100]	[1,10]	[8384,41920]	72.561	1.255	-8333.8	-7823.0	97.027 %	0.0060
10	500	50	[66,100]	[5,10]	[4192,41922]	70.556	1.271	-4160.7	-3730.4	97.802 %	0.0067
10	500	50	[66,100]	[5,10]	[8384,41922]	71.411	1.269	-8393.0	-7907.9	97.188 %	0.0058
10	500	50	[66,100]	[1,30]	[4193,41930]	82.303	1.218	-4132.4	-3593.8	97.238 %	0.0050
10	500	50	[66,100]	[1,30]	[8386,41930]	81.716	1.214	-8369.7	-7821.2	96.841 %	0.0056
10	500	50	[66,100]	[15,30]	[4193,41937]	75.223	1.220	-4124.4	-3656.1	97.580 %	0.0068
10	500	50	[66,100]	[15,30]	[8386,41937]	75.125	1.226	-8361.7	-7860.9	97.114 %	0.0072

Tiempo Promedio Total H_2: 69.743 seg.

Tiempo Promedio Total H_1: 1.245 seg.

Rendimiento Promedio Total: 97.753 %

Tabla de Experimentos

$n : 750, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	50	[1,100]	[1,10]	[3788,37880]	205.950	2.667	-3799.7	-3514.8	98.386 %	0.0059
10	750	50	[1,100]	[1,10]	[7576,37880]	202.269	2.679	-7590.1	-7303.0	98.151 %	0.0080
10	750	50	[1,100]	[5,10]	[3788,37882]	205.514	2.756	-3796.8	-3517.3	98.389 %	0.0043
10	750	50	[1,100]	[5,10]	[7576,37882]	205.562	2.748	-7569.3	-7322.7	98.390 %	0.0056
10	750	50	[1,100]	[1,30]	[3789,37890]	196.369	2.595	-3765.2	-3458.7	98.251 %	0.0064
10	750	50	[1,100]	[1,30]	[7578,37890]	195.275	2.601	-7577.0	-7244.5	97.859 %	0.0040
10	750	50	[1,100]	[15,30]	[3789,37897]	204.690	2.619	-3753.0	-3443.2	98.222 %	0.0036
10	750	50	[1,100]	[15,30]	[7578,37897]	200.127	2.635	-7589.6	-7261.2	97.905 %	0.0066
10	750	50	[33,100]	[1,10]	[5000,50000]	256.898	2.659	-4976.3	-4433.9	97.647 %	0.0066
10	750	50	[33,100]	[1,10]	[10000,50000]	255.947	2.686	-9963.5	-9409.2	97.288 %	0.0048
10	750	50	[33,100]	[5,10]	[5000,50002]	254.708	2.764	-5007.8	-4482.1	97.729 %	0.0043
10	750	50	[33,100]	[5,10]	[10000,50002]	253.101	2.755	-9979.9	-9520.7	97.758 %	0.0068
10	750	50	[33,100]	[1,30]	[5001,50010]	266.483	2.616	-4981.6	-4443.0	97.687 %	0.0051
10	750	50	[33,100]	[1,30]	[10002,50010]	268.209	2.607	-9980.8	-9414.9	97.214 %	0.0049
10	750	50	[33,100]	[15,30]	[5001,50017]	262.686	2.656	-5010.1	-4458.3	97.616 %	0.0057
10	750	50	[33,100]	[15,30]	[10002,50017]	260.624	2.639	-9968.4	-9411.4	97.314 %	0.0041
10	750	50	[66,100]	[1,10]	[6287,62877]	256.395	2.671	-6254.1	-5528.6	97.509 %	0.0047
10	750	50	[66,100]	[1,10]	[12574,62877]	257.047	2.679	-12537.9	-11691.9	96.740 %	0.0039
10	750	50	[66,100]	[5,10]	[6287,62879]	252.085	2.744	-6276.7	-5541.6	97.471 %	0.0042
10	750	50	[66,100]	[5,10]	[12574,62879]	251.329	2.745	-12584.4	-11862.0	97.215 %	0.0070
10	750	50	[66,100]	[1,30]	[6288,62887]	288.805	2.638	-6263.2	-5468.4	97.279 %	0.0074
10	750	50	[66,100]	[1,30]	[12576,62887]	282.490	2.609	-12515.9	-11783.4	97.183 %	0.0071
10	750	50	[66,100]	[15,30]	[6289,62894]	266.867	2.611	-6245.7	-5438.8	97.235 %	0.0037
10	750	50	[66,100]	[15,30]	[12578,62894]	265.925	2.623	-12560.0	-11804.0	97.117 %	0.0063

Tiempo Promedio Total H_2: 242.307 seg.

Tiempo Promedio Total H_1: 2.667 seg.

Rendimiento Promedio Total: 97.648 %

Tabla de Experimentos

$n : 1000, m : 50, p_{max} : 100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	50	[1,100]	[1,10]	[5050,50505]	496.804	4.743	-5048.8	-4612.8	98.098 %	0.0042
10	1000	50	[1,100]	[1,10]	[10100,50505]	507.328	4.712	-10121.4	-9751.4	98.194 %	0.0049
10	1000	50	[1,100]	[5,10]	[5050,50507]	512.845	4.850	-5029.9	-4638.5	98.311 %	0.0032
10	1000	50	[1,100]	[5,10]	[10100,50507]	513.898	4.858	-10070.2	-9620.2	97.815 %	0.0048
10	1000	50	[1,100]	[1,30]	[5051,50515]	486.927	4.585	-5054.3	-4661.7	98.303 %	0.0030
10	1000	50	[1,100]	[1,30]	[10102,50515]	492.945	4.608	-10089.1	-9650.2	97.888 %	0.0055
10	1000	50	[1,100]	[15,30]	[5052,50522]	497.102	4.637	-5027.0	-4600.6	98.168 %	0.0017
10	1000	50	[1,100]	[15,30]	[10104,50522]	500.047	4.636	-10065.3	-9610.0	97.802 %	0.0061
10	1000	50	[33,100]	[1,10]	[6666,66665]	635.453	4.732	-6697.0	-6021.9	97.802 %	0.0058
10	1000	50	[33,100]	[1,10]	[13332,66665]	624.842	4.745	-13319.7	-12474.0	96.913 %	0.0027
10	1000	50	[33,100]	[5,10]	[6666,66667]	626.288	4.836	-6644.4	-5881.7	97.523 %	0.0036
10	1000	50	[33,100]	[5,10]	[13332,66667]	620.778	4.930	-13296.2	-12546.0	97.280 %	0.0040
10	1000	50	[33,100]	[1,30]	[6667,66675]	645.307	4.602	-6632.9	-5800.6	97.285 %	0.0040
10	1000	50	[33,100]	[1,30]	[13334,66675]	641.254	4.609	-13310.5	-12518.6	97.127 %	0.0064
10	1000	50	[33,100]	[15,30]	[6668,66682]	630.869	4.675	-6664.9	-5881.3	97.455 %	0.0036
10	1000	50	[33,100]	[15,30]	[13336,66682]	630.201	4.659	-13315.7	-12458.3	96.893 %	0.0043
10	1000	50	[66,100]	[1,10]	[8383,83835]	650.208	4.747	-8389.0	-7300.6	97.205 %	0.0045
10	1000	50	[66,100]	[1,10]	[16766,83835]	646.204	4.750	-16742.8	-15683.3	96.935 %	0.0052
10	1000	50	[66,100]	[5,10]	[8383,83837]	633.475	4.907	-8344.7	-7381.5	97.506 %	0.0037
10	1000	50	[66,100]	[5,10]	[16766,83837]	639.197	4.868	-16774.6	-15712.4	96.914 %	0.0055
10	1000	50	[66,100]	[1,30]	[8384,83845]	690.481	4.662	-8344.6	-7267.4	97.225 %	0.0051
10	1000	50	[66,100]	[1,30]	[16768,83845]	697.417	4.641	-16739.2	-15538.0	96.506 %	0.0048
10	1000	50	[66,100]	[15,30]	[8385,83852]	655.042	4.638	-8360.4	-7198.0	97.013 %	0.0044
10	1000	50	[66,100]	[15,30]	[16770,83852]	660.377	4.741	-16739.5	-15479.1	96.413 %	0.0024

Tiempo Promedio Total H_2: 597.304 seg.

Tiempo Promedio Total H_1: 4.724 seg.

Rendimiento Promedio Total: 97.441 %

Tabla de Experimentos

$n : 10, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	2	[100,120]	[1,10]	[111,1116]	0.021	0.010	-94.5	185.0	66.039 %	0.0804
10	10	2	[100,120]	[1,10]	[222,1116]	0.021	0.008	-170.7	101.7	64.663 %	0.0762
10	10	2	[100,120]	[5,10]	[111,1118]	0.017	0.005	-17.1	181.0	75.162 %	0.1152
10	10	2	[100,120]	[5,10]	[222,1118]	0.015	0.008	-157.4	105.9	67.105 %	0.0945
10	10	2	[100,120]	[1,30]	[112,1126]	0.023	0.007	-50.5	231.3	66.334 %	0.0457
10	10	2	[100,120]	[1,30]	[224,1126]	0.019	0.009	-117.3	161.6	63.981 %	0.0680
10	10	2	[100,120]	[15,30]	[113,1133]	0.019	0.011	-62.1	238.0	66.156 %	0.0721
10	10	2	[100,120]	[15,30]	[226,1133]	0.018	0.006	-167.5	97.2	66.529 %	0.0703
10	10	2	[106,120]	[1,10]	[114,1146]	0.021	0.010	-48.7	215.8	68.208 %	0.0979
10	10	2	[106,120]	[1,10]	[228,1146]	0.018	0.007	-175.8	91.7	66.765 %	0.0681
10	10	2	[106,120]	[5,10]	[114,1148]	0.014	0.009	-76.3	146.7	71.876 %	0.0928
10	10	2	[106,120]	[5,10]	[228,1148]	0.015	0.008	-165.1	112.6	64.211 %	0.0598
10	10	2	[106,120]	[1,30]	[115,1156]	0.021	0.007	-32.8	272.2	65.351 %	0.0604
10	10	2	[106,120]	[1,30]	[230,1156]	0.019	0.007	-161.3	157.1	61.312 %	0.0719
10	10	2	[106,120]	[15,30]	[116,1163]	0.025	0.011	-70.4	189.9	70.049 %	0.1305
10	10	2	[106,120]	[15,30]	[232,1163]	0.024	0.007	-194.4	115.3	64.171 %	0.0693
10	10	2	[112,120]	[1,10]	[117,1176]	0.018	0.008	-50.7	268.2	66.369 %	0.0770
10	10	2	[112,120]	[1,10]	[234,1176]	0.021	0.006	-229.0	37.6	66.153 %	0.1007
10	10	2	[112,120]	[5,10]	[117,1178]	0.020	0.006	-139.3	149.5	63.968 %	0.1079
10	10	2	[112,120]	[5,10]	[234,1178]	0.020	0.012	-176.9	146.9	61.553 %	0.0545
10	10	2	[112,120]	[1,30]	[118,1186]	0.017	0.008	-55.8	208.5	70.015 %	0.1009
10	10	2	[112,120]	[1,30]	[236,1186]	0.019	0.008	-181.7	170.7	60.107 %	0.0609
10	10	2	[112,120]	[15,30]	[119,1193]	0.018	0.007	-70.6	297.2	61.380 %	0.0767
10	10	2	[112,120]	[15,30]	[238,1193]	0.018	0.009	-226.8	38.4	65.422 %	0.0328

Tiempo Promedio Total H_2: 0.019 seg.

Tiempo Promedio Total H_1: 0.008 seg.

Rendimiento Promedio Total: 65.953 %

Tabla de Experimentos

$n : 20, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	2	[100,120]	[1,10]	[222,2227]	0.034	0.011	-223.4	479.8	60.129 %	0.0688
10	20	2	[100,120]	[1,10]	[444,2227]	0.033	0.011	-336.0	357.8	58.570 %	0.0791
10	20	2	[100,120]	[5,10]	[222,2229]	0.033	0.010	-212.7	479.9	62.076 %	0.1366
10	20	2	[100,120]	[5,10]	[444,2229]	0.035	0.011	-372.8	286.1	59.236 %	0.0465
10	20	2	[100,120]	[1,30]	[223,2237]	0.043	0.008	-213.3	444.4	62.490 %	0.0599
10	20	2	[100,120]	[1,30]	[446,2237]	0.046	0.010	-365.3	258.6	61.397 %	0.0622
10	20	2	[100,120]	[15,30]	[224,2244]	0.038	0.010	-199.5	455.7	60.953 %	0.0492
10	20	2	[100,120]	[15,30]	[448,2244]	0.053	0.016	-447.1	253.9	56.808 %	0.0501
10	20	2	[106,120]	[1,10]	[228,2287]	0.035	0.009	-179.8	499.3	64.160 %	0.1016
10	20	2	[106,120]	[1,10]	[456,2287]	0.034	0.010	-425.9	263.2	59.579 %	0.0419
10	20	2	[106,120]	[5,10]	[228,2289]	0.048	0.018	-216.7	397.3	62.948 %	0.0804
10	20	2	[106,120]	[5,10]	[456,2289]	0.034	0.010	-379.2	226.4	61.529 %	0.0617
10	20	2	[106,120]	[1,30]	[229,2297]	0.046	0.012	-165.0	514.2	62.674 %	0.0848
10	20	2	[106,120]	[1,30]	[458,2297]	0.045	0.009	-410.8	275.0	60.216 %	0.0960
10	20	2	[106,120]	[15,30]	[230,2304]	0.059	0.013	-214.6	356.2	66.587 %	0.1185
10	20	2	[106,120]	[15,30]	[460,2304]	0.040	0.010	-374.6	302.5	60.238 %	0.0667
10	20	2	[112,120]	[1,10]	[234,2348]	0.036	0.010	-199.2	543.8	59.099 %	0.0550
10	20	2	[112,120]	[1,10]	[468,2348]	0.038	0.013	-401.8	278.9	60.609 %	0.0830
10	20	2	[112,120]	[5,10]	[235,2350]	0.033	0.011	-197.1	555.6	59.390 %	0.0654
10	20	2	[112,120]	[5,10]	[470,2350]	0.035	0.010	-446.4	227.5	59.875 %	0.0617
10	20	2	[112,120]	[1,30]	[235,2358]	0.043	0.007	-167.0	642.8	57.743 %	0.0577
10	20	2	[112,120]	[1,30]	[470,2358]	0.062	0.018	-435.7	342.3	56.799 %	0.0471
10	20	2	[112,120]	[15,30]	[236,2365]	0.035	0.010	-234.8	499.6	60.473 %	0.0262
10	20	2	[112,120]	[15,30]	[472,2365]	0.037	0.009	-405.3	229.6	61.879 %	0.1113

Tiempo Promedio Total H_2: 0.041 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 60.644 %

Tabla de Experimentos

$n : 30, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	2	[100,120]	[1,10]	[333,3338]	0.064	0.010	-345.7	735.6	58.334 %	0.0678
10	30	2	[100,120]	[1,10]	[666,3338]	0.066	0.011	-616.1	548.7	54.963 %	0.0607
10	30	2	[100,120]	[5,10]	[334,3340]	0.057	0.014	-273.7	808.0	59.256 %	0.0628
10	30	2	[100,120]	[5,10]	[668,3340]	0.059	0.012	-620.5	429.4	57.244 %	0.0404
10	30	2	[100,120]	[1,30]	[334,3348]	0.073	0.016	-242.5	914.0	57.512 %	0.0591
10	30	2	[100,120]	[1,30]	[668,3348]	0.078	0.012	-668.6	424.3	57.322 %	0.0502
10	30	2	[100,120]	[15,30]	[335,3355]	0.073	0.014	-241.2	942.5	57.597 %	0.0303
10	30	2	[100,120]	[15,30]	[670,3355]	0.105	0.019	-597.8	609.4	53.856 %	0.0321
10	30	2	[106,120]	[1,10]	[342,3428]	0.075	0.022	-308.5	777.6	60.855 %	0.0701
10	30	2	[106,120]	[1,10]	[684,3428]	0.064	0.013	-641.3	468.0	56.853 %	0.0402
10	30	2	[106,120]	[5,10]	[343,3430]	0.088	0.018	-303.2	628.5	63.241 %	0.0764
10	30	2	[106,120]	[5,10]	[686,3430]	0.056	0.016	-623.2	417.6	57.800 %	0.0529
10	30	2	[106,120]	[1,30]	[343,3439]	0.081	0.014	-329.1	698.9	60.633 %	0.0638
10	30	2	[106,120]	[1,30]	[686,3439]	0.080	0.013	-693.1	504.8	54.285 %	0.0352
10	30	2	[106,120]	[15,30]	[344,3446]	0.070	0.015	-310.4	827.5	59.426 %	0.0392
10	30	2	[106,120]	[15,30]	[688,3446]	0.069	0.014	-586.9	641.9	55.482 %	0.0381
10	30	2	[112,120]	[1,10]	[351,3519]	0.064	0.013	-343.4	795.0	59.175 %	0.0932
10	30	2	[112,120]	[1,10]	[702,3519]	0.065	0.016	-683.7	502.0	54.324 %	0.0406
10	30	2	[112,120]	[5,10]	[352,3521]	0.061	0.020	-317.9	764.9	60.110 %	0.0484
10	30	2	[112,120]	[5,10]	[704,3521]	0.058	0.014	-642.2	477.0	55.648 %	0.0547
10	30	2	[112,120]	[1,30]	[352,3529]	0.082	0.013	-284.2	816.0	60.711 %	0.0512
10	30	2	[112,120]	[1,30]	[704,3529]	0.077	0.015	-617.2	494.8	58.185 %	0.0639
10	30	2	[112,120]	[15,30]	[353,3537]	0.068	0.013	-317.8	936.6	56.850 %	0.0502
10	30	2	[112,120]	[15,30]	[706,3537]	0.068	0.015	-626.1	623.5	55.350 %	0.0585

Tiempo Promedio Total H_2: 0.071 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 57.709 %

Tabla de Experimentos

$n : 50, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	2	[100,120]	[1,10]	[556,5560]	0.175	0.023	-485.7	1458.0	56.777 %	0.0398
10	50	2	[100,120]	[1,10]	[1112,5560]	0.181	0.023	-1072.6	972.9	53.790 %	0.0263
10	50	2	[100,120]	[5,10]	[556,5562]	0.176	0.026	-530.4	1581.5	54.077 %	0.0229
10	50	2	[100,120]	[5,10]	[1112,5562]	0.184	0.026	-1046.6	946.8	52.761 %	0.0202
10	50	2	[100,120]	[1,30]	[557,5570]	0.227	0.026	-477.1	1585.0	55.548 %	0.0318
10	50	2	[100,120]	[1,30]	[1114,5570]	0.219	0.023	-1084.5	1268.0	49.647 %	0.0369
10	50	2	[100,120]	[15,30]	[557,5577]	0.199	0.023	-491.2	1454.5	57.819 %	0.0930
10	50	2	[100,120]	[15,30]	[1114,5577]	0.191	0.022	-1073.2	962.4	51.884 %	0.0352
10	50	2	[106,120]	[1,10]	[571,5711]	0.172	0.024	-531.0	1532.2	56.112 %	0.0332
10	50	2	[106,120]	[1,10]	[1142,5711]	0.175	0.023	-1090.4	972.4	53.069 %	0.0392
10	50	2	[106,120]	[5,10]	[571,5713]	0.166	0.023	-518.4	1327.6	59.175 %	0.0384
10	50	2	[106,120]	[5,10]	[1142,5713]	0.164	0.023	-1119.1	1074.7	51.058 %	0.0277
10	50	2	[106,120]	[1,30]	[572,5721]	0.212	0.023	-478.2	1755.7	54.368 %	0.0388
10	50	2	[106,120]	[1,30]	[1144,5721]	0.221	0.021	-1099.8	1009.5	52.587 %	0.0388
10	50	2	[106,120]	[15,30]	[572,5728]	0.187	0.023	-478.8	1515.7	56.779 %	0.0335
10	50	2	[106,120]	[15,30]	[1144,5728]	0.194	0.025	-1084.7	1074.3	52.089 %	0.0329
10	50	2	[112,120]	[1,10]	[586,5863]	0.174	0.022	-526.5	1505.8	56.447 %	0.0301
10	50	2	[112,120]	[1,10]	[1172,5863]	0.182	0.023	-1134.4	1004.0	52.648 %	0.0467
10	50	2	[112,120]	[5,10]	[586,5865]	0.159	0.023	-564.1	1374.3	58.011 %	0.0556
10	50	2	[112,120]	[5,10]	[1172,5865]	0.163	0.027	-1057.9	1144.5	52.136 %	0.0227
10	50	2	[112,120]	[1,30]	[587,5873]	0.214	0.021	-538.4	1689.4	54.782 %	0.0474
10	50	2	[112,120]	[1,30]	[1174,5873]	0.218	0.021	-1135.9	974.6	53.646 %	0.0371
10	50	2	[112,120]	[15,30]	[588,5880]	0.191	0.022	-568.9	1635.1	54.627 %	0.0260
10	50	2	[112,120]	[15,30]	[1176,5880]	0.186	0.024	-1089.0	1146.8	52.025 %	0.0389

Tiempo Promedio Total H_2: 0.189 seg.

Tiempo Promedio Total H_1: 0.023 seg.

Rendimiento Promedio Total: 54.244 %

Tabla de Experimentos

$n : 100, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	2	[100,120]	[1,10]	[1111,11115]	1.095	0.068	-1077.3	3208.6	54.324 %	0.0251
10	100	2	[100,120]	[1,10]	[2222,11115]	1.029	0.061	-2235.7	2206.2	49.839 %	0.0222
10	100	2	[100,120]	[5,10]	[1111,11117]	0.989	0.067	-1009.8	2962.0	56.322 %	0.0246
10	100	2	[100,120]	[5,10]	[2222,11117]	1.051	0.084	-2144.6	1968.1	51.999 %	0.0231
10	100	2	[100,120]	[1,30]	[1112,11125]	1.192	0.063	-1037.7	3328.9	54.053 %	0.0224
10	100	2	[100,120]	[1,30]	[2224,11125]	1.246	0.063	-2140.1	2182.8	51.530 %	0.0458
10	100	2	[100,120]	[15,30]	[1113,11132]	1.131	0.069	-1053.3	3320.7	53.790 %	0.0255
10	100	2	[100,120]	[15,30]	[2226,11132]	1.048	0.059	-2137.7	2288.5	51.054 %	0.0456
10	100	2	[106,120]	[1,10]	[1141,11418]	1.002	0.060	-1091.5	3318.7	53.650 %	0.0219
10	100	2	[106,120]	[1,10]	[2282,11418]	0.981	0.062	-2257.7	1858.5	53.589 %	0.0305
10	100	2	[106,120]	[5,10]	[1142,11420]	0.953	0.062	-1075.8	3299.3	53.849 %	0.0205
10	100	2	[106,120]	[5,10]	[2284,11420]	0.948	0.061	-2214.2	2236.9	50.801 %	0.0275
10	100	2	[106,120]	[1,30]	[1142,11428]	1.187	0.058	-1079.6	3509.2	53.156 %	0.0207
10	100	2	[106,120]	[1,30]	[2284,11428]	1.172	0.060	-2192.5	2518.2	49.181 %	0.0251
10	100	2	[106,120]	[15,30]	[1143,11435]	1.055	0.066	-1176.7	3567.5	52.224 %	0.0213
10	100	2	[106,120]	[15,30]	[2286,11435]	1.033	0.060	-2178.0	2693.7	48.540 %	0.0110
10	100	2	[112,120]	[1,10]	[1172,11721]	0.986	0.059	-1132.3	3497.3	53.024 %	0.0346
10	100	2	[112,120]	[1,10]	[2344,11721]	1.007	0.062	-2313.8	2364.3	50.475 %	0.0183
10	100	2	[112,120]	[5,10]	[1172,11723]	0.954	0.062	-1086.8	3567.5	53.204 %	0.0203
10	100	2	[112,120]	[5,10]	[2344,11723]	0.952	0.065	-2250.1	2183.3	51.860 %	0.0286
10	100	2	[112,120]	[1,30]	[1173,11731]	1.179	0.063	-1084.6	3651.6	52.309 %	0.0281
10	100	2	[112,120]	[1,30]	[2346,11731]	1.149	0.061	-2294.1	2516.7	49.771 %	0.0191
10	100	2	[112,120]	[15,30]	[1173,11738]	1.054	0.063	-1168.3	3453.8	53.358 %	0.0276
10	100	2	[112,120]	[15,30]	[2346,11738]	1.039	0.061	-2275.6	2291.4	51.701 %	0.0248

Tiempo Promedio Total H_2: 1.060 seg.

Tiempo Promedio Total H_1: 0.063 seg.

Rendimiento Promedio Total: 52.233 %

Tabla de Experimentos

$n : 200, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	2	[100,120]	[1,10]	[2222,22225]	7.155	0.209	-2165.5	6780.7	52.836 %	0.0261
10	200	2	[100,120]	[1,10]	[4444,22225]	7.088	0.205	-4390.6	4479.7	49.799 %	0.0150
10	200	2	[100,120]	[5,10]	[2222,22227]	7.035	0.208	-2127.7	6353.9	54.617 %	0.0238
10	200	2	[100,120]	[5,10]	[4444,22227]	6.913	0.205	-4355.0	4060.8	51.710 %	0.0247
10	200	2	[100,120]	[1,30]	[2223,22235]	7.677	0.201	-2165.1	7462.4	51.759 %	0.0202
10	200	2	[100,120]	[1,30]	[4446,22235]	7.841	0.198	-4395.9	5237.6	48.396 %	0.0134
10	200	2	[100,120]	[15,30]	[2224,22242]	7.210	0.196	-2180.8	6923.2	52.406 %	0.0226
10	200	2	[100,120]	[15,30]	[4448,22242]	7.296	0.203	-4354.0	5387.2	48.353 %	0.0168
10	200	2	[106,120]	[1,10]	[2283,22831]	7.113	0.210	-2303.2	6835.1	52.834 %	0.0189
10	200	2	[106,120]	[1,10]	[4566,22831]	7.087	0.205	-4527.4	5103.6	48.687 %	0.0143
10	200	2	[106,120]	[5,10]	[2283,22833]	6.956	0.206	-2313.6	6521.1	54.305 %	0.0218
10	200	2	[106,120]	[5,10]	[4566,22833]	6.886	0.211	-4535.0	4431.5	50.748 %	0.0164
10	200	2	[106,120]	[1,30]	[2284,22841]	7.714	0.198	-2252.1	7232.6	51.856 %	0.0231
10	200	2	[106,120]	[1,30]	[4568,22841]	7.653	0.199	-4498.6	5417.1	48.003 %	0.0247
10	200	2	[106,120]	[15,30]	[2284,22848]	7.320	0.209	-2248.3	7280.2	52.429 %	0.0103
10	200	2	[106,120]	[15,30]	[4568,22848]	7.271	0.199	-4492.3	5265.4	47.899 %	0.0114
10	200	2	[112,120]	[1,10]	[2343,23437]	7.089	0.207	-2293.7	7310.4	52.496 %	0.0229
10	200	2	[112,120]	[1,10]	[4686,23437]	7.001	0.201	-4641.2	4964.0	50.289 %	0.0213
10	200	2	[112,120]	[5,10]	[2343,23439]	6.916	0.208	-2257.8	6671.5	54.253 %	0.0222
10	200	2	[112,120]	[5,10]	[4686,23439]	6.863	0.215	-4606.5	4616.5	49.977 %	0.0128
10	200	2	[112,120]	[1,30]	[2344,23447]	7.722	0.201	-2313.2	7835.7	51.292 %	0.0190
10	200	2	[112,120]	[1,30]	[4688,23447]	7.735	0.195	-4580.7	5660.2	47.996 %	0.0238
10	200	2	[112,120]	[15,30]	[2345,23454]	7.304	0.203	-2290.1	7413.0	51.241 %	0.0204
10	200	2	[112,120]	[15,30]	[4690,23454]	7.241	0.201	-4593.6	5444.5	48.151 %	0.0118

Tiempo Promedio Total H_2: 7.254 seg.

Tiempo Promedio Total H_1: 0.204 seg.

Rendimiento Promedio Total: 50.931 %

Tabla de Experimentos

$n : 300, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	2	[100,120]	[1,10]	[3333,33335]	23.480	0.445	-3275.5	10652.8	51.885 %	0.0092
10	300	2	[100,120]	[1,10]	[6666,33335]	23.437	0.430	-6604.8	7454.2	48.954 %	0.0122
10	300	2	[100,120]	[5,10]	[3333,33337]	23.247	0.444	-3273.8	9812.2	53.308 %	0.0082
10	300	2	[100,120]	[5,10]	[6666,33337]	23.273	0.450	-6617.2	6426.6	50.454 %	0.0144
10	300	2	[100,120]	[1,30]	[3334,33345]	25.037	0.422	-3293.6	11099.7	50.925 %	0.0251
10	300	2	[100,120]	[1,30]	[6668,33345]	25.198	0.421	-6664.3	8026.6	47.614 %	0.0169
10	300	2	[100,120]	[15,30]	[3335,33352]	23.932	0.431	-3287.6	10977.4	51.191 %	0.0139
10	300	2	[100,120]	[15,30]	[6670,33352]	23.984	0.427	-6594.6	8391.7	47.293 %	0.0186
10	300	2	[106,120]	[1,10]	[3424,34244]	23.307	0.429	-3439.2	10781.1	52.104 %	0.0200
10	300	2	[106,120]	[1,10]	[6848,34244]	23.756	0.436	-6761.2	7425.1	49.239 %	0.0198
10	300	2	[106,120]	[5,10]	[3424,34246]	23.141	0.450	-3374.8	9950.4	53.554 %	0.0173
10	300	2	[106,120]	[5,10]	[6848,34246]	23.245	0.445	-6853.6	6673.6	50.027 %	0.0106
10	300	2	[106,120]	[1,30]	[3425,34254]	24.937	0.426	-3384.3	11586.0	50.670 %	0.0143
10	300	2	[106,120]	[1,30]	[6850,34254]	25.018	0.426	-6823.5	8619.7	47.399 %	0.0103
10	300	2	[106,120]	[15,30]	[3426,34261]	23.801	0.427	-3339.2	11124.8	52.096 %	0.0275
10	300	2	[106,120]	[15,30]	[6852,34261]	24.239	0.426	-6741.5	8071.5	48.182 %	0.0198
10	300	2	[112,120]	[1,10]	[3515,35153]	23.706	0.451	-3486.5	11409.4	51.799 %	0.0131
10	300	2	[112,120]	[1,10]	[7030,35153]	23.401	0.433	-7024.7	7952.6	48.093 %	0.0135
10	300	2	[112,120]	[5,10]	[3515,35155]	23.145	0.442	-3447.5	10054.7	54.424 %	0.0153
10	300	2	[112,120]	[5,10]	[7030,35155]	23.084	0.440	-6981.3	7092.8	49.788 %	0.0169
10	300	2	[112,120]	[1,30]	[3516,35163]	25.069	0.423	-3511.3	12202.9	50.192 %	0.0147
10	300	2	[112,120]	[1,30]	[7032,35163]	24.942	0.424	-6965.5	8557.5	47.713 %	0.0160
10	300	2	[112,120]	[15,30]	[3517,35170]	24.102	0.429	-3438.0	11646.7	51.464 %	0.0159
10	300	2	[112,120]	[15,30]	[7034,35170]	23.904	0.431	-6997.2	7910.2	48.241 %	0.0149

Tiempo Promedio Total H_2: 23.933 seg.

Tiempo Promedio Total H_1: 0.434 seg.

Rendimiento Promedio Total: 50.275 %

Tabla de Experimentos

$n : 500, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	2	[100,120]	[1,10]	[5555,55555]	107.823	1.149	-5561.5	17710.0	51.910 %	0.0107
10	500	2	[100,120]	[1,10]	[11110,55555]	108.249	1.150	-10992.1	12201.0	49.134 %	0.0111
10	500	2	[100,120]	[5,10]	[5555,55557]	107.259	1.185	-5507.9	17134.7	52.655 %	0.0086
10	500	2	[100,120]	[5,10]	[11110,55557]	106.953	1.185	-11088.1	11381.3	49.812 %	0.0104
10	500	2	[100,120]	[1,30]	[5556,55565]	112.170	1.126	-5527.6	19519.0	49.774 %	0.0123
10	500	2	[100,120]	[1,30]	[11112,55565]	112.682	1.123	-11108.2	14265.5	46.688 %	0.0104
10	500	2	[100,120]	[15,30]	[5557,55572]	110.117	1.137	-5531.6	18811.0	50.750 %	0.0129
10	500	2	[100,120]	[15,30]	[11114,55572]	109.144	1.132	-11025.3	13967.1	47.151 %	0.0094
10	500	2	[106,120]	[1,10]	[5707,57070]	108.624	1.155	-5635.2	19088.4	51.263 %	0.0122
10	500	2	[106,120]	[1,10]	[11414,57070]	108.137	1.151	-11344.7	13255.7	47.919 %	0.0074
10	500	2	[106,120]	[5,10]	[5707,57072]	107.535	1.172	-5645.4	17161.8	52.674 %	0.0091
10	500	2	[106,120]	[5,10]	[11414,57072]	107.267	1.177	-11348.0	12026.6	49.395 %	0.0068
10	500	2	[106,120]	[1,30]	[5708,57080]	112.358	1.120	-5648.1	19590.4	50.372 %	0.0156
10	500	2	[106,120]	[1,30]	[11416,57080]	112.431	1.139	-11303.2	14353.0	47.189 %	0.0127
10	500	2	[106,120]	[15,30]	[5708,57087]	109.754	1.132	-5644.3	19180.3	50.771 %	0.0167
10	500	2	[106,120]	[15,30]	[11416,57087]	109.954	1.143	-11347.8	14286.7	46.992 %	0.0063
10	500	2	[112,120]	[1,10]	[5858,58585]	107.637	1.146	-5800.1	19184.5	51.292 %	0.0114
10	500	2	[112,120]	[1,10]	[11716,58585]	107.889	1.166	-11696.9	13902.5	48.003 %	0.0064
10	500	2	[112,120]	[5,10]	[5858,58587]	107.357	1.179	-5837.7	17890.5	52.499 %	0.0075
10	500	2	[112,120]	[5,10]	[11716,58587]	107.494	1.179	-11625.6	11891.2	50.524 %	0.0057
10	500	2	[112,120]	[1,30]	[5859,58595]	112.133	1.137	-5797.5	20210.2	50.148 %	0.0088
10	500	2	[112,120]	[1,30]	[11718,58595]	111.882	1.138	-11644.8	14441.4	47.155 %	0.0114
10	500	2	[112,120]	[15,30]	[5860,58602]	109.493	1.139	-5797.0	20122.2	50.365 %	0.0114
10	500	2	[112,120]	[15,30]	[11720,58602]	109.541	1.138	-11633.0	13843.3	47.870 %	0.0061

Tiempo Promedio Total H_2: 109.328 seg.

Tiempo Promedio Total H_1: 1.150 seg.

Rendimiento Promedio Total: 49.679 %

Tabla de Experimentos

$n : 750, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	2	[100,120]	[1,10]	[8333,83330]	383.209	2.581	-8259.2	27490.0	51.338 %	0.0097
10	750	2	[100,120]	[1,10]	[16666,83330]	382.615	2.563	-16658.9	19790.9	47.755 %	0.0078
10	750	2	[100,120]	[5,10]	[8333,83332]	383.054	2.622	-8259.2	25547.7	52.492 %	0.0083
10	750	2	[100,120]	[5,10]	[16666,83332]	381.449	2.604	-16678.1	17056.8	49.862 %	0.0103
10	750	2	[100,120]	[1,30]	[8334,83340]	393.668	2.507	-8285.0	29517.3	49.909 %	0.0103
10	750	2	[100,120]	[1,30]	[16668,83340]	393.282	2.507	-16651.8	21200.2	46.987 %	0.0068
10	750	2	[100,120]	[15,30]	[8334,83347]	384.939	2.518	-8263.2	28735.9	50.343 %	0.0102
10	750	2	[100,120]	[15,30]	[16668,83347]	385.664	2.519	-16549.0	20267.6	47.771 %	0.0115
10	750	2	[106,120]	[1,10]	[8560,85602]	383.300	2.557	-8477.0	27953.5	51.664 %	0.0102
10	750	2	[106,120]	[1,10]	[17120,85602]	383.786	2.559	-17057.7	20395.4	47.931 %	0.0079
10	750	2	[106,120]	[5,10]	[8560,85604]	381.841	2.628	-8514.8	26332.8	52.711 %	0.0085
10	750	2	[106,120]	[5,10]	[17120,85604]	382.053	2.674	-17015.9	17551.1	49.814 %	0.0059
10	750	2	[106,120]	[1,30]	[8561,85612]	393.923	2.479	-8513.1	30691.7	49.402 %	0.0067
10	750	2	[106,120]	[1,30]	[17122,85612]	394.323	2.496	-17086.8	20752.7	47.656 %	0.0082
10	750	2	[106,120]	[15,30]	[8561,85619]	386.912	2.553	-8540.2	29620.5	50.684 %	0.0073
10	750	2	[106,120]	[15,30]	[17122,85619]	386.242	2.536	-17071.7	20968.3	47.511 %	0.0116
10	750	2	[112,120]	[1,10]	[8787,87875]	384.258	2.587	-8711.6	29559.5	51.043 %	0.0053
10	750	2	[112,120]	[1,10]	[17574,87875]	383.826	2.568	-17485.1	21067.6	47.997 %	0.0079
10	750	2	[112,120]	[5,10]	[8787,87877]	381.213	2.630	-8744.8	27131.3	52.636 %	0.0047
10	750	2	[112,120]	[5,10]	[17574,87877]	382.509	2.640	-17534.1	18279.9	49.445 %	0.0068
10	750	2	[112,120]	[1,30]	[8788,87885]	394.184	2.569	-8759.4	31991.5	49.192 %	0.0103
10	750	2	[112,120]	[1,30]	[17576,87885]	394.320	2.490	-17495.8	22599.7	46.630 %	0.0119
10	750	2	[112,120]	[15,30]	[8789,87892]	386.991	2.525	-8674.8	30821.8	50.161 %	0.0092
10	750	2	[112,120]	[15,30]	[17578,87892]	386.990	2.530	-17490.8	21369.4	47.551 %	0.0158

Tiempo Promedio Total H_2: 386.440 seg.

Tiempo Promedio Total H_1: 2.560 seg.

Rendimiento Promedio Total: 49.520 %

Tabla de Experimentos

$n : 1000, m : 2, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	2	[100,120]	[1,10]	[11110,111105]	940.032	4.412	-11048.8	37143.8	50.819 %	0.0099
10	1000	2	[100,120]	[1,10]	[22220,111105]	940.766	4.395	-22236.3	26019.0	48.044 %	0.0080
10	1000	2	[100,120]	[5,10]	[11110,111107]	933.206	4.463	-11072.0	34233.0	52.449 %	0.0070
10	1000	2	[100,120]	[5,10]	[22220,111107]	933.580	4.638	-22177.9	22809.2	49.474 %	0.0060
10	1000	2	[100,120]	[1,30]	[11111,111115]	960.951	4.301	-11070.8	40145.4	49.676 %	0.0062
10	1000	2	[100,120]	[1,30]	[22222,111115]	956.751	4.279	-22101.3	28304.5	47.091 %	0.0074
10	1000	2	[100,120]	[15,30]	[11112,111122]	941.214	4.366	-11087.6	38163.8	50.507 %	0.0060
10	1000	2	[100,120]	[15,30]	[22224,111122]	944.129	4.332	-22115.9	28667.6	46.599 %	0.0049
10	1000	2	[106,120]	[1,10]	[11413,114135]	942.367	4.436	-11396.0	38267.8	51.060 %	0.0094
10	1000	2	[106,120]	[1,10]	[22826,114135]	938.923	4.404	-22763.5	27139.0	47.948 %	0.0109
10	1000	2	[106,120]	[5,10]	[11413,114137]	932.621	4.534	-11456.3	35234.2	52.470 %	0.0047
10	1000	2	[106,120]	[5,10]	[22826,114137]	933.892	4.538	-22691.7	23419.1	49.825 %	0.0049
10	1000	2	[106,120]	[1,30]	[11414,114145]	955.074	4.283	-11360.6	41450.2	49.218 %	0.0077
10	1000	2	[106,120]	[1,30]	[22828,114145]	956.909	4.312	-22750.4	29814.1	46.467 %	0.0080
10	1000	2	[106,120]	[15,30]	[11415,114152]	944.798	4.344	-11327.9	39359.7	50.313 %	0.0091
10	1000	2	[106,120]	[15,30]	[22830,114152]	946.775	4.337	-22782.6	28686.7	47.210 %	0.0056
10	1000	2	[112,120]	[1,10]	[11716,117165]	943.292	4.439	-11689.6	39749.9	50.608 %	0.0054
10	1000	2	[112,120]	[1,10]	[23432,117165]	938.168	4.445	-23386.5	27802.0	47.921 %	0.0070
10	1000	2	[112,120]	[5,10]	[11716,117167]	935.436	4.533	-11653.3	36535.5	51.990 %	0.0069
10	1000	2	[112,120]	[5,10]	[23432,117167]	931.718	4.546	-23346.1	24477.3	49.641 %	0.0048
10	1000	2	[112,120]	[1,30]	[11717,117175]	959.868	4.338	-11658.6	42340.6	49.081 %	0.0086
10	1000	2	[112,120]	[1,30]	[23434,117175]	956.024	4.307	-23408.1	30729.8	46.420 %	0.0075
10	1000	2	[112,120]	[15,30]	[11718,117182]	943.413	4.341	-11637.3	40933.6	50.182 %	0.0119
10	1000	2	[112,120]	[15,30]	[23436,117182]	941.320	4.324	-23357.8	29331.1	47.105 %	0.0087

Tiempo Promedio Total H_2: 943.801 seg.

Tiempo Promedio Total H_1: 4.402 seg.

Rendimiento Promedio Total: 49.255 %

Tabla de Experimentos

$n : 10, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	4	[100,120]	[1,10]	[111,1116]	0.047	0.018	-134.5	-38.3	84.746 %	0.0849
10	10	4	[100,120]	[1,10]	[222,1116]	0.021	0.010	-182.0	-80.5	82.026 %	0.1160
10	10	4	[100,120]	[5,10]	[111,1118]	0.022	0.009	-98.6	6.6	84.617 %	0.0903
10	10	4	[100,120]	[5,10]	[222,1118]	0.024	0.010	-168.6	-84.1	85.437 %	0.0966
10	10	4	[100,120]	[1,30]	[112,1126]	0.029	0.011	-70.3	47.8	82.728 %	0.0804
10	10	4	[100,120]	[1,30]	[224,1126]	0.023	0.009	-156.8	-71.8	85.239 %	0.0970
10	10	4	[100,120]	[15,30]	[113,1133]	0.024	0.007	-93.7	-7.5	86.177 %	0.0737
10	10	4	[100,120]	[15,30]	[226,1133]	0.023	0.010	-201.0	-112.9	86.025 %	0.0618
10	10	4	[106,120]	[1,10]	[114,1146]	0.020	0.010	-115.8	7.1	80.077 %	0.1202
10	10	4	[106,120]	[1,10]	[228,1146]	0.020	0.007	-202.1	-162.9	92.965 %	0.0828
10	10	4	[106,120]	[5,10]	[114,1148]	0.019	0.008	-124.8	-58.3	88.995 %	0.0840
10	10	4	[106,120]	[5,10]	[228,1148]	0.019	0.009	-167.1	-101.1	89.091 %	0.1016
10	10	4	[106,120]	[1,30]	[115,1156]	0.027	0.009	-55.1	67.3	82.556 %	0.0685
10	10	4	[106,120]	[1,30]	[230,1156]	0.026	0.015	-231.2	-145.2	85.974 %	0.1026
10	10	4	[106,120]	[15,30]	[116,1163]	0.022	0.011	-69.6	14.5	88.126 %	0.1059
10	10	4	[106,120]	[15,30]	[232,1163]	0.023	0.010	-208.6	-100.3	82.428 %	0.1236
10	10	4	[112,120]	[1,10]	[117,1176]	0.030	0.013	-82.6	22.9	85.191 %	0.1107
10	10	4	[112,120]	[1,10]	[234,1176]	0.023	0.009	-194.5	-119.6	87.506 %	0.0830
10	10	4	[112,120]	[5,10]	[117,1178]	0.021	0.010	-61.5	15.1	88.639 %	0.0751
10	10	4	[112,120]	[5,10]	[234,1178]	0.024	0.011	-191.6	-55.2	79.470 %	0.0930
10	10	4	[112,120]	[1,30]	[118,1186]	0.031	0.011	-50.4	29.4	88.969 %	0.0578
10	10	4	[112,120]	[1,30]	[236,1186]	0.026	0.012	-177.7	-77.7	84.640 %	0.1229
10	10	4	[112,120]	[15,30]	[119,1193]	0.028	0.011	-62.0	11.6	89.825 %	0.0823
10	10	4	[112,120]	[15,30]	[238,1193]	0.022	0.010	-199.1	-91.9	83.176 %	0.1131

Tiempo Promedio Total H_2: 0.025 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 85.609 %

Tabla de Experimentos

$n : 20, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	4	[100,120]	[1,10]	[222,2227]	0.037	0.010	-236.4	93.0	75.381 %	0.0672
10	20	4	[100,120]	[1,10]	[444,2227]	0.041	0.010	-426.6	-230.2	82.448 %	0.1125
10	20	4	[100,120]	[5,10]	[222,2229]	0.036	0.009	-175.3	103.5	78.692 %	0.0676
10	20	4	[100,120]	[5,10]	[444,2229]	0.037	0.009	-407.2	-149.5	78.361 %	0.1002
10	20	4	[100,120]	[1,30]	[223,2237]	0.048	0.013	-203.9	122.9	76.340 %	0.0341
10	20	4	[100,120]	[1,30]	[446,2237]	0.045	0.011	-408.7	-204.3	81.865 %	0.0842
10	20	4	[100,120]	[15,30]	[224,2244]	0.047	0.014	-180.7	89.6	79.893 %	0.0734
10	20	4	[100,120]	[15,30]	[448,2244]	0.045	0.013	-377.0	-75.4	76.350 %	0.0600
10	20	4	[106,120]	[1,10]	[228,2287]	0.037	0.011	-250.1	-12.5	82.646 %	0.1156
10	20	4	[106,120]	[1,10]	[456,2287]	0.038	0.010	-451.3	-133.1	73.732 %	0.0460
10	20	4	[106,120]	[5,10]	[228,2289]	0.035	0.013	-155.3	155.7	78.759 %	0.0749
10	20	4	[106,120]	[5,10]	[456,2289]	0.043	0.013	-413.4	-177.9	81.404 %	0.0965
10	20	4	[106,120]	[1,30]	[229,2297]	0.051	0.010	-182.3	109.5	78.269 %	0.0549
10	20	4	[106,120]	[1,30]	[458,2297]	0.046	0.010	-380.8	-103.0	78.526 %	0.0857
10	20	4	[106,120]	[15,30]	[230,2304]	0.098	0.015	-188.6	71.7	81.622 %	0.0696
10	20	4	[106,120]	[15,30]	[460,2304]	0.047	0.013	-440.6	-147.9	76.948 %	0.0820
10	20	4	[112,120]	[1,10]	[234,2348]	0.042	0.012	-206.2	123.2	77.043 %	0.0477
10	20	4	[112,120]	[1,10]	[468,2348]	0.040	0.010	-408.9	-136.0	78.562 %	0.0735
10	20	4	[112,120]	[5,10]	[235,2350]	0.035	0.010	-233.8	-9.7	82.446 %	0.1251
10	20	4	[112,120]	[5,10]	[470,2350]	0.034	0.013	-411.9	-160.7	80.939 %	0.0618
10	20	4	[112,120]	[1,30]	[235,2358]	0.054	0.018	-211.1	45.6	82.176 %	0.1082
10	20	4	[112,120]	[1,30]	[470,2358]	0.047	0.010	-439.4	-87.6	73.893 %	0.0739
10	20	4	[112,120]	[15,30]	[236,2365]	0.046	0.013	-222.7	112.0	74.472 %	0.0566
10	20	4	[112,120]	[15,30]	[472,2365]	0.041	0.012	-439.2	-125.9	76.419 %	0.0845

Tiempo Promedio Total H_2: 0.045 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 78.633 %

Tabla de Experimentos

$n : 30, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	4	[100,120]	[1,10]	[333,3338]	0.067	0.014	-362.6	56.3	77.435 %	0.0847
10	30	4	[100,120]	[1,10]	[666,3338]	0.073	0.014	-712.6	-262.1	75.107 %	0.0560
10	30	4	[100,120]	[5,10]	[334,3340]	0.064	0.017	-302.8	147.4	77.105 %	0.0409
10	30	4	[100,120]	[5,10]	[668,3340]	0.067	0.016	-706.2	-218.1	73.324 %	0.0520
10	30	4	[100,120]	[1,30]	[334,3348]	0.090	0.013	-283.5	245.5	74.656 %	0.0572
10	30	4	[100,120]	[1,30]	[668,3348]	0.089	0.019	-659.2	-132.0	71.127 %	0.0410
10	30	4	[100,120]	[15,30]	[335,3355]	0.085	0.016	-313.9	195.2	76.216 %	0.0486
10	30	4	[100,120]	[15,30]	[670,3355]	0.089	0.017	-719.8	-289.7	76.126 %	0.0594
10	30	4	[106,120]	[1,10]	[342,3428]	0.067	0.014	-390.8	84.6	76.656 %	0.0455
10	30	4	[106,120]	[1,10]	[684,3428]	0.069	0.017	-641.2	-92.5	72.192 %	0.0641
10	30	4	[106,120]	[5,10]	[343,3430]	0.093	0.019	-312.0	160.7	76.944 %	0.0677
10	30	4	[106,120]	[5,10]	[686,3430]	0.068	0.013	-658.0	-282.6	79.565 %	0.1012
10	30	4	[106,120]	[1,30]	[343,3439]	0.086	0.012	-306.0	177.3	76.397 %	0.0485
10	30	4	[106,120]	[1,30]	[686,3439]	0.093	0.013	-636.9	-160.9	73.209 %	0.0373
10	30	4	[106,120]	[15,30]	[344,3446]	0.077	0.013	-306.8	214.4	75.735 %	0.0380
10	30	4	[106,120]	[15,30]	[688,3446]	0.076	0.014	-641.6	-99.5	72.531 %	0.0412
10	30	4	[112,120]	[1,10]	[351,3519]	0.073	0.015	-370.0	144.2	75.726 %	0.0613
10	30	4	[112,120]	[1,10]	[702,3519]	0.073	0.019	-649.5	-144.7	74.165 %	0.0661
10	30	4	[112,120]	[5,10]	[352,3521]	0.063	0.013	-346.4	182.7	74.615 %	0.0517
10	30	4	[112,120]	[5,10]	[704,3521]	0.061	0.014	-655.9	-110.8	73.376 %	0.0544
10	30	4	[112,120]	[1,30]	[352,3529]	0.086	0.017	-339.4	249.2	72.664 %	0.0378
10	30	4	[112,120]	[1,30]	[704,3529]	0.090	0.022	-650.7	-62.1	71.281 %	0.0416
10	30	4	[112,120]	[15,30]	[353,3537]	0.075	0.012	-310.2	224.8	76.297 %	0.0796
10	30	4	[112,120]	[15,30]	[706,3537]	0.081	0.013	-637.9	-44.2	70.101 %	0.0675

Tiempo Promedio Total H_2: 0.077 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 74.690 %

Tabla de Experimentos

$n : 50, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	4	[100,120]	[1,10]	[556,5560]	0.178	0.025	-523.3	386.7	73.805 %	0.0428
10	50	4	[100,120]	[1,10]	[1112,5560]	0.182	0.022	-1097.0	-226.4	71.697 %	0.0508
10	50	4	[100,120]	[5,10]	[556,5562]	0.168	0.022	-553.5	291.6	74.423 %	0.0712
10	50	4	[100,120]	[5,10]	[1112,5562]	0.192	0.025	-1061.0	-190.7	72.362 %	0.0399
10	50	4	[100,120]	[1,30]	[557,5570]	0.228	0.025	-572.1	323.3	74.323 %	0.0455
10	50	4	[100,120]	[1,30]	[1114,5570]	0.228	0.025	-1080.9	-232.8	73.290 %	0.0622
10	50	4	[100,120]	[15,30]	[557,5577]	0.215	0.023	-514.6	497.2	71.538 %	0.0350
10	50	4	[100,120]	[15,30]	[1114,5577]	0.199	0.023	-1055.4	-45.6	70.211 %	0.0230
10	50	4	[106,120]	[1,10]	[571,5711]	0.187	0.026	-550.2	385.9	73.397 %	0.0507
10	50	4	[106,120]	[1,10]	[1142,5711]	0.181	0.024	-1100.4	-158.3	71.740 %	0.0396
10	50	4	[106,120]	[5,10]	[571,5713]	0.175	0.024	-586.4	403.2	72.065 %	0.0558
10	50	4	[106,120]	[5,10]	[1142,5713]	0.166	0.025	-1127.3	-303.5	73.698 %	0.0786
10	50	4	[106,120]	[1,30]	[572,5721]	0.231	0.024	-564.3	332.5	73.896 %	0.0556
10	50	4	[106,120]	[1,30]	[1144,5721]	0.222	0.022	-1142.7	-173.8	70.255 %	0.0463
10	50	4	[106,120]	[15,30]	[572,5728]	0.194	0.023	-545.5	301.6	75.880 %	0.0511
10	50	4	[106,120]	[15,30]	[1144,5728]	0.201	0.024	-1080.2	-134.8	71.126 %	0.0556
10	50	4	[112,120]	[1,10]	[586,5863]	0.176	0.025	-607.9	411.2	72.266 %	0.0450
10	50	4	[112,120]	[1,10]	[1172,5863]	0.182	0.026	-1201.5	-180.0	69.124 %	0.0501
10	50	4	[112,120]	[5,10]	[586,5865]	0.162	0.025	-539.7	347.7	74.057 %	0.0370
10	50	4	[112,120]	[5,10]	[1172,5865]	0.160	0.026	-1169.9	-221.7	71.737 %	0.0306
10	50	4	[112,120]	[1,30]	[587,5873]	0.225	0.022	-601.2	342.6	73.166 %	0.0640
10	50	4	[112,120]	[1,30]	[1174,5873]	0.232	0.023	-1165.7	-93.4	68.644 %	0.0379
10	50	4	[112,120]	[15,30]	[588,5880]	0.196	0.021	-545.0	453.1	73.656 %	0.0611
10	50	4	[112,120]	[15,30]	[1176,5880]	0.197	0.024	-1093.6	-61.3	69.851 %	0.0407

Tiempo Promedio Total H_2: 0.195 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 72.342 %

Tabla de Experimentos

$n : 100, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	4	[100,120]	[1,10]	[1111,11115]	1.047	0.061	-1070.2	938.1	72.595 %	0.0301
10	100	4	[100,120]	[1,10]	[2222,11115]	1.032	0.071	-2218.7	-137.2	68.355 %	0.0345
10	100	4	[100,120]	[5,10]	[1111,11117]	0.990	0.065	-1064.4	905.8	72.342 %	0.0170
10	100	4	[100,120]	[5,10]	[2222,11117]	0.998	0.063	-2157.4	-102.0	69.024 %	0.0336
10	100	4	[100,120]	[1,30]	[1112,11125]	1.178	0.062	-1131.2	1009.8	70.033 %	0.0222
10	100	4	[100,120]	[1,30]	[2224,11125]	1.203	0.063	-2192.7	-154.8	69.061 %	0.0261
10	100	4	[100,120]	[15,30]	[1113,11132]	1.126	0.065	-1007.6	962.7	72.337 %	0.0416
10	100	4	[100,120]	[15,30]	[2226,11132]	1.058	0.060	-2159.5	-117.8	68.956 %	0.0250
10	100	4	[106,120]	[1,10]	[1141,11418]	0.989	0.062	-1079.2	744.7	74.411 %	0.0442
10	100	4	[106,120]	[1,10]	[2282,11418]	0.996	0.063	-2275.2	-438.2	71.942 %	0.0439
10	100	4	[106,120]	[5,10]	[1142,11420]	0.995	0.062	-1156.2	661.5	73.616 %	0.0309
10	100	4	[106,120]	[5,10]	[2284,11420]	1.004	0.065	-2274.7	-264.2	69.922 %	0.0189
10	100	4	[106,120]	[1,30]	[1142,11428]	1.198	0.059	-1086.1	1038.6	70.772 %	0.0247
10	100	4	[106,120]	[1,30]	[2284,11428]	1.194	0.060	-2253.1	39.3	66.936 %	0.0212
10	100	4	[106,120]	[15,30]	[1143,11435]	1.058	0.065	-1126.8	895.6	72.822 %	0.0383
10	100	4	[106,120]	[15,30]	[2286,11435]	1.096	0.064	-2274.7	-95.8	67.548 %	0.0316
10	100	4	[112,120]	[1,10]	[1172,11721]	0.990	0.062	-1146.0	862.3	73.165 %	0.0388
10	100	4	[112,120]	[1,10]	[2344,11721]	0.994	0.061	-2302.0	-83.0	67.794 %	0.0285
10	100	4	[112,120]	[5,10]	[1172,11723]	0.931	0.064	-1162.0	795.5	72.617 %	0.0318
10	100	4	[112,120]	[5,10]	[2344,11723]	0.933	0.060	-2332.6	-377.0	70.783 %	0.0364
10	100	4	[112,120]	[1,30]	[1173,11731]	1.180	0.064	-1175.6	944.6	70.885 %	0.0542
10	100	4	[112,120]	[1,30]	[2346,11731]	1.181	0.061	-2289.4	-191.7	69.566 %	0.0344
10	100	4	[112,120]	[15,30]	[1173,11738]	1.066	0.062	-1149.0	837.3	72.778 %	0.0408
10	100	4	[112,120]	[15,30]	[2346,11738]	1.074	0.064	-2275.6	-77.0	68.545 %	0.0360

Tiempo Promedio Total H_2: 1.063 seg.

Tiempo Promedio Total H_1: 0.063 seg.

Rendimiento Promedio Total: 70.700 %

Tabla de Experimentos

$n : 200, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	4	[100,120]	[1,10]	[2222,22225]	7.082	0.209	-2283.7	1889.0	70.660 %	0.0365
10	200	4	[100,120]	[1,10]	[4444,22225]	6.898	0.205	-4420.6	14.2	67.065 %	0.0257
10	200	4	[100,120]	[5,10]	[2222,22227]	6.817	0.213	-2166.1	2033.1	70.581 %	0.0131
10	200	4	[100,120]	[5,10]	[4444,22227]	6.744	0.205	-4398.5	-487.4	69.648 %	0.0340
10	200	4	[100,120]	[1,30]	[2223,22235]	7.676	0.201	-2207.1	2159.6	70.054 %	0.0394
10	200	4	[100,120]	[1,30]	[4446,22235]	7.622	0.204	-4431.9	38.3	66.442 %	0.0234
10	200	4	[100,120]	[15,30]	[2224,22242]	7.099	0.202	-2179.5	2343.2	69.037 %	0.0236
10	200	4	[100,120]	[15,30]	[4448,22242]	7.104	0.204	-4358.0	-5.6	67.426 %	0.0206
10	200	4	[106,120]	[1,10]	[2283,22831]	6.901	0.204	-2251.9	2175.8	70.356 %	0.0330
10	200	4	[106,120]	[1,10]	[4566,22831]	6.939	0.204	-4524.2	8.3	66.935 %	0.0241
10	200	4	[106,120]	[5,10]	[2283,22833]	6.828	0.211	-2320.8	2060.4	70.025 %	0.0149
10	200	4	[106,120]	[5,10]	[4566,22833]	6.761	0.211	-4527.2	-289.1	68.486 %	0.0226
10	200	4	[106,120]	[1,30]	[2284,22841]	7.690	0.201	-2221.7	2242.5	69.893 %	0.0203
10	200	4	[106,120]	[1,30]	[4568,22841]	7.605	0.202	-4494.0	314.1	65.196 %	0.0166
10	200	4	[106,120]	[15,30]	[2284,22848]	7.163	0.204	-2273.8	2477.4	68.307 %	0.0171
10	200	4	[106,120]	[15,30]	[4568,22848]	7.195	0.199	-4534.4	26.7	66.455 %	0.0152
10	200	4	[112,120]	[1,10]	[2343,23437]	6.809	0.204	-2274.8	2331.3	69.794 %	0.0268
10	200	4	[112,120]	[1,10]	[4686,23437]	6.840	0.205	-4652.6	47.1	66.821 %	0.0160
10	200	4	[112,120]	[5,10]	[2343,23439]	6.833	0.208	-2326.0	2002.7	71.155 %	0.0245
10	200	4	[112,120]	[5,10]	[4686,23439]	6.602	0.210	-4620.4	-425.7	69.277 %	0.0275
10	200	4	[112,120]	[1,30]	[2344,23447]	7.689	0.199	-2286.0	2566.3	68.162 %	0.0269
10	200	4	[112,120]	[1,30]	[4688,23447]	7.668	0.199	-4632.6	115.8	66.635 %	0.0240
10	200	4	[112,120]	[15,30]	[2345,23454]	7.136	0.204	-2287.2	2372.7	69.230 %	0.0238
10	200	4	[112,120]	[15,30]	[4690,23454]	7.075	0.201	-4656.3	176.1	65.535 %	0.0274

Tiempo Promedio Total H_2: 7.116 seg.

Tiempo Promedio Total H_1: 0.205 seg.

Rendimiento Promedio Total: 68.466 %

Tabla de Experimentos

$n : 300, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	4	[100,120]	[1,10]	[3333,33335]	22.791	0.442	-3308.0	3101.3	70.131 %	0.0275
10	300	4	[100,120]	[1,10]	[6666,33335]	22.960	0.433	-6610.1	176.4	66.175 %	0.0164
10	300	4	[100,120]	[5,10]	[3333,33337]	22.504	0.454	-3289.3	2966.1	70.690 %	0.0187
10	300	4	[100,120]	[5,10]	[6666,33337]	22.414	0.456	-6672.6	-424.7	67.847 %	0.0207
10	300	4	[100,120]	[1,30]	[3334,33345]	24.322	0.437	-3333.2	3738.1	68.062 %	0.0208
10	300	4	[100,120]	[1,30]	[6668,33345]	24.288	0.442	-6682.9	346.0	65.505 %	0.0208
10	300	4	[100,120]	[15,30]	[3335,33352]	23.194	0.438	-3305.9	3129.1	70.191 %	0.0175
10	300	4	[100,120]	[15,30]	[6670,33352]	23.060	0.441	-6604.7	106.7	66.387 %	0.0155
10	300	4	[106,120]	[1,10]	[3424,34244]	22.525	0.436	-3405.5	3621.0	68.396 %	0.0156
10	300	4	[106,120]	[1,10]	[6848,34244]	22.622	0.442	-6829.8	-35.2	67.004 %	0.0221
10	300	4	[106,120]	[5,10]	[3424,34246]	22.365	0.449	-3399.0	3198.8	69.907 %	0.0139
10	300	4	[106,120]	[5,10]	[6848,34246]	22.200	0.455	-6828.3	-333.3	67.982 %	0.0155
10	300	4	[106,120]	[1,30]	[3425,34254]	24.406	0.429	-3430.2	3696.3	68.748 %	0.0219
10	300	4	[106,120]	[1,30]	[6850,34254]	24.355	0.436	-6782.6	560.4	64.891 %	0.0153
10	300	4	[106,120]	[15,30]	[3426,34261]	23.315	0.435	-3385.3	3521.5	69.238 %	0.0159
10	300	4	[106,120]	[15,30]	[6852,34261]	22.934	0.438	-6800.8	315.3	65.732 %	0.0185
10	300	4	[112,120]	[1,10]	[3515,35153]	22.206	0.445	-3529.3	3448.3	69.159 %	0.0246
10	300	4	[112,120]	[1,10]	[7030,35153]	22.586	0.440	-6978.7	119.6	66.661 %	0.0293
10	300	4	[112,120]	[5,10]	[3515,35155]	22.112	0.458	-3516.4	3304.0	69.892 %	0.0132
10	300	4	[112,120]	[5,10]	[7030,35155]	21.727	0.449	-6991.1	-307.4	67.641 %	0.0179
10	300	4	[112,120]	[1,30]	[3516,35163]	24.270	0.439	-3534.6	3760.2	68.340 %	0.0162
10	300	4	[112,120]	[1,30]	[7032,35163]	24.512	0.429	-6994.8	557.6	64.943 %	0.0157
10	300	4	[112,120]	[15,30]	[3517,35170]	23.008	0.436	-3489.5	3735.4	68.560 %	0.0145
10	300	4	[112,120]	[15,30]	[7034,35170]	23.026	0.436	-6952.5	506.3	65.693 %	0.0138

Tiempo Promedio Total H_2: 23.071 seg.

Tiempo Promedio Total H_1: 0.441 seg.

Rendimiento Promedio Total: 67.824 %

Tabla de Experimentos

$n : 500, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	4	[100,120]	[1,10]	[5555,55555]	107.523	1.141	-5574.4	5732.0	69.070 %	0.0167
10	500	4	[100,120]	[1,10]	[11110,55555]	106.331	1.132	-11092.0	586.1	65.712 %	0.0070
10	500	4	[100,120]	[5,10]	[5555,55557]	105.978	1.184	-5518.6	5410.5	69.605 %	0.0102
10	500	4	[100,120]	[5,10]	[11110,55557]	105.610	1.178	-11051.9	-229.8	67.362 %	0.0098
10	500	4	[100,120]	[1,30]	[5556,55565]	111.189	1.118	-5601.1	6311.6	67.979 %	0.0106
10	500	4	[100,120]	[1,30]	[11112,55565]	111.266	1.108	-11109.7	1405.7	63.652 %	0.0089
10	500	4	[100,120]	[15,30]	[5557,55572]	107.036	1.129	-5546.5	5934.1	68.655 %	0.0182
10	500	4	[100,120]	[15,30]	[11114,55572]	107.781	1.121	-11049.3	711.2	65.597 %	0.0164
10	500	4	[106,120]	[1,10]	[5707,57070]	106.422	1.137	-5660.0	6463.8	68.036 %	0.0076
10	500	4	[106,120]	[1,10]	[11414,57070]	107.020	1.140	-11389.8	405.0	66.079 %	0.0116
10	500	4	[106,120]	[5,10]	[5707,57072]	106.322	1.190	-5719.6	5528.9	69.472 %	0.0121
10	500	4	[106,120]	[5,10]	[11414,57072]	106.025	1.179	-11381.0	-26.4	66.717 %	0.0072
10	500	4	[106,120]	[1,30]	[5708,57080]	111.311	1.123	-5709.5	6770.1	67.429 %	0.0157
10	500	4	[106,120]	[1,30]	[11416,57080]	110.822	1.103	-11373.4	1250.8	64.591 %	0.0108
10	500	4	[106,120]	[15,30]	[5708,57087]	107.903	1.145	-5723.2	6170.5	68.110 %	0.0184
10	500	4	[106,120]	[15,30]	[11416,57087]	108.485	1.125	-11390.8	813.4	65.170 %	0.0161
10	500	4	[112,120]	[1,10]	[5858,58585]	106.275	1.139	-5837.1	6048.8	69.261 %	0.0132
10	500	4	[112,120]	[1,10]	[11716,58585]	105.621	1.144	-11712.1	426.9	65.916 %	0.0111
10	500	4	[112,120]	[5,10]	[5858,58587]	104.583	1.162	-5827.7	6119.9	68.981 %	0.0099
10	500	4	[112,120]	[5,10]	[11716,58587]	104.105	1.186	-11739.0	-277.4	67.151 %	0.0138
10	500	4	[112,120]	[1,30]	[5859,58595]	110.632	1.127	-5859.9	6676.8	68.097 %	0.0178
10	500	4	[112,120]	[1,30]	[11718,58595]	111.593	1.130	-11659.1	1118.1	64.619 %	0.0209
10	500	4	[112,120]	[15,30]	[5860,58602]	107.384	1.128	-5829.8	6649.1	67.836 %	0.0133
10	500	4	[112,120]	[15,30]	[11720,58602]	107.345	1.137	-11675.3	1156.6	64.581 %	0.0096

Tiempo Promedio Total H_2: 107.690 seg.

Tiempo Promedio Total H_1: 1.142 seg.

Rendimiento Promedio Total: 67.070 %

Tabla de Experimentos

$n : 750, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	4	[100,120]	[1,10]	[8333,83330]	380.041	2.612	-8332.6	9109.7	68.261 %	0.0143
10	750	4	[100,120]	[1,10]	[16666,83330]	380.041	2.632	-16628.0	1507.2	64.634 %	0.0042
10	750	4	[100,120]	[5,10]	[8333,83332]	376.953	2.710	-8305.6	8207.6	69.334 %	0.0042
10	750	4	[100,120]	[5,10]	[16666,83332]	376.548	2.692	-16669.6	-169.1	67.150 %	0.0124
10	750	4	[100,120]	[1,30]	[8334,83340]	388.646	2.560	-8306.7	10095.1	67.017 %	0.0088
10	750	4	[100,120]	[1,30]	[16668,83340]	390.026	2.553	-16619.3	1866.6	63.954 %	0.0109
10	750	4	[100,120]	[15,30]	[8334,83347]	383.039	2.608	-8316.4	9746.6	67.433 %	0.0053
10	750	4	[100,120]	[15,30]	[16668,83347]	382.244	2.595	-16586.2	1612.9	64.699 %	0.0107
10	750	4	[106,120]	[1,10]	[8560,85602]	378.314	2.625	-8523.3	10037.4	67.196 %	0.0068
10	750	4	[106,120]	[1,10]	[17120,85602]	380.439	2.792	-17093.7	999.1	65.569 %	0.0085
10	750	4	[106,120]	[5,10]	[8560,85604]	374.999	2.747	-8519.6	8376.9	69.632 %	0.0048
10	750	4	[106,120]	[5,10]	[17120,85604]	377.125	2.688	-17100.7	172.3	66.441 %	0.0046
10	750	4	[106,120]	[1,30]	[8561,85612]	391.661	2.560	-8575.9	9982.3	67.527 %	0.0176
10	750	4	[106,120]	[1,30]	[17122,85612]	389.378	2.572	-17041.8	2184.8	64.086 %	0.0134
10	750	4	[106,120]	[15,30]	[8561,85619]	382.768	2.591	-8515.8	9995.5	67.573 %	0.0114
10	750	4	[106,120]	[15,30]	[17122,85619]	382.786	2.583	-17050.4	1741.5	64.559 %	0.0075
10	750	4	[112,120]	[1,10]	[8787,87875]	377.382	2.625	-8775.1	10076.2	67.625 %	0.0106
10	750	4	[112,120]	[1,10]	[17574,87875]	378.965	2.650	-17516.6	756.5	65.724 %	0.0127
10	750	4	[112,120]	[5,10]	[8787,87877]	374.508	2.704	-8829.3	8483.9	69.674 %	0.0098
10	750	4	[112,120]	[5,10]	[17574,87877]	373.649	2.705	-17529.1	101.2	66.424 %	0.0072
10	750	4	[112,120]	[1,30]	[8788,87885]	390.884	2.578	-8778.4	10338.7	67.716 %	0.0121
10	750	4	[112,120]	[1,30]	[17576,87885]	389.193	2.560	-17501.5	2305.8	64.238 %	0.0101
10	750	4	[112,120]	[15,30]	[8789,87892]	379.720	2.585	-8751.6	10570.3	67.267 %	0.0111
10	750	4	[112,120]	[15,30]	[17578,87892]	381.825	2.581	-17509.6	1946.5	64.344 %	0.0089

Tiempo Promedio Total H_2: 381.714 seg.

Tiempo Promedio Total H_1: 2.630 seg.

Rendimiento Promedio Total: 66.587 %

Tabla de Experimentos

$n : 1000, m : 4, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	4	[100,120]	[1,10]	[11110,111105]	927.814	4.595	-11087.8	12498.2	68.291 %	0.0094
10	1000	4	[100,120]	[1,10]	[22220,111105]	931.878	4.610	-22151.7	1806.3	65.087 %	0.0065
10	1000	4	[100,120]	[5,10]	[11110,111107]	927.025	4.830	-11061.2	11005.6	69.417 %	0.0101
10	1000	4	[100,120]	[5,10]	[22220,111107]	922.681	4.702	-22189.6	253.3	66.455 %	0.0062
10	1000	4	[100,120]	[1,30]	[11111,111115]	951.405	4.492	-11121.7	13400.1	67.366 %	0.0080
10	1000	4	[100,120]	[1,30]	[22222,111115]	947.849	4.506	-22178.3	2362.7	64.571 %	0.0088
10	1000	4	[100,120]	[15,30]	[11112,111122]	932.589	4.531	-11060.2	13561.3	67.226 %	0.0100
10	1000	4	[100,120]	[15,30]	[22224,111122]	932.181	4.538	-22198.7	2452.8	64.289 %	0.0075
10	1000	4	[106,120]	[1,10]	[11413,114135]	928.512	4.745	-11429.4	12953.0	67.758 %	0.0075
10	1000	4	[106,120]	[1,10]	[22826,114135]	927.930	4.644	-22820.2	2165.2	64.796 %	0.0068
10	1000	4	[106,120]	[5,10]	[11413,114137]	926.242	4.781	-11357.2	11369.0	69.377 %	0.0063
10	1000	4	[106,120]	[5,10]	[22826,114137]	924.978	4.783	-22830.0	437.6	66.222 %	0.0050
10	1000	4	[106,120]	[1,30]	[11414,114145]	949.266	4.460	-11439.3	13764.4	67.192 %	0.0101
10	1000	4	[106,120]	[1,30]	[22828,114145]	952.977	4.472	-22829.3	3134.2	63.909 %	0.0069
10	1000	4	[106,120]	[15,30]	[11415,114152]	935.576	4.527	-11392.8	13966.5	66.999 %	0.0081
10	1000	4	[106,120]	[15,30]	[22830,114152]	935.922	4.586	-22811.3	2306.3	64.512 %	0.0093
10	1000	4	[112,120]	[1,10]	[11716,117165]	923.439	4.578	-11700.3	13742.0	67.615 %	0.0064
10	1000	4	[112,120]	[1,10]	[23432,117165]	923.528	4.602	-23412.6	1491.2	65.382 %	0.0063
10	1000	4	[112,120]	[5,10]	[11716,117167]	921.477	4.707	-11684.9	12010.5	69.172 %	0.0045
10	1000	4	[112,120]	[5,10]	[23432,117167]	913.192	4.795	-23423.1	148.1	66.767 %	0.0041
10	1000	4	[112,120]	[1,30]	[11717,117175]	952.311	4.511	-11652.0	15026.1	66.554 %	0.0085
10	1000	4	[112,120]	[1,30]	[23434,117175]	949.211	4.533	-23429.0	3353.5	63.558 %	0.0070
10	1000	4	[112,120]	[15,30]	[11718,117182]	934.856	4.580	-11675.6	14346.0	67.012 %	0.0129
10	1000	4	[112,120]	[15,30]	[23436,117182]	930.033	4.479	-23343.2	2772.5	64.089 %	0.0115

Tiempo Promedio Total H_2: 933.453 seg.

Tiempo Promedio Total H_1: 4.608 seg.

Rendimiento Promedio Total: 66.401 %

Tabla de Experimentos

$n : 10, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	6	[100,120]	[1,10]	[111,1116]	0.022	0.010	-104.3	-63.6	93.399 %	0.0820
10	10	6	[100,120]	[1,10]	[222,1116]	0.022	0.007	-227.0	-181.6	90.862 %	0.0958
10	10	6	[100,120]	[5,10]	[111,1118]	0.021	0.012	-68.0	-3.8	89.307 %	0.0788
10	10	6	[100,120]	[5,10]	[222,1118]	0.019	0.009	-174.1	-139.3	93.569 %	0.0698
10	10	6	[100,120]	[1,30]	[112,1126]	0.029	0.008	-62.8	-8.0	89.971 %	0.0842
10	10	6	[100,120]	[1,30]	[224,1126]	0.021	0.006	-180.8	-154.8	94.798 %	0.0714
10	10	6	[100,120]	[15,30]	[113,1133]	0.021	0.009	-61.9	-34.4	95.573 %	0.0626
10	10	6	[100,120]	[15,30]	[226,1133]	0.021	0.005	-185.5	-121.2	88.410 %	0.0710
10	10	6	[106,120]	[1,10]	[114,1146]	0.059	0.016	-93.4	-71.1	96.588 %	0.0643
10	10	6	[106,120]	[1,10]	[228,1146]	0.026	0.012	-226.8	-191.5	92.641 %	0.0824
10	10	6	[106,120]	[5,10]	[114,1148]	0.023	0.015	-95.1	-47.0	92.524 %	0.0724
10	10	6	[106,120]	[5,10]	[228,1148]	0.016	0.006	-165.6	-120.5	92.076 %	0.0814
10	10	6	[106,120]	[1,30]	[115,1156]	0.022	0.006	-104.4	-38.4	89.259 %	0.0688
10	10	6	[106,120]	[1,30]	[230,1156]	0.064	0.038	-238.3	-167.4	87.409 %	0.0663
10	10	6	[106,120]	[15,30]	[116,1163]	0.024	0.010	-46.7	12.0	91.197 %	0.0629
10	10	6	[106,120]	[15,30]	[232,1163]	0.021	0.007	-175.8	-116.0	89.543 %	0.0675
10	10	6	[112,120]	[1,10]	[117,1176]	0.020	0.008	-67.0	-38.4	94.816 %	0.0784
10	10	6	[112,120]	[1,10]	[234,1176]	0.023	0.009	-236.2	-156.4	85.790 %	0.0756
10	10	6	[112,120]	[5,10]	[117,1178]	0.019	0.006	-85.3	-47.5	93.539 %	0.0689
10	10	6	[112,120]	[5,10]	[234,1178]	0.021	0.009	-175.3	-120.3	90.208 %	0.1020
10	10	6	[112,120]	[1,30]	[118,1186]	0.022	0.008	-77.7	-10.3	89.675 %	0.0688
10	10	6	[112,120]	[1,30]	[236,1186]	0.023	0.008	-187.6	-135.1	90.852 %	0.0821
10	10	6	[112,120]	[15,30]	[119,1193]	0.021	0.007	-116.1	-34.6	87.681 %	0.0590
10	10	6	[112,120]	[15,30]	[238,1193]	0.024	0.009	-244.0	-203.5	92.983 %	0.0858

Tiempo Promedio Total H_2: 0.025 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 91.361 %

Tabla de Experimentos

$n : 20, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	6	[100,120]	[1,10]	[222,2227]	0.043	0.011	-229.0	-138.6	91.613 %	0.0542
10	20	6	[100,120]	[1,10]	[444,2227]	0.053	0.012	-396.2	-215.6	84.923 %	0.0761
10	20	6	[100,120]	[5,10]	[222,2229]	0.043	0.011	-185.1	-45.9	88.083 %	0.0520
10	20	6	[100,120]	[5,10]	[444,2229]	0.037	0.009	-433.8	-311.2	88.954 %	0.0462
10	20	6	[100,120]	[1,30]	[223,2237]	0.056	0.012	-190.9	-49.2	89.020 %	0.0615
10	20	6	[100,120]	[1,30]	[446,2237]	0.050	0.014	-416.0	-276.7	87.324 %	0.0597
10	20	6	[100,120]	[15,30]	[224,2244]	0.048	0.012	-203.6	-45.5	87.204 %	0.0472
10	20	6	[100,120]	[15,30]	[448,2244]	0.070	0.022	-398.6	-257.0	86.843 %	0.0446
10	20	6	[106,120]	[1,10]	[228,2287]	0.046	0.014	-210.8	-33.9	86.687 %	0.0750
10	20	6	[106,120]	[1,10]	[456,2287]	0.042	0.011	-419.6	-223.0	83.688 %	0.0580
10	20	6	[106,120]	[5,10]	[228,2289]	0.035	0.011	-211.6	-62.9	88.001 %	0.0733
10	20	6	[106,120]	[5,10]	[456,2289]	0.078	0.028	-424.3	-356.2	93.149 %	0.0641
10	20	6	[106,120]	[1,30]	[229,2297]	0.060	0.019	-172.2	-8.6	87.849 %	0.0821
10	20	6	[106,120]	[1,30]	[458,2297]	0.061	0.015	-438.9	-285.6	85.856 %	0.0793
10	20	6	[106,120]	[15,30]	[230,2304]	0.049	0.013	-191.2	-17.2	86.644 %	0.0731
10	20	6	[106,120]	[15,30]	[460,2304]	0.047	0.012	-406.1	-221.1	83.270 %	0.0535
10	20	6	[112,120]	[1,10]	[234,2348]	0.042	0.014	-182.0	-22.7	87.508 %	0.0761
10	20	6	[112,120]	[1,10]	[468,2348]	0.044	0.012	-425.1	-248.3	84.088 %	0.0995
10	20	6	[112,120]	[5,10]	[235,2350]	0.039	0.012	-226.4	-51.6	86.094 %	0.0661
10	20	6	[112,120]	[5,10]	[470,2350]	0.042	0.010	-401.9	-216.5	83.003 %	0.0664
10	20	6	[112,120]	[1,30]	[235,2358]	0.061	0.016	-173.1	-0.3	86.283 %	0.0357
10	20	6	[112,120]	[1,30]	[470,2358]	0.053	0.012	-408.7	-239.1	85.863 %	0.0672
10	20	6	[112,120]	[15,30]	[236,2365]	0.081	0.012	-207.6	-16.3	85.268 %	0.0630
10	20	6	[112,120]	[15,30]	[472,2365]	0.045	0.011	-434.0	-238.4	83.488 %	0.0891

Tiempo Promedio Total H_2: 0.051 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 86.696 %

Tabla de Experimentos

$n : 30, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	6	[100,120]	[1,10]	[333,3338]	0.078	0.013	-292.2	-72.0	87.353 %	0.0517
10	30	6	[100,120]	[1,10]	[666,3338]	0.076	0.012	-601.7	-293.5	82.075 %	0.0322
10	30	6	[100,120]	[5,10]	[334,3340]	0.072	0.017	-364.4	-68.6	83.032 %	0.0435
10	30	6	[100,120]	[5,10]	[668,3340]	0.067	0.015	-684.8	-396.3	82.918 %	0.0547
10	30	6	[100,120]	[1,30]	[334,3348]	0.094	0.013	-322.8	-59.1	85.732 %	0.0491
10	30	6	[100,120]	[1,30]	[668,3348]	0.098	0.012	-662.0	-411.8	84.626 %	0.0722
10	30	6	[100,120]	[15,30]	[335,3355]	0.085	0.015	-296.8	-19.3	84.765 %	0.0594
10	30	6	[100,120]	[15,30]	[670,3355]	0.097	0.018	-621.1	-314.3	81.940 %	0.0673
10	30	6	[106,120]	[1,10]	[342,3428]	0.073	0.014	-332.1	3.1	81.871 %	0.0363
10	30	6	[106,120]	[1,10]	[684,3428]	0.083	0.015	-667.5	-384.0	84.431 %	0.0422
10	30	6	[106,120]	[5,10]	[343,3430]	0.081	0.016	-268.3	22.3	84.521 %	0.0418
10	30	6	[106,120]	[5,10]	[686,3430]	0.072	0.018	-680.6	-415.8	84.345 %	0.0666
10	30	6	[106,120]	[1,30]	[343,3439]	0.096	0.020	-364.5	-67.5	83.460 %	0.0420
10	30	6	[106,120]	[1,30]	[686,3439]	0.093	0.016	-624.3	-300.5	80.575 %	0.0431
10	30	6	[106,120]	[15,30]	[344,3446]	0.082	0.012	-333.9	-65.2	86.678 %	0.0749
10	30	6	[106,120]	[15,30]	[688,3446]	0.082	0.016	-644.4	-331.4	82.787 %	0.0516
10	30	6	[112,120]	[1,10]	[351,3519]	0.075	0.018	-333.2	-15.6	83.820 %	0.0712
10	30	6	[112,120]	[1,10]	[702,3519]	0.070	0.015	-683.5	-377.0	81.990 %	0.0678
10	30	6	[112,120]	[5,10]	[352,3521]	0.068	0.012	-353.3	-38.2	83.342 %	0.0277
10	30	6	[112,120]	[5,10]	[704,3521]	0.065	0.013	-672.6	-352.8	82.017 %	0.0691
10	30	6	[112,120]	[1,30]	[352,3529]	0.100	0.013	-333.9	1.9	82.940 %	0.0434
10	30	6	[112,120]	[1,30]	[704,3529]	0.085	0.018	-670.4	-380.7	83.469 %	0.0470
10	30	6	[112,120]	[15,30]	[353,3537]	0.083	0.013	-303.3	-40.4	87.413 %	0.0691
10	30	6	[112,120]	[15,30]	[706,3537]	0.085	0.013	-640.8	-398.2	86.236 %	0.0361

Tiempo Promedio Total H_2: 0.082 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 83.847 %

Tabla de Experimentos

$n : 50, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	6	[100,120]	[1,10]	[556,5560]	0.188	0.023	-577.9	-83.8	83.530 %	0.0266
10	50	6	[100,120]	[1,10]	[1112,5560]	0.185	0.023	-1061.3	-535.3	81.718 %	0.0438
10	50	6	[100,120]	[5,10]	[556,5562]	0.172	0.024	-545.1	-83.8	84.454 %	0.0410
10	50	6	[100,120]	[5,10]	[1112,5562]	0.188	0.028	-1129.2	-669.6	83.573 %	0.0572
10	50	6	[100,120]	[1,30]	[557,5570]	0.246	0.027	-506.3	132.3	79.959 %	0.0219
10	50	6	[100,120]	[1,30]	[1114,5570]	0.241	0.021	-1056.9	-468.7	79.200 %	0.0458
10	50	6	[100,120]	[15,30]	[557,5577]	0.232	0.021	-573.3	7.2	81.638 %	0.0485
10	50	6	[100,120]	[15,30]	[1114,5577]	0.203	0.022	-1086.6	-582.2	82.024 %	0.0500
10	50	6	[106,120]	[1,10]	[571,5711]	0.195	0.025	-589.0	-107.6	84.746 %	0.0315
10	50	6	[106,120]	[1,10]	[1142,5711]	0.189	0.025	-1148.3	-664.8	82.238 %	0.0393
10	50	6	[106,120]	[5,10]	[571,5713]	0.181	0.027	-555.3	-0.9	82.374 %	0.0290
10	50	6	[106,120]	[5,10]	[1142,5713]	0.186	0.025	-1117.5	-628.6	82.695 %	0.0570
10	50	6	[106,120]	[1,30]	[572,5721]	0.239	0.022	-536.9	65.8	81.006 %	0.0386
10	50	6	[106,120]	[1,30]	[1144,5721]	0.246	0.023	-1096.9	-489.7	79.163 %	0.0461
10	50	6	[106,120]	[15,30]	[572,5728]	0.207	0.022	-539.4	4.7	83.298 %	0.0412
10	50	6	[106,120]	[15,30]	[1144,5728]	0.203	0.023	-1103.0	-485.6	78.944 %	0.0468
10	50	6	[112,120]	[1,10]	[586,5863]	0.185	0.022	-535.2	-8.4	83.227 %	0.0555
10	50	6	[112,120]	[1,10]	[1172,5863]	0.177	0.024	-1122.6	-505.9	79.132 %	0.0348
10	50	6	[112,120]	[5,10]	[586,5865]	0.174	0.026	-522.9	44.0	82.494 %	0.0343
10	50	6	[112,120]	[5,10]	[1172,5865]	0.163	0.025	-1100.4	-509.4	79.871 %	0.0412
10	50	6	[112,120]	[1,30]	[587,5873]	0.239	0.023	-562.7	6.9	82.236 %	0.0372
10	50	6	[112,120]	[1,30]	[1174,5873]	0.236	0.024	-1167.1	-474.8	77.945 %	0.0346
10	50	6	[112,120]	[15,30]	[588,5880]	0.200	0.021	-534.7	-37.3	84.447 %	0.0447
10	50	6	[112,120]	[15,30]	[1176,5880]	0.214	0.023	-1100.6	-533.7	80.990 %	0.0351

Tiempo Promedio Total H_2: 0.204 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 81.704 %

Tabla de Experimentos

$n : 100, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	6	[100,120]	[1,10]	[1111,11115]	1.046	0.064	-1115.5	70.0	81.231 %	0.0364
10	100	6	[100,120]	[1,10]	[2222,11115]	1.010	0.066	-2226.2	-1014.2	78.276 %	0.0293
10	100	6	[100,120]	[5,10]	[1111,11117]	0.956	0.065	-1078.2	114.3	80.609 %	0.0283
10	100	6	[100,120]	[5,10]	[2222,11117]	0.982	0.064	-2182.9	-956.5	78.428 %	0.0514
10	100	6	[100,120]	[1,30]	[1112,11125]	1.229	0.065	-1107.8	263.4	78.517 %	0.0315
10	100	6	[100,120]	[1,30]	[2224,11125]	1.204	0.062	-2206.4	-852.3	77.095 %	0.0422
10	100	6	[100,120]	[15,30]	[1113,11132]	1.058	0.063	-1063.0	206.9	79.556 %	0.0284
10	100	6	[100,120]	[15,30]	[2226,11132]	1.124	0.062	-2239.6	-925.5	76.927 %	0.0441
10	100	6	[106,120]	[1,10]	[1141,11418]	0.978	0.065	-1164.7	135.4	80.091 %	0.0298
10	100	6	[106,120]	[1,10]	[2282,11418]	0.985	0.066	-2258.7	-989.6	78.389 %	0.0396
10	100	6	[106,120]	[5,10]	[1142,11420]	0.931	0.065	-1084.4	205.1	80.022 %	0.0226
10	100	6	[106,120]	[5,10]	[2284,11420]	0.950	0.065	-2224.5	-957.4	78.176 %	0.0342
10	100	6	[106,120]	[1,30]	[1142,11428]	1.189	0.062	-1079.1	104.2	81.178 %	0.0409
10	100	6	[106,120]	[1,30]	[2284,11428]	1.268	0.065	-2282.0	-971.8	78.065 %	0.0347
10	100	6	[106,120]	[15,30]	[1143,11435]	1.066	0.061	-1133.0	196.5	79.306 %	0.0160
10	100	6	[106,120]	[15,30]	[2286,11435]	1.097	0.068	-2231.2	-847.1	77.080 %	0.0254
10	100	6	[112,120]	[1,10]	[1172,11721]	0.982	0.068	-1134.8	94.5	80.808 %	0.0372
10	100	6	[112,120]	[1,10]	[2344,11721]	0.946	0.062	-2327.2	-997.2	78.115 %	0.0477
10	100	6	[112,120]	[5,10]	[1172,11723]	0.913	0.063	-1145.0	206.7	79.695 %	0.0289
10	100	6	[112,120]	[5,10]	[2344,11723]	0.919	0.062	-2302.2	-1037.7	79.035 %	0.0228
10	100	6	[112,120]	[1,30]	[1173,11731]	1.189	0.062	-1114.4	193.2	80.332 %	0.0288
10	100	6	[112,120]	[1,30]	[2346,11731]	1.269	0.063	-2386.2	-908.0	75.916 %	0.0274
10	100	6	[112,120]	[15,30]	[1173,11738]	1.063	0.061	-1226.9	80.0	80.634 %	0.0476
10	100	6	[112,120]	[15,30]	[2346,11738]	1.023	0.065	-2273.6	-998.2	78.950 %	0.0361

Tiempo Promedio Total H_2: 1.057 seg.

Tiempo Promedio Total H_1: 0.064 seg.

Rendimiento Promedio Total: 79.018 %

Tabla de Experimentos

$n : 200, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	6	[100,120]	[1,10]	[2222,22225]	7.046	0.206	-2271.2	471.7	78.670 %	0.0288
10	200	6	[100,120]	[1,10]	[4444,22225]	6.874	0.202	-4429.5	-1740.7	76.719 %	0.0229
10	200	6	[100,120]	[5,10]	[2222,22227]	6.705	0.210	-2220.9	375.5	79.316 %	0.0198
10	200	6	[100,120]	[5,10]	[4444,22227]	6.694	0.211	-4446.3	-1674.2	76.102 %	0.0147
10	200	6	[100,120]	[1,30]	[2223,22235]	7.620	0.204	-2219.4	476.3	78.587 %	0.0266
10	200	6	[100,120]	[1,30]	[4446,22235]	7.574	0.197	-4416.5	-1543.3	75.643 %	0.0222
10	200	6	[100,120]	[15,30]	[2224,22242]	7.191	0.205	-2201.8	696.6	77.766 %	0.0260
10	200	6	[100,120]	[15,30]	[4448,22242]	7.117	0.203	-4379.1	-1612.0	76.276 %	0.0399
10	200	6	[106,120]	[1,10]	[2283,22831]	6.859	0.207	-2298.2	423.2	79.132 %	0.0267
10	200	6	[106,120]	[1,10]	[4566,22831]	6.918	0.206	-4506.1	-1781.4	77.092 %	0.0292
10	200	6	[106,120]	[5,10]	[2283,22833]	6.487	0.210	-2332.7	327.7	79.519 %	0.0201
10	200	6	[106,120]	[5,10]	[4566,22833]	6.531	0.211	-4546.9	-1752.5	76.830 %	0.0253
10	200	6	[106,120]	[1,30]	[2284,22841]	7.640	0.200	-2232.9	585.2	78.738 %	0.0197
10	200	6	[106,120]	[1,30]	[4568,22841]	7.706	0.201	-4536.3	-1469.9	74.893 %	0.0230
10	200	6	[106,120]	[15,30]	[2284,22848]	7.078	0.205	-2226.7	721.8	77.329 %	0.0214
10	200	6	[106,120]	[15,30]	[4568,22848]	7.187	0.207	-4547.3	-1359.9	73.978 %	0.0179
10	200	6	[112,120]	[1,10]	[2343,23437]	6.665	0.206	-2303.7	653.4	77.918 %	0.0204
10	200	6	[112,120]	[1,10]	[4686,23437]	6.605	0.211	-4688.1	-1794.2	76.577 %	0.0225
10	200	6	[112,120]	[5,10]	[2343,23439]	6.514	0.232	-2395.5	548.8	78.191 %	0.0174
10	200	6	[112,120]	[5,10]	[4686,23439]	6.468	0.207	-4610.4	-1706.0	76.565 %	0.0125
10	200	6	[112,120]	[1,30]	[2344,23447]	7.693	0.202	-2297.7	900.8	76.888 %	0.0217
10	200	6	[112,120]	[1,30]	[4688,23447]	7.533	0.203	-4676.2	-1581.1	75.108 %	0.0263
10	200	6	[112,120]	[15,30]	[2345,23454]	7.099	0.200	-2248.7	888.8	77.243 %	0.0196
10	200	6	[112,120]	[15,30]	[4690,23454]	6.932	0.204	-4698.6	-1640.6	75.588 %	0.0220

Tiempo Promedio Total H_2: 7.031 seg.

Tiempo Promedio Total H_1: 0.206 seg.

Rendimiento Promedio Total: 77.111 %

Tabla de Experimentos

$n : 300, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	6	[100,120]	[1,10]	[3333,33335]	23.035	0.436	-3296.5	1178.6	76.939 %	0.0191
10	300	6	[100,120]	[1,10]	[6666,33335]	22.522	0.436	-6654.6	-2439.2	76.255 %	0.0196
10	300	6	[100,120]	[5,10]	[3333,33337]	22.128	0.446	-3259.2	917.7	78.224 %	0.0146
10	300	6	[100,120]	[5,10]	[6666,33337]	22.417	0.443	-6594.6	-2239.7	75.264 %	0.0114
10	300	6	[100,120]	[1,30]	[3334,33345]	24.218	0.428	-3294.9	1273.4	76.788 %	0.0260
10	300	6	[100,120]	[1,30]	[6668,33345]	24.464	0.430	-6638.0	-2288.1	75.560 %	0.0206
10	300	6	[100,120]	[15,30]	[3335,33352]	23.191	0.433	-3304.9	912.8	78.224 %	0.0143
10	300	6	[100,120]	[15,30]	[6670,33352]	22.917	0.431	-6648.7	-2170.1	75.095 %	0.0215
10	300	6	[106,120]	[1,10]	[3424,34244]	22.459	0.443	-3443.4	1050.5	77.729 %	0.0195
10	300	6	[106,120]	[1,10]	[6848,34244]	22.422	0.446	-6837.0	-2344.7	75.308 %	0.0141
10	300	6	[106,120]	[5,10]	[3424,34246]	21.924	0.447	-3473.6	691.7	78.770 %	0.0216
10	300	6	[106,120]	[5,10]	[6848,34246]	22.154	0.447	-6839.8	-2546.0	76.225 %	0.0225
10	300	6	[106,120]	[1,30]	[3425,34254]	24.143	0.442	-3396.4	1250.1	76.876 %	0.0195
10	300	6	[106,120]	[1,30]	[6850,34254]	24.047	0.426	-6773.9	-2217.5	75.384 %	0.0243
10	300	6	[106,120]	[15,30]	[3426,34261]	23.023	0.428	-3352.4	1220.8	77.037 %	0.0185
10	300	6	[106,120]	[15,30]	[6852,34261]	23.155	0.437	-6820.3	-2117.4	74.686 %	0.0196
10	300	6	[112,120]	[1,10]	[3515,35153]	21.551	0.446	-3466.5	943.9	78.064 %	0.0107
10	300	6	[112,120]	[1,10]	[7030,35153]	21.886	0.441	-6992.4	-2385.5	75.413 %	0.0083
10	300	6	[112,120]	[5,10]	[3515,35155]	21.410	0.444	-3453.0	835.4	78.349 %	0.0119
10	300	6	[112,120]	[5,10]	[7030,35155]	21.448	0.446	-6991.2	-2597.8	76.400 %	0.0152
10	300	6	[112,120]	[1,30]	[3516,35163]	23.900	0.437	-3442.9	1110.8	77.817 %	0.0193
10	300	6	[112,120]	[1,30]	[7032,35163]	24.158	0.433	-6982.8	-2123.3	74.578 %	0.0151
10	300	6	[112,120]	[15,30]	[3517,35170]	22.832	0.436	-3465.2	1188.4	77.079 %	0.0146
10	300	6	[112,120]	[15,30]	[7034,35170]	22.292	0.428	-7049.0	-2520.8	75.678 %	0.0245

Tiempo Promedio Total H_2: 22.821 seg.

Tiempo Promedio Total H_1: 0.438 seg.

Rendimiento Promedio Total: 76.573 %

Tabla de Experimentos

$n : 500, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	6	[100,120]	[1,10]	[5555,55555]	105.076	1.154	-5588.5	1604.1	77.740 %	0.0155
10	500	6	[100,120]	[1,10]	[11110,55555]	105.562	1.158	-11081.3	-3642.2	74.578 %	0.0130
10	500	6	[100,120]	[5,10]	[5555,55557]	104.658	1.195	-5566.0	1660.8	77.727 %	0.0091
10	500	6	[100,120]	[5,10]	[11110,55557]	103.852	1.181	-11078.5	-3923.9	75.579 %	0.0071
10	500	6	[100,120]	[1,30]	[5556,55565]	110.120	1.134	-5526.9	2129.2	76.601 %	0.0087
10	500	6	[100,120]	[1,30]	[11112,55565]	109.463	1.129	-11059.4	-3039.5	73.636 %	0.0140
10	500	6	[100,120]	[15,30]	[5557,55572]	106.321	1.152	-5495.6	2153.8	76.447 %	0.0135
10	500	6	[100,120]	[15,30]	[11114,55572]	106.055	1.148	-11150.1	-3180.1	73.700 %	0.0105
10	500	6	[106,120]	[1,10]	[5707,57070]	104.821	1.171	-5726.5	2197.7	76.110 %	0.0076
10	500	6	[106,120]	[1,10]	[11414,57070]	104.914	1.154	-11373.1	-3785.6	75.084 %	0.0213
10	500	6	[106,120]	[5,10]	[5707,57072]	103.830	1.189	-5684.6	1552.3	78.056 %	0.0129
10	500	6	[106,120]	[5,10]	[11414,57072]	102.725	1.189	-11430.6	-4378.2	76.506 %	0.0140
10	500	6	[106,120]	[1,30]	[5708,57080]	109.770	1.119	-5673.4	2314.2	76.552 %	0.0186
10	500	6	[106,120]	[1,30]	[11416,57080]	110.360	1.125	-11329.1	-3165.7	73.568 %	0.0162
10	500	6	[106,120]	[15,30]	[5708,57087]	105.445	1.139	-5733.7	2214.4	76.230 %	0.0148
10	500	6	[106,120]	[15,30]	[11416,57087]	106.048	1.150	-11345.6	-3326.5	74.180 %	0.0085
10	500	6	[112,120]	[1,10]	[5858,58585]	102.258	1.181	-5813.4	1625.5	77.820 %	0.0164
10	500	6	[112,120]	[1,10]	[11716,58585]	102.451	1.171	-11736.3	-3611.3	74.475 %	0.0087
10	500	6	[112,120]	[5,10]	[5858,58587]	100.273	1.185	-5799.3	1653.8	78.074 %	0.0231
10	500	6	[112,120]	[5,10]	[11716,58587]	101.080	1.181	-11672.3	-4194.1	76.052 %	0.0119
10	500	6	[112,120]	[1,30]	[5859,58595]	108.457	1.130	-5840.8	2197.8	76.566 %	0.0179
10	500	6	[112,120]	[1,30]	[11718,58595]	109.459	1.133	-11657.8	-3296.5	73.663 %	0.0092
10	500	6	[112,120]	[15,30]	[5860,58602]	104.288	1.160	-5806.0	2247.4	76.519 %	0.0106
10	500	6	[112,120]	[15,30]	[11720,58602]	105.119	1.145	-11682.2	-3520.2	74.238 %	0.0160

Tiempo Promedio Total H_2: 105.517 seg.

Tiempo Promedio Total H_1: 1.157 seg.

Rendimiento Promedio Total: 75.821 %

Tabla de Experimentos

$n : 750, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	6	[100,120]	[1,10]	[8333,83330]	377.879	2.597	-8362.1	3198.2	76.409 %	0.0089
10	750	6	[100,120]	[1,10]	[16666,83330]	375.649	2.585	-16650.2	-5200.4	74.656 %	0.0085
10	750	6	[100,120]	[5,10]	[8333,83332]	368.247	2.649	-8309.5	2526.7	77.615 %	0.0073
10	750	6	[100,120]	[5,10]	[16666,83332]	373.708	2.657	-16643.9	-5722.9	75.171 %	0.0051
10	750	6	[100,120]	[1,30]	[8334,83340]	387.040	2.525	-8350.7	4034.5	75.244 %	0.0068
10	750	6	[100,120]	[1,30]	[16668,83340]	386.645	2.536	-16609.4	-4230.7	73.016 %	0.0068
10	750	6	[100,120]	[15,30]	[8334,83347]	374.358	2.563	-8314.0	3415.0	76.245 %	0.0126
10	750	6	[100,120]	[15,30]	[16668,83347]	377.691	2.589	-16614.7	-4581.8	73.591 %	0.0075
10	750	6	[106,120]	[1,10]	[8560,85602]	372.769	2.600	-8547.8	2683.3	77.482 %	0.0143
10	750	6	[106,120]	[1,10]	[17120,85602]	369.385	2.581	-17067.3	-5086.9	73.987 %	0.0104
10	750	6	[106,120]	[5,10]	[8560,85604]	370.106	2.651	-8628.6	2864.7	76.844 %	0.0064
10	750	6	[106,120]	[5,10]	[17120,85604]	367.890	2.656	-17104.1	-5804.5	75.094 %	0.0066
10	750	6	[106,120]	[1,30]	[8561,85612]	385.878	2.523	-8572.6	3918.5	75.490 %	0.0094
10	750	6	[106,120]	[1,30]	[17122,85612]	386.825	2.537	-17141.9	-4803.6	73.447 %	0.0168
10	750	6	[106,120]	[15,30]	[8561,85619]	374.891	2.547	-8497.2	3500.7	76.504 %	0.0168
10	750	6	[106,120]	[15,30]	[17122,85619]	372.667	2.561	-17085.0	-4818.5	73.678 %	0.0094
10	750	6	[112,120]	[1,10]	[8787,87875]	365.638	2.604	-8764.0	3318.8	76.540 %	0.0112
10	750	6	[112,120]	[1,10]	[17574,87875]	366.520	2.592	-17514.1	-5156.7	74.064 %	0.0061
10	750	6	[112,120]	[5,10]	[8787,87877]	362.564	2.660	-8811.8	2880.4	77.214 %	0.0094
10	750	6	[112,120]	[5,10]	[17574,87877]	360.199	2.672	-17551.9	-6476.2	75.994 %	0.0181
10	750	6	[112,120]	[1,30]	[8788,87885]	386.980	2.551	-8816.3	3993.6	75.548 %	0.0128
10	750	6	[112,120]	[1,30]	[17576,87885]	385.364	2.514	-17524.9	-4848.2	73.546 %	0.0119
10	750	6	[112,120]	[15,30]	[8789,87892]	375.428	2.585	-8817.2	3768.0	75.894 %	0.0109
10	750	6	[112,120]	[15,30]	[17578,87892]	373.086	2.564	-17515.6	-4900.1	73.389 %	0.0162

Tiempo Promedio Total H_2: 374.892 seg.

Tiempo Promedio Total H_1: 2.587 seg.

Rendimiento Promedio Total: 75.278 %

Tabla de Experimentos

$n : 1000, m : 6, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	6	[100,120]	[1,10]	[11110,111105]	923.832	4.755	-11130.0	4575.7	76.147 %	0.0076
10	1000	6	[100,120]	[1,10]	[22220,111105]	913.885	4.664	-22186.6	-6649.9	74.107 %	0.0094
10	1000	6	[100,120]	[5,10]	[11110,111107]	911.818	4.747	-11049.4	3624.3	77.480 %	0.0029
10	1000	6	[100,120]	[5,10]	[22220,111107]	908.697	4.710	-22194.3	-7525.3	75.183 %	0.0049
10	1000	6	[100,120]	[1,30]	[11111,111115]	934.102	4.463	-11069.2	5348.7	75.215 %	0.0114
10	1000	6	[100,120]	[1,30]	[22222,111115]	933.167	4.492	-22150.2	-5688.4	72.905 %	0.0076
10	1000	6	[100,120]	[15,30]	[11112,111122]	923.364	4.572	-11049.3	4898.5	75.877 %	0.0064
10	1000	6	[100,120]	[15,30]	[22224,111122]	925.725	4.581	-22123.1	-5777.7	73.043 %	0.0077
10	1000	6	[106,120]	[1,10]	[11413,114135]	903.202	4.581	-11433.7	4730.3	75.920 %	0.0077
10	1000	6	[106,120]	[1,10]	[22826,114135]	909.232	4.586	-22811.7	-7253.8	74.583 %	0.0109
10	1000	6	[106,120]	[5,10]	[11413,114137]	911.452	4.801	-11365.9	3568.6	77.591 %	0.0067
10	1000	6	[106,120]	[5,10]	[22826,114137]	901.286	4.717	-22829.2	-7614.4	74.959 %	0.0074
10	1000	6	[106,120]	[1,30]	[11414,114145]	930.614	4.501	-11345.0	5102.9	75.718 %	0.0195
10	1000	6	[106,120]	[1,30]	[22828,114145]	940.977	4.526	-22840.9	-6109.7	73.517 %	0.0097
10	1000	6	[106,120]	[15,30]	[11415,114152]	913.151	4.528	-11418.6	4993.8	75.770 %	0.0101
10	1000	6	[106,120]	[15,30]	[22830,114152]	917.223	4.505	-22777.0	-6508.2	73.705 %	0.0143
10	1000	6	[112,120]	[1,10]	[11716,117165]	893.780	4.644	-11688.8	4348.1	76.597 %	0.0111
10	1000	6	[112,120]	[1,10]	[23432,117165]	898.826	4.569	-23414.3	-6990.6	74.211 %	0.0155
10	1000	6	[112,120]	[5,10]	[11716,117167]	892.532	4.818	-11695.4	3708.3	77.375 %	0.0084
10	1000	6	[112,120]	[5,10]	[23432,117167]	879.908	4.732	-23393.7	-7779.6	74.807 %	0.0044
10	1000	6	[112,120]	[1,30]	[11717,117175]	929.576	4.472	-11739.1	5439.7	75.305 %	0.0096
10	1000	6	[112,120]	[1,30]	[23434,117175]	934.273	4.502	-23377.3	-5858.7	72.867 %	0.0112
10	1000	6	[112,120]	[15,30]	[11718,117182]	910.233	4.557	-11646.2	5420.3	75.523 %	0.0092
10	1000	6	[112,120]	[15,30]	[23436,117182]	917.678	4.509	-23399.6	-6550.3	73.467 %	0.0140

Tiempo Promedio Total H_2: 914.939 seg.

Tiempo Promedio Total H_1: 4.606 seg.

Rendimiento Promedio Total: 75.078 %

Tabla de Experimentos

$n : 10, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	10	[100,120]	[1,10]	[111,1116]	0.056	0.014	-75.9	-74.9	99.762 %	0.0071
10	10	10	[100,120]	[1,10]	[222,1116]	0.025	0.009	-203.0	-202.2	99.793 %	0.0045
10	10	10	[100,120]	[5,10]	[111,1118]	0.022	0.010	-154.4	-154.3	99.983 %	0.0005
10	10	10	[100,120]	[5,10]	[222,1118]	0.022	0.009	-202.3	-202.0	99.951 %	0.0015
10	10	10	[100,120]	[1,30]	[112,1126]	0.025	0.008	-73.2	-73.2	100.000 %	0.0000
10	10	10	[100,120]	[1,30]	[224,1126]	0.024	0.009	-166.9	-166.5	99.876 %	0.0037
10	10	10	[100,120]	[15,30]	[113,1133]	0.031	0.011	-43.1	-42.2	99.837 %	0.0049
10	10	10	[100,120]	[15,30]	[226,1133]	0.022	0.010	-233.5	-233.3	99.961 %	0.0012
10	10	10	[106,120]	[1,10]	[114,1146]	0.022	0.011	-137.9	-137.4	99.901 %	0.0030
10	10	10	[106,120]	[1,10]	[228,1146]	0.023	0.012	-183.0	-182.5	99.890 %	0.0033
10	10	10	[106,120]	[5,10]	[114,1148]	0.033	0.016	-103.1	-103.1	100.000 %	0.0000
10	10	10	[106,120]	[5,10]	[228,1148]	0.023	0.010	-136.2	-136.2	100.000 %	0.0000
10	10	10	[106,120]	[1,30]	[115,1156]	0.024	0.007	-70.4	-70.4	100.000 %	0.0000
10	10	10	[106,120]	[1,30]	[230,1156]	0.021	0.009	-159.4	-159.4	100.000 %	0.0000
10	10	10	[106,120]	[15,30]	[116,1163]	0.028	0.013	-74.1	-73.0	99.774 %	0.0047
10	10	10	[106,120]	[15,30]	[232,1163]	0.027	0.011	-173.1	-173.1	100.000 %	0.0000
10	10	10	[112,120]	[1,10]	[117,1176]	0.031	0.018	-84.2	-84.1	99.982 %	0.0005
10	10	10	[112,120]	[1,10]	[234,1176]	0.031	0.013	-180.9	-180.7	99.961 %	0.0012
10	10	10	[112,120]	[5,10]	[117,1178]	0.020	0.009	-82.3	-82.3	100.000 %	0.0000
10	10	10	[112,120]	[5,10]	[234,1178]	0.017	0.010	-275.1	-275.0	99.979 %	0.0006
10	10	10	[112,120]	[1,30]	[118,1186]	0.027	0.010	-89.4	-89.0	99.928 %	0.0022
10	10	10	[112,120]	[1,30]	[236,1186]	0.042	0.021	-189.2	-188.9	99.957 %	0.0013
10	10	10	[112,120]	[15,30]	[119,1193]	0.033	0.011	-92.3	-90.9	99.800 %	0.0033
10	10	10	[112,120]	[15,30]	[238,1193]	0.026	0.010	-193.5	-192.9	99.898 %	0.0021

Tiempo Promedio Total H_2: 0.027 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 99.926 %

Tabla de Experimentos

$n : 20, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	10	[100,120]	[1,10]	[222,2227]	0.046	0.013	-235.4	-183.7	94.884 %	0.0513
10	20	10	[100,120]	[1,10]	[444,2227]	0.048	0.012	-443.8	-343.0	90.000 %	0.0182
10	20	10	[100,120]	[5,10]	[222,2229]	0.044	0.010	-216.9	-157.9	94.148 %	0.0467
10	20	10	[100,120]	[5,10]	[444,2229]	0.046	0.011	-379.6	-336.2	95.532 %	0.0415
10	20	10	[100,120]	[1,30]	[223,2237]	0.061	0.009	-210.4	-163.3	95.568 %	0.0328
10	20	10	[100,120]	[1,30]	[446,2237]	0.063	0.013	-403.9	-372.5	96.635 %	0.0416
10	20	10	[100,120]	[15,30]	[224,2244]	0.061	0.019	-238.7	-162.7	92.834 %	0.0365
10	20	10	[100,120]	[15,30]	[448,2244]	0.053	0.014	-432.1	-383.3	95.181 %	0.0415
10	20	10	[106,120]	[1,10]	[228,2287]	0.053	0.013	-263.3	-209.1	95.035 %	0.0433
10	20	10	[106,120]	[1,10]	[456,2287]	0.047	0.010	-429.9	-387.0	95.348 %	0.0486
10	20	10	[106,120]	[5,10]	[228,2289]	0.050	0.020	-214.5	-107.5	90.847 %	0.0074
10	20	10	[106,120]	[5,10]	[456,2289]	0.054	0.016	-411.2	-339.9	93.055 %	0.0456
10	20	10	[106,120]	[1,30]	[229,2297]	0.057	0.011	-198.0	-132.7	94.255 %	0.0343
10	20	10	[106,120]	[1,30]	[458,2297]	0.059	0.013	-456.5	-399.3	94.430 %	0.0439
10	20	10	[106,120]	[15,30]	[230,2304]	0.053	0.010	-222.2	-158.9	94.198 %	0.0440
10	20	10	[106,120]	[15,30]	[460,2304]	0.055	0.014	-391.1	-328.8	94.691 %	0.0413
10	20	10	[112,120]	[1,10]	[234,2348]	0.041	0.012	-206.2	-119.0	92.040 %	0.0364
10	20	10	[112,120]	[1,10]	[468,2348]	0.044	0.013	-434.8	-383.4	95.097 %	0.0402
10	20	10	[112,120]	[5,10]	[235,2350]	0.043	0.012	-224.3	-181.6	96.330 %	0.0393
10	20	10	[112,120]	[5,10]	[470,2350]	0.036	0.013	-415.7	-348.8	93.988 %	0.0493
10	20	10	[112,120]	[1,30]	[235,2358]	0.060	0.012	-209.8	-127.5	93.409 %	0.0333
10	20	10	[112,120]	[1,30]	[470,2358]	0.062	0.013	-444.9	-393.6	94.805 %	0.0525
10	20	10	[112,120]	[15,30]	[236,2365]	0.050	0.013	-163.1	-130.8	97.248 %	0.0419
10	20	10	[112,120]	[15,30]	[472,2365]	0.053	0.012	-379.1	-305.7	93.117 %	0.0454

Tiempo Promedio Total H_2: 0.052 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 94.278 %

Tabla de Experimentos

$n : 30, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	10	[100,120]	[1,10]	[333,3338]	0.082	0.014	-358.2	-256.6	93.864 %	0.0451
10	30	10	[100,120]	[1,10]	[666,3338]	0.084	0.015	-633.6	-472.5	89.529 %	0.0276
10	30	10	[100,120]	[5,10]	[334,3340]	0.077	0.017	-335.3	-250.4	94.851 %	0.0271
10	30	10	[100,120]	[5,10]	[668,3340]	0.076	0.013	-615.0	-510.2	93.359 %	0.0406
10	30	10	[100,120]	[1,30]	[334,3348]	0.110	0.015	-335.1	-207.6	92.509 %	0.0432
10	30	10	[100,120]	[1,30]	[668,3348]	0.107	0.017	-598.5	-485.2	92.312 %	0.0493
10	30	10	[100,120]	[15,30]	[335,3355]	0.121	0.019	-336.0	-219.1	92.967 %	0.0470
10	30	10	[100,120]	[15,30]	[670,3355]	0.094	0.016	-656.1	-558.1	93.226 %	0.0406
10	30	10	[106,120]	[1,10]	[342,3428]	0.087	0.015	-331.1	-192.2	91.481 %	0.0396
10	30	10	[106,120]	[1,10]	[684,3428]	0.104	0.027	-646.1	-495.1	90.393 %	0.0336
10	30	10	[106,120]	[5,10]	[343,3430]	0.073	0.013	-317.4	-207.9	93.896 %	0.0452
10	30	10	[106,120]	[5,10]	[686,3430]	0.076	0.013	-628.8	-480.7	90.494 %	0.0395
10	30	10	[106,120]	[1,30]	[343,3439]	0.103	0.018	-311.0	-164.6	91.455 %	0.0356
10	30	10	[106,120]	[1,30]	[686,3439]	0.108	0.014	-606.0	-495.5	92.829 %	0.0517
10	30	10	[106,120]	[15,30]	[344,3446]	0.096	0.013	-309.5	-121.0	89.343 %	0.0373
10	30	10	[106,120]	[15,30]	[688,3446]	0.096	0.017	-626.7	-485.6	91.167 %	0.0430
10	30	10	[112,120]	[1,10]	[351,3519]	0.075	0.018	-406.2	-278.2	92.256 %	0.0466
10	30	10	[112,120]	[1,10]	[702,3519]	0.077	0.014	-684.0	-526.3	90.525 %	0.0446
10	30	10	[112,120]	[5,10]	[352,3521]	0.069	0.015	-368.1	-243.7	93.120 %	0.0447
10	30	10	[112,120]	[5,10]	[704,3521]	0.068	0.016	-662.7	-491.2	89.594 %	0.0281
10	30	10	[112,120]	[1,30]	[352,3529]	0.107	0.016	-304.3	-177.7	93.056 %	0.0369
10	30	10	[112,120]	[1,30]	[704,3529]	0.125	0.015	-654.2	-530.9	92.042 %	0.0492
10	30	10	[112,120]	[15,30]	[353,3537]	0.090	0.015	-288.1	-144.6	92.068 %	0.0463
10	30	10	[112,120]	[15,30]	[706,3537]	0.091	0.016	-618.4	-468.1	90.769 %	0.0441

Tiempo Promedio Total H_2: 0.092 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 91.963 %

Tabla de Experimentos

$n : 50, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	10	[100,120]	[1,10]	[556,5560]	0.199	0.024	-512.9	-226.1	90.133 %	0.0399
10	50	10	[100,120]	[1,10]	[1112,5560]	0.199	0.025	-1095.4	-775.7	87.488 %	0.0420
10	50	10	[100,120]	[5,10]	[556,5562]	0.181	0.025	-514.8	-266.1	91.471 %	0.0393
10	50	10	[100,120]	[5,10]	[1112,5562]	0.214	0.027	-1070.4	-826.8	90.264 %	0.0270
10	50	10	[100,120]	[1,30]	[557,5570]	0.265	0.024	-527.3	-301.0	91.484 %	0.0356
10	50	10	[100,120]	[1,30]	[1114,5570]	0.261	0.022	-1083.6	-809.0	89.023 %	0.0479
10	50	10	[100,120]	[15,30]	[557,5577]	0.215	0.025	-497.9	-303.6	92.994 %	0.0356
10	50	10	[100,120]	[15,30]	[1114,5577]	0.225	0.024	-1127.1	-885.2	90.092 %	0.0355
10	50	10	[106,120]	[1,10]	[571,5711]	0.196	0.024	-561.6	-360.2	92.955 %	0.0387
10	50	10	[106,120]	[1,10]	[1142,5711]	0.201	0.028	-1182.8	-921.4	89.907 %	0.0287
10	50	10	[106,120]	[5,10]	[571,5713]	0.168	0.024	-510.0	-263.6	91.496 %	0.0401
10	50	10	[106,120]	[5,10]	[1142,5713]	0.178	0.025	-1091.2	-818.4	90.070 %	0.0167
10	50	10	[106,120]	[1,30]	[572,5721]	0.260	0.023	-519.5	-192.7	88.930 %	0.0494
10	50	10	[106,120]	[1,30]	[1144,5721]	0.255	0.025	-1130.3	-872.6	90.286 %	0.0447
10	50	10	[106,120]	[15,30]	[572,5728]	0.223	0.023	-512.2	-164.2	88.127 %	0.0245
10	50	10	[106,120]	[15,30]	[1144,5728]	0.221	0.024	-1096.3	-760.7	87.334 %	0.0332
10	50	10	[112,120]	[1,10]	[586,5863]	0.192	0.023	-586.2	-270.4	89.574 %	0.0442
10	50	10	[112,120]	[1,10]	[1172,5863]	0.196	0.027	-1162.8	-922.1	90.948 %	0.0295
10	50	10	[112,120]	[5,10]	[586,5865]	0.161	0.024	-545.6	-263.8	90.420 %	0.0368
10	50	10	[112,120]	[5,10]	[1172,5865]	0.176	0.027	-1142.0	-893.5	90.957 %	0.0516
10	50	10	[112,120]	[1,30]	[587,5873]	0.261	0.025	-532.3	-219.7	89.607 %	0.0327
10	50	10	[112,120]	[1,30]	[1174,5873]	0.269	0.026	-1124.8	-842.7	89.093 %	0.0334
10	50	10	[112,120]	[15,30]	[588,5880]	0.228	0.025	-492.3	-151.3	88.717 %	0.0385
10	50	10	[112,120]	[15,30]	[1176,5880]	0.228	0.028	-1120.3	-803.3	88.251 %	0.0551

Tiempo Promedio Total H_2: 0.216 seg.

Tiempo Promedio Total H_1: 0.025 seg.

Rendimiento Promedio Total: 89.984 %

Tabla de Experimentos

$n : 100, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	10	[100,120]	[1,10]	[1111,11115]	1.014	0.067	-1175.1	-397.5	86.807 %	0.0266
10	100	10	[100,120]	[1,10]	[2222,11115]	0.964	0.061	-2213.3	-1506.8	86.706 %	0.0385
10	100	10	[100,120]	[5,10]	[1111,11117]	0.941	0.066	-1083.7	-331.6	87.014 %	0.0147
10	100	10	[100,120]	[5,10]	[2222,11117]	0.916	0.065	-2152.5	-1435.5	86.253 %	0.0181
10	100	10	[100,120]	[1,30]	[1112,11125]	1.187	0.062	-1136.4	-605.0	90.472 %	0.0380
10	100	10	[100,120]	[1,30]	[2224,11125]	1.248	0.064	-2164.1	-1443.8	85.757 %	0.0317
10	100	10	[100,120]	[15,30]	[1113,11132]	1.061	0.065	-1048.0	-398.3	88.725 %	0.0304
10	100	10	[100,120]	[15,30]	[2226,11132]	1.044	0.062	-2185.7	-1478.6	86.735 %	0.0243
10	100	10	[106,120]	[1,10]	[1141,11418]	0.944	0.067	-1130.7	-547.0	90.095 %	0.0282
10	100	10	[106,120]	[1,10]	[2282,11418]	0.938	0.063	-2284.0	-1541.5	86.137 %	0.0203
10	100	10	[106,120]	[5,10]	[1142,11420]	0.881	0.065	-1137.5	-582.2	90.233 %	0.0464
10	100	10	[106,120]	[5,10]	[2284,11420]	0.897	0.064	-2233.7	-1503.1	86.123 %	0.0144
10	100	10	[106,120]	[1,30]	[1142,11428]	1.205	0.063	-1078.7	-413.6	88.710 %	0.0420
10	100	10	[106,120]	[1,30]	[2284,11428]	1.214	0.064	-2269.3	-1546.7	86.597 %	0.0308
10	100	10	[106,120]	[15,30]	[1143,11435]	1.010	0.065	-1077.1	-339.6	87.476 %	0.0286
10	100	10	[106,120]	[15,30]	[2286,11435]	1.059	0.067	-2196.6	-1539.5	87.641 %	0.0320
10	100	10	[112,120]	[1,10]	[1172,11721]	0.946	0.068	-1141.3	-402.4	87.483 %	0.0224
10	100	10	[112,120]	[1,10]	[2344,11721]	0.867	0.065	-2280.2	-1580.3	87.018 %	0.0381
10	100	10	[112,120]	[5,10]	[1172,11723]	0.845	0.064	-1151.7	-455.8	88.709 %	0.0312
10	100	10	[112,120]	[5,10]	[2344,11723]	0.878	0.065	-2299.5	-1551.9	86.346 %	0.0339
10	100	10	[112,120]	[1,30]	[1173,11731]	1.297	0.070	-1133.0	-445.7	88.462 %	0.0294
10	100	10	[112,120]	[1,30]	[2346,11731]	1.270	0.068	-2275.4	-1520.3	86.282 %	0.0266
10	100	10	[112,120]	[15,30]	[1173,11738]	1.053	0.064	-1161.6	-470.8	88.560 %	0.0399
10	100	10	[112,120]	[15,30]	[2346,11738]	1.019	0.066	-2322.8	-1577.4	86.462 %	0.0271

Tiempo Promedio Total H_2: 1.029 seg.

Tiempo Promedio Total H_1: 0.065 seg.

Rendimiento Promedio Total: 87.533 %

Tabla de Experimentos

$n : 200, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	10	[100,120]	[1,10]	[2222,22225]	6.930	0.204	-2234.3	-770.0	87.266 %	0.0241
10	200	10	[100,120]	[1,10]	[4444,22225]	6.588	0.203	-4436.5	-2930.7	85.883 %	0.0298
10	200	10	[100,120]	[5,10]	[2222,22227]	6.452	0.209	-2233.1	-685.7	86.711 %	0.0122
10	200	10	[100,120]	[5,10]	[4444,22227]	6.414	0.207	-4407.0	-2935.1	85.676 %	0.0150
10	200	10	[100,120]	[1,30]	[2223,22235]	7.504	0.203	-2179.7	-577.1	86.355 %	0.0135
10	200	10	[100,120]	[1,30]	[4446,22235]	7.726	0.200	-4445.4	-2794.0	84.327 %	0.0116
10	200	10	[100,120]	[15,30]	[2224,22242]	6.895	0.201	-2186.2	-657.7	86.665 %	0.0173
10	200	10	[100,120]	[15,30]	[4448,22242]	6.972	0.200	-4401.9	-2665.4	84.003 %	0.0140
10	200	10	[106,120]	[1,10]	[2283,22831]	6.425	0.207	-2288.7	-753.0	87.099 %	0.0255
10	200	10	[106,120]	[1,10]	[4566,22831]	6.479	0.207	-4514.9	-2948.4	85.558 %	0.0237
10	200	10	[106,120]	[5,10]	[2283,22833]	6.202	0.206	-2242.4	-779.7	87.702 %	0.0230
10	200	10	[106,120]	[5,10]	[4566,22833]	6.230	0.210	-4519.6	-3047.6	86.177 %	0.0304
10	200	10	[106,120]	[1,30]	[2284,22841]	7.531	0.202	-2191.2	-514.5	86.092 %	0.0225
10	200	10	[106,120]	[1,30]	[4568,22841]	7.484	0.199	-4506.7	-2896.5	85.142 %	0.0191
10	200	10	[106,120]	[15,30]	[2284,22848]	6.944	0.207	-2249.0	-729.4	86.992 %	0.0197
10	200	10	[106,120]	[15,30]	[4568,22848]	6.827	0.205	-4503.3	-2882.9	84.982 %	0.0279
10	200	10	[112,120]	[1,10]	[2343,23437]	6.176	0.209	-2294.8	-722.0	87.039 %	0.0151
10	200	10	[112,120]	[1,10]	[4686,23437]	6.270	0.207	-4682.9	-2985.3	84.659 %	0.0287
10	200	10	[112,120]	[5,10]	[2343,23439]	5.949	0.221	-2360.4	-857.4	87.611 %	0.0146
10	200	10	[112,120]	[5,10]	[4686,23439]	6.143	0.229	-4608.2	-3023.6	85.608 %	0.0203
10	200	10	[112,120]	[1,30]	[2344,23447]	7.505	0.209	-2285.7	-624.6	86.453 %	0.0132
10	200	10	[112,120]	[1,30]	[4688,23447]	7.406	0.199	-4630.3	-2924.6	84.759 %	0.0245
10	200	10	[112,120]	[15,30]	[2345,23454]	6.693	0.198	-2298.2	-668.2	86.839 %	0.0155
10	200	10	[112,120]	[15,30]	[4690,23454]	6.733	0.203	-4633.7	-3034.6	85.746 %	0.0262

Tiempo Promedio Total H_2: 6.770 seg.

Tiempo Promedio Total H_1: 0.206 seg.

Rendimiento Promedio Total: 86.056 %

Tabla de Experimentos

$n : 300, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	10	[100,120]	[1,10]	[3333,33335]	21.395	0.447	-3282.1	-926.7	86.259 %	0.0226
10	300	10	[100,120]	[1,10]	[6666,33335]	21.414	0.441	-6646.1	-4244.1	84.731 %	0.0163
10	300	10	[100,120]	[5,10]	[3333,33337]	21.276	0.462	-3297.4	-844.5	85.871 %	0.0166
10	300	10	[100,120]	[5,10]	[6666,33337]	21.192	0.449	-6637.5	-4336.9	85.660 %	0.0208
10	300	10	[100,120]	[1,30]	[3334,33345]	23.656	0.435	-3301.2	-895.0	86.147 %	0.0253
10	300	10	[100,120]	[1,30]	[6668,33345]	23.449	0.433	-6662.4	-4139.6	84.216 %	0.0167
10	300	10	[100,120]	[15,30]	[3335,33352]	22.151	0.435	-3297.3	-869.7	86.053 %	0.0174
10	300	10	[100,120]	[15,30]	[6670,33352]	22.136	0.441	-6591.9	-4190.0	84.691 %	0.0266
10	300	10	[106,120]	[1,10]	[3424,34244]	20.701	0.440	-3411.9	-656.4	84.584 %	0.0075
10	300	10	[106,120]	[1,10]	[6848,34244]	21.420	0.445	-6794.6	-4318.1	84.612 %	0.0163
10	300	10	[106,120]	[5,10]	[3424,34246]	20.785	0.451	-3376.8	-975.8	86.326 %	0.0202
10	300	10	[106,120]	[5,10]	[6848,34246]	20.640	0.455	-6775.8	-4491.4	85.929 %	0.0137
10	300	10	[106,120]	[1,30]	[3425,34254]	23.393	0.439	-3437.1	-854.5	85.896 %	0.0105
10	300	10	[106,120]	[1,30]	[6850,34254]	23.208	0.435	-6834.8	-4430.6	85.228 %	0.0195
10	300	10	[106,120]	[15,30]	[3426,34261]	21.661	0.436	-3379.7	-726.1	85.314 %	0.0113
10	300	10	[106,120]	[15,30]	[6852,34261]	21.750	0.438	-6828.6	-4213.2	84.112 %	0.0125
10	300	10	[112,120]	[1,10]	[3515,35153]	20.062	0.438	-3445.5	-869.1	86.051 %	0.0194
10	300	10	[112,120]	[1,10]	[7030,35153]	19.859	0.452	-6996.6	-4500.2	84.878 %	0.0205
10	300	10	[112,120]	[5,10]	[3515,35155]	18.804	0.458	-3507.7	-1154.2	87.116 %	0.0164
10	300	10	[112,120]	[5,10]	[7030,35155]	19.116	0.454	-6989.7	-4535.3	85.144 %	0.0118
10	300	10	[112,120]	[1,30]	[3516,35163]	22.974	0.431	-3464.8	-940.8	86.308 %	0.0146
10	300	10	[112,120]	[1,30]	[7032,35163]	23.114	0.433	-6974.7	-4163.5	83.456 %	0.0185
10	300	10	[112,120]	[15,30]	[3517,35170]	20.882	0.436	-3433.7	-697.3	85.273 %	0.0112
10	300	10	[112,120]	[15,30]	[7034,35170]	21.193	0.440	-7037.2	-4302.1	83.851 %	0.0182

Tiempo Promedio Total H_2: 21.510 seg.

Tiempo Promedio Total H_1: 0.443 seg.

Rendimiento Promedio Total: 85.321 %

Tabla de Experimentos

$n : 500, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	10	[100,120]	[1,10]	[5555,55555]	102.224	1.168	-5555.9	-1047.9	84.752 %	0.0078
10	500	10	[100,120]	[1,10]	[11110,55555]	100.725	1.175	-11037.7	-6749.5	84.103 %	0.0136
10	500	10	[100,120]	[5,10]	[5555,55557]	100.884	1.211	-5580.7	-1841.9	87.100 %	0.0137
10	500	10	[100,120]	[5,10]	[11110,55557]	99.472	1.199	-11040.1	-6679.9	83.522 %	0.0036
10	500	10	[100,120]	[1,30]	[5556,55565]	107.577	1.147	-5537.7	-1196.0	85.201 %	0.0104
10	500	10	[100,120]	[1,30]	[11112,55565]	108.916	1.165	-11050.3	-6411.8	82.616 %	0.0104
10	500	10	[100,120]	[15,30]	[5557,55572]	104.148	1.174	-5512.5	-1175.6	85.124 %	0.0130
10	500	10	[100,120]	[15,30]	[11114,55572]	102.868	1.169	-11072.2	-6613.8	83.347 %	0.0144
10	500	10	[106,120]	[1,10]	[5707,57070]	100.084	1.181	-5645.3	-1224.5	85.349 %	0.0118
10	500	10	[106,120]	[1,10]	[11414,57070]	98.230	1.183	-11372.3	-7114.9	84.337 %	0.0222
10	500	10	[106,120]	[5,10]	[5707,57072]	98.224	1.389	-5718.9	-1523.8	85.855 %	0.0134
10	500	10	[106,120]	[5,10]	[11414,57072]	98.517	1.346	-11387.3	-7122.7	84.371 %	0.0141
10	500	10	[106,120]	[1,30]	[5708,57080]	106.959	1.156	-5654.3	-1052.8	84.791 %	0.0119
10	500	10	[106,120]	[1,30]	[11416,57080]	107.088	1.134	-11375.9	-6872.2	83.572 %	0.0129
10	500	10	[106,120]	[15,30]	[5708,57087]	101.814	1.155	-5670.3	-909.7	84.326 %	0.0106
10	500	10	[106,120]	[15,30]	[11416,57087]	101.677	1.157	-11333.3	-6722.9	83.205 %	0.0169
10	500	10	[112,120]	[1,10]	[5858,58585]	96.541	1.173	-5807.7	-1062.3	84.726 %	0.0086
10	500	10	[112,120]	[1,10]	[11716,58585]	95.966	1.175	-11712.8	-7175.6	83.841 %	0.0098
10	500	10	[112,120]	[5,10]	[5858,58587]	92.239	1.214	-5819.5	-1626.7	86.251 %	0.0109
10	500	10	[112,120]	[5,10]	[11716,58587]	92.005	1.192	-11691.2	-7483.4	84.791 %	0.0097
10	500	10	[112,120]	[1,30]	[5859,58595]	107.272	1.163	-5818.4	-1122.0	84.787 %	0.0168
10	500	10	[112,120]	[1,30]	[11718,58595]	105.854	1.152	-11702.7	-6820.4	82.781 %	0.0116
10	500	10	[112,120]	[15,30]	[5860,58602]	98.537	1.148	-5826.5	-1118.1	84.840 %	0.0120
10	500	10	[112,120]	[15,30]	[11720,58602]	98.220	1.152	-11668.1	-7298.8	84.266 %	0.0122

Tiempo Promedio Total H_2: 101.085 seg.

Tiempo Promedio Total H_1: 1.187 seg.

Rendimiento Promedio Total: 84.494 %

Tabla de Experimentos

$n : 750, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	10	[100,120]	[1,10]	[8333,83330]	355.213	2.606	-8323.4	-1758.1	85.163 %	0.0116
10	750	10	[100,120]	[1,10]	[16666,83330]	360.524	2.594	-16692.8	-9892.1	82.940 %	0.0109
10	750	10	[100,120]	[5,10]	[8333,83332]	355.403	2.645	-8399.8	-2430.8	86.225 %	0.0130
10	750	10	[100,120]	[5,10]	[16666,83332]	361.419	2.640	-16638.9	-10339.0	84.048 %	0.0131
10	750	10	[100,120]	[1,30]	[8334,83340]	374.855	2.483	-8378.6	-1316.5	84.168 %	0.0068
10	750	10	[100,120]	[1,30]	[16668,83340]	372.503	2.529	-16628.6	-9676.8	82.717 %	0.0115
10	750	10	[100,120]	[15,30]	[8334,83347]	364.261	2.560	-8303.4	-1771.7	85.184 %	0.0107
10	750	10	[100,120]	[15,30]	[16668,83347]	362.447	2.563	-16639.4	-9888.6	83.222 %	0.0131
10	750	10	[106,120]	[1,10]	[8560,85602]	350.403	2.580	-8544.7	-1732.7	85.032 %	0.0081
10	750	10	[106,120]	[1,10]	[17120,85602]	352.760	2.599	-17097.5	-10337.8	83.717 %	0.0122
10	750	10	[106,120]	[5,10]	[8560,85604]	349.517	2.654	-8563.0	-2037.4	85.445 %	0.0122
10	750	10	[106,120]	[5,10]	[17120,85604]	346.618	2.634	-17103.5	-10523.4	83.903 %	0.0133
10	750	10	[106,120]	[1,30]	[8561,85612]	372.374	2.513	-8558.7	-1185.3	83.903 %	0.0095
10	750	10	[106,120]	[1,30]	[17122,85612]	372.563	2.514	-17087.5	-10179.0	83.239 %	0.0205
10	750	10	[106,120]	[15,30]	[8561,85619]	354.845	2.537	-8492.4	-1470.8	84.698 %	0.0085
10	750	10	[106,120]	[15,30]	[17122,85619]	357.657	2.530	-17068.7	-9898.1	82.654 %	0.0116
10	750	10	[112,120]	[1,10]	[8787,87875]	346.294	2.600	-8790.4	-1934.3	85.136 %	0.0088
10	750	10	[112,120]	[1,10]	[17574,87875]	341.907	2.571	-17547.5	-10455.1	83.314 %	0.0147
10	750	10	[112,120]	[5,10]	[8787,87877]	332.968	2.647	-8782.2	-2382.9	86.028 %	0.0120
10	750	10	[112,120]	[5,10]	[17574,87877]	329.028	2.676	-17517.2	-10894.5	84.082 %	0.0069
10	750	10	[112,120]	[1,30]	[8788,87885]	369.094	2.544	-8730.9	-1220.8	84.129 %	0.0074
10	750	10	[112,120]	[1,30]	[17576,87885]	365.983	2.510	-17507.8	-10132.6	82.669 %	0.0131
10	750	10	[112,120]	[15,30]	[8789,87892]	347.268	2.533	-8742.1	-1524.4	84.688 %	0.0080
10	750	10	[112,120]	[15,30]	[17578,87892]	349.805	2.528	-17499.4	-10180.4	82.796 %	0.0059

Tiempo Promedio Total H_2: 356.071 seg.

Tiempo Promedio Total H_1: 2.575 seg.

Rendimiento Promedio Total: 84.129 %

Tabla de Experimentos

$n : 1000, m : 10, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	10	[100,120]	[1,10]	[11110,111105]	896.596	4.618	-11088.2	-1859.1	84.484 %	0.0075
10	1000	10	[100,120]	[1,10]	[22220,111105]	876.130	4.612	-22174.4	-13071.7	82.909 %	0.0085
10	1000	10	[100,120]	[5,10]	[11110,111107]	887.051	4.756	-11093.3	-2415.0	85.362 %	0.0045
10	1000	10	[100,120]	[5,10]	[22220,111107]	879.513	4.756	-22200.2	-13710.2	84.027 %	0.0099
10	1000	10	[100,120]	[1,30]	[11111,111115]	920.063	4.521	-11089.4	-1873.3	84.467 %	0.0089
10	1000	10	[100,120]	[1,30]	[22222,111115]	918.313	4.522	-22178.7	-12670.7	82.474 %	0.0091
10	1000	10	[100,120]	[15,30]	[11112,111122]	903.956	4.552	-11064.3	-1951.2	84.498 %	0.0126
10	1000	10	[100,120]	[15,30]	[22224,111122]	894.345	4.543	-22221.2	-13031.5	82.860 %	0.0114
10	1000	10	[106,120]	[1,10]	[11413,114135]	882.509	4.666	-11412.4	-2266.6	84.951 %	0.0115
10	1000	10	[106,120]	[1,10]	[22826,114135]	877.419	4.682	-22778.0	-13478.8	83.168 %	0.0092
10	1000	10	[106,120]	[5,10]	[11413,114137]	880.787	4.722	-11440.9	-2880.1	85.730 %	0.0114
10	1000	10	[106,120]	[5,10]	[22826,114137]	877.272	4.802	-22846.6	-14097.6	83.959 %	0.0116
10	1000	10	[106,120]	[1,30]	[11414,114145]	918.611	4.479	-11373.6	-1734.2	84.344 %	0.0107
10	1000	10	[106,120]	[1,30]	[22828,114145]	914.109	4.550	-22797.9	-13252.2	82.793 %	0.0096
10	1000	10	[106,120]	[15,30]	[11415,114152]	885.746	4.522	-11341.1	-1619.7	84.012 %	0.0062
10	1000	10	[106,120]	[15,30]	[22830,114152]	900.864	4.629	-22815.4	-13191.5	82.535 %	0.0065
10	1000	10	[112,120]	[1,10]	[11716,117165]	840.173	4.616	-11735.1	-2007.2	84.476 %	0.0077
10	1000	10	[112,120]	[1,10]	[23432,117165]	847.433	4.607	-23384.8	-14106.5	83.471 %	0.0096
10	1000	10	[112,120]	[5,10]	[11716,117167]	827.041	4.729	-11747.2	-2527.9	85.035 %	0.0036
10	1000	10	[112,120]	[5,10]	[23432,117167]	836.962	4.757	-23399.1	-14205.1	83.580 %	0.0040
10	1000	10	[112,120]	[1,30]	[11717,117175]	904.834	4.531	-11653.3	-1718.1	84.216 %	0.0124
10	1000	10	[112,120]	[1,30]	[23434,117175]	892.021	4.496	-23387.6	-13541.0	82.746 %	0.0094
10	1000	10	[112,120]	[15,30]	[11718,117182]	881.230	4.587	-11771.2	-1946.1	84.354 %	0.0123
10	1000	10	[112,120]	[15,30]	[23436,117182]	863.253	4.540	-23422.3	-13338.2	82.367 %	0.0074

Tiempo Promedio Total H_2: 883.593 seg.

Tiempo Promedio Total H_1: 4.616 seg.

Rendimiento Promedio Total: 83.867 %

Tabla de Experimentos

$n : 10, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	20	[100,120]	[1,10]	[111,1116]	0.031	0.012	-97.7	-97.7	100.000 %	0.0000
10	10	20	[100,120]	[1,10]	[222,1116]	0.027	0.008	-163.8	-163.8	100.000 %	0.0000
10	10	20	[100,120]	[5,10]	[111,1118]	0.025	0.013	-91.2	-91.2	100.000 %	0.0000
10	10	20	[100,120]	[5,10]	[222,1118]	0.017	0.010	-186.0	-186.0	100.000 %	0.0000
10	10	20	[100,120]	[1,30]	[112,1126]	0.029	0.010	-101.5	-101.5	100.000 %	0.0000
10	10	20	[100,120]	[1,30]	[224,1126]	0.029	0.012	-191.7	-191.7	100.000 %	0.0000
10	10	20	[100,120]	[15,30]	[113,1133]	0.038	0.014	-89.6	-88.8	99.848 %	0.0046
10	10	20	[100,120]	[15,30]	[226,1133]	0.024	0.011	-199.2	-199.2	100.000 %	0.0000
10	10	20	[106,120]	[1,10]	[114,1146]	0.023	0.008	-53.7	-53.7	100.000 %	0.0000
10	10	20	[106,120]	[1,10]	[228,1146]	0.022	0.011	-185.9	-185.9	100.000 %	0.0000
10	10	20	[106,120]	[5,10]	[114,1148]	0.050	0.018	-103.4	-103.4	100.000 %	0.0000
10	10	20	[106,120]	[5,10]	[228,1148]	0.027	0.011	-226.9	-226.9	100.000 %	0.0000
10	10	20	[106,120]	[1,30]	[115,1156]	0.028	0.007	-89.6	-89.6	100.000 %	0.0000
10	10	20	[106,120]	[1,30]	[230,1156]	0.030	0.011	-206.1	-206.1	100.000 %	0.0000
10	10	20	[106,120]	[15,30]	[116,1163]	0.033	0.023	-30.6	-30.6	100.000 %	0.0000
10	10	20	[106,120]	[15,30]	[232,1163]	0.027	0.012	-213.9	-213.9	100.000 %	0.0000
10	10	20	[112,120]	[1,10]	[117,1176]	0.022	0.009	-84.0	-84.0	100.000 %	0.0000
10	10	20	[112,120]	[1,10]	[234,1176]	0.031	0.010	-207.1	-207.1	100.000 %	0.0000
10	10	20	[112,120]	[5,10]	[117,1178]	0.028	0.018	-51.9	-51.9	100.000 %	0.0000
10	10	20	[112,120]	[5,10]	[234,1178]	0.020	0.009	-215.4	-215.4	100.000 %	0.0000
10	10	20	[112,120]	[1,30]	[118,1186]	0.024	0.008	-32.6	-32.6	100.000 %	0.0000
10	10	20	[112,120]	[1,30]	[236,1186]	0.029	0.011	-201.6	-201.6	100.000 %	0.0000
10	10	20	[112,120]	[15,30]	[119,1193]	0.025	0.010	-65.5	-65.5	100.000 %	0.0000
10	10	20	[112,120]	[15,30]	[238,1193]	0.023	0.010	-201.3	-201.3	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.028 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 99.994 %

Tabla de Experimentos

$n : 20, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	20	[100,120]	[1,10]	[222,2227]	0.051	0.015	-196.2	-194.0	99.764 %	0.0048
10	20	20	[100,120]	[1,10]	[444,2227]	0.049	0.011	-421.7	-421.7	100.000 %	0.0000
10	20	20	[100,120]	[5,10]	[222,2229]	0.042	0.012	-181.2	-181.2	100.000 %	0.0000
10	20	20	[100,120]	[5,10]	[444,2229]	0.042	0.011	-437.0	-436.5	99.943 %	0.0017
10	20	20	[100,120]	[1,30]	[223,2237]	0.065	0.012	-268.3	-268.3	100.000 %	0.0000
10	20	20	[100,120]	[1,30]	[446,2237]	0.066	0.012	-382.3	-382.3	100.000 %	0.0000
10	20	20	[100,120]	[15,30]	[224,2244]	0.056	0.017	-262.1	-260.1	99.746 %	0.0053
10	20	20	[100,120]	[15,30]	[448,2244]	0.099	0.023	-393.1	-392.8	99.968 %	0.0010
10	20	20	[106,120]	[1,10]	[228,2287]	0.046	0.010	-249.3	-249.3	100.000 %	0.0000
10	20	20	[106,120]	[1,10]	[456,2287]	0.044	0.015	-410.9	-410.3	99.925 %	0.0023
10	20	20	[106,120]	[5,10]	[228,2289]	0.066	0.020	-177.2	-177.1	99.991 %	0.0003
10	20	20	[106,120]	[5,10]	[456,2289]	0.040	0.013	-390.6	-390.6	100.000 %	0.0000
10	20	20	[106,120]	[1,30]	[229,2297]	0.061	0.013	-195.3	-194.5	99.930 %	0.0021
10	20	20	[106,120]	[1,30]	[458,2297]	0.067	0.013	-440.5	-440.1	99.959 %	0.0012
10	20	20	[106,120]	[15,30]	[230,2304]	0.057	0.014	-167.6	-166.8	99.921 %	0.0024
10	20	20	[106,120]	[15,30]	[460,2304]	0.058	0.015	-422.4	-422.4	100.000 %	0.0000
10	20	20	[112,120]	[1,10]	[234,2348]	0.053	0.015	-191.4	-191.0	99.966 %	0.0010
10	20	20	[112,120]	[1,10]	[468,2348]	0.058	0.026	-426.9	-426.9	100.000 %	0.0000
10	20	20	[112,120]	[5,10]	[235,2350]	0.038	0.015	-201.8	-201.8	100.000 %	0.0000
10	20	20	[112,120]	[5,10]	[470,2350]	0.040	0.013	-408.6	-407.9	99.935 %	0.0019
10	20	20	[112,120]	[1,30]	[235,2358]	0.072	0.014	-216.9	-216.9	100.000 %	0.0000
10	20	20	[112,120]	[1,30]	[470,2358]	0.078	0.017	-422.5	-422.5	100.000 %	0.0000
10	20	20	[112,120]	[15,30]	[236,2365]	0.056	0.014	-180.4	-180.4	100.000 %	0.0000
10	20	20	[112,120]	[15,30]	[472,2365]	0.058	0.013	-427.8	-427.8	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.057 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 99.960 %

Tabla de Experimentos

$n : 30, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	20	[100,120]	[1,10]	[333,3338]	0.093	0.018	-325.7	-287.7	97.598 %	0.0295
10	30	20	[100,120]	[1,10]	[666,3338]	0.091	0.018	-667.7	-646.2	98.446 %	0.0242
10	30	20	[100,120]	[5,10]	[334,3340]	0.073	0.014	-311.9	-286.7	98.549 %	0.0224
10	30	20	[100,120]	[5,10]	[668,3340]	0.082	0.014	-646.8	-599.1	96.515 %	0.0307
10	30	20	[100,120]	[1,30]	[334,3348]	0.122	0.019	-285.2	-249.2	97.621 %	0.0253
10	30	20	[100,120]	[1,30]	[668,3348]	0.146	0.020	-627.3	-582.8	97.125 %	0.0277
10	30	20	[100,120]	[15,30]	[335,3355]	0.115	0.020	-293.1	-250.0	97.052 %	0.0292
10	30	20	[100,120]	[15,30]	[670,3355]	0.130	0.017	-650.9	-617.8	97.638 %	0.0295
10	30	20	[106,120]	[1,10]	[342,3428]	0.093	0.019	-296.8	-226.3	95.804 %	0.0281
10	30	20	[106,120]	[1,10]	[684,3428]	0.096	0.019	-677.2	-618.4	95.902 %	0.0316
10	30	20	[106,120]	[5,10]	[343,3430]	0.071	0.016	-321.7	-299.9	98.693 %	0.0243
10	30	20	[106,120]	[5,10]	[686,3430]	0.070	0.017	-655.1	-611.3	97.097 %	0.0317
10	30	20	[106,120]	[1,30]	[343,3439]	0.130	0.015	-326.3	-265.8	96.084 %	0.0266
10	30	20	[106,120]	[1,30]	[686,3439]	0.131	0.015	-666.2	-602.4	95.624 %	0.0277
10	30	20	[106,120]	[15,30]	[344,3446]	0.096	0.019	-317.8	-270.0	97.063 %	0.0302
10	30	20	[106,120]	[15,30]	[688,3446]	0.106	0.019	-628.7	-576.6	96.301 %	0.0342
10	30	20	[112,120]	[1,10]	[351,3519]	0.085	0.018	-294.2	-257.7	97.890 %	0.0269
10	30	20	[112,120]	[1,10]	[702,3519]	0.079	0.019	-643.3	-602.4	97.183 %	0.0312
10	30	20	[112,120]	[5,10]	[352,3521]	0.062	0.018	-339.1	-309.7	98.252 %	0.0277
10	30	20	[112,120]	[5,10]	[704,3521]	0.070	0.020	-659.3	-626.5	97.722 %	0.0347
10	30	20	[112,120]	[1,30]	[352,3529]	0.121	0.015	-330.5	-290.5	97.393 %	0.0266
10	30	20	[112,120]	[1,30]	[704,3529]	0.122	0.016	-656.1	-616.6	97.506 %	0.0286
10	30	20	[112,120]	[15,30]	[353,3537]	0.107	0.016	-322.0	-272.0	97.071 %	0.0283
10	30	20	[112,120]	[15,30]	[706,3537]	0.104	0.015	-651.5	-611.3	97.477 %	0.0302

Tiempo Promedio Total H_2: 0.100 seg.

Tiempo Promedio Total H_1: 0.017 seg.

Rendimiento Promedio Total: 97.234 %

Tabla de Experimentos

$n : 50, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	20	[100,120]	[1,10]	[556,5560]	0.199	0.028	-536.4	-443.3	96.530 %	0.0182
10	50	20	[100,120]	[1,10]	[1112,5560]	0.229	0.029	-1052.6	-930.4	94.890 %	0.0223
10	50	20	[100,120]	[5,10]	[556,5562]	0.219	0.037	-567.2	-479.1	96.700 %	0.0213
10	50	20	[100,120]	[5,10]	[1112,5562]	0.189	0.028	-1110.3	-1023.9	96.322 %	0.0244
10	50	20	[100,120]	[1,30]	[557,5570]	0.413	0.025	-576.0	-457.0	95.600 %	0.0152
10	50	20	[100,120]	[1,30]	[1114,5570]	0.303	0.028	-1063.0	-968.5	95.894 %	0.0242
10	50	20	[100,120]	[15,30]	[557,5577]	0.236	0.029	-466.3	-347.6	95.431 %	0.0260
10	50	20	[100,120]	[15,30]	[1114,5577]	0.239	0.025	-1046.4	-961.8	96.485 %	0.0246
10	50	20	[106,120]	[1,10]	[571,5711]	0.196	0.027	-529.1	-385.8	94.759 %	0.0154
10	50	20	[106,120]	[1,10]	[1142,5711]	0.218	0.026	-1095.6	-992.1	95.691 %	0.0221
10	50	20	[106,120]	[5,10]	[571,5713]	0.163	0.025	-596.0	-543.7	98.181 %	0.0242
10	50	20	[106,120]	[5,10]	[1142,5713]	0.173	0.029	-1077.7	-977.6	95.882 %	0.0234
10	50	20	[106,120]	[1,30]	[572,5721]	0.293	0.027	-593.3	-523.7	97.435 %	0.0160
10	50	20	[106,120]	[1,30]	[1144,5721]	0.286	0.027	-1084.3	-945.3	94.384 %	0.0273
10	50	20	[106,120]	[15,30]	[572,5728]	0.230	0.027	-547.2	-458.2	96.768 %	0.0246
10	50	20	[106,120]	[15,30]	[1144,5728]	0.239	0.033	-1103.6	-1002.1	95.773 %	0.0258
10	50	20	[112,120]	[1,10]	[586,5863]	0.186	0.028	-556.2	-457.2	96.503 %	0.0242
10	50	20	[112,120]	[1,10]	[1172,5863]	0.189	0.027	-1144.7	-1061.8	96.672 %	0.0235
10	50	20	[112,120]	[5,10]	[586,5865]	0.148	0.025	-582.7	-467.9	95.786 %	0.0227
10	50	20	[112,120]	[5,10]	[1172,5865]	0.166	0.028	-1139.9	-1054.6	96.586 %	0.0279
10	50	20	[112,120]	[1,30]	[587,5873]	0.283	0.028	-558.8	-452.1	96.425 %	0.0240
10	50	20	[112,120]	[1,30]	[1174,5873]	0.283	0.026	-1125.0	-1021.6	95.939 %	0.0252
10	50	20	[112,120]	[15,30]	[588,5880]	0.231	0.028	-583.6	-495.2	96.768 %	0.0260
10	50	20	[112,120]	[15,30]	[1176,5880]	0.224	0.025	-1125.9	-1008.7	95.240 %	0.0323

Tiempo Promedio Total H_2: 0.231 seg.

Tiempo Promedio Total H_1: 0.028 seg.

Rendimiento Promedio Total: 96.110 %

Tabla de Experimentos

$n : 100, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	20	[100,120]	[1,10]	[1111,11115]	0.921	0.070	-1076.9	-849.9	95.770 %	0.0208
10	100	20	[100,120]	[1,10]	[2222,11115]	0.929	0.086	-2273.4	-2047.2	94.986 %	0.0208
10	100	20	[100,120]	[5,10]	[1111,11117]	0.950	0.070	-1136.5	-898.5	95.514 %	0.0202
10	100	20	[100,120]	[5,10]	[2222,11117]	0.828	0.069	-2235.1	-1977.2	94.665 %	0.0201
10	100	20	[100,120]	[1,30]	[1112,11125]	1.241	0.067	-1074.4	-775.8	94.480 %	0.0164
10	100	20	[100,120]	[1,30]	[2224,11125]	1.271	0.067	-2218.9	-2025.1	95.834 %	0.0233
10	100	20	[100,120]	[15,30]	[1113,11132]	1.001	0.071	-1103.6	-833.9	94.974 %	0.0253
10	100	20	[100,120]	[15,30]	[2226,11132]	1.026	0.071	-2215.6	-1951.3	94.436 %	0.0262
10	100	20	[106,120]	[1,10]	[1141,11418]	0.885	0.071	-1083.0	-825.3	95.343 %	0.0231
10	100	20	[106,120]	[1,10]	[2282,11418]	0.864	0.066	-2314.1	-2080.0	95.195 %	0.0294
10	100	20	[106,120]	[5,10]	[1142,11420]	0.783	0.069	-1076.3	-815.2	95.106 %	0.0213
10	100	20	[106,120]	[5,10]	[2284,11420]	0.782	0.068	-2276.5	-2044.7	95.247 %	0.0257
10	100	20	[106,120]	[1,30]	[1142,11428]	1.245	0.065	-1063.6	-775.3	94.663 %	0.0214
10	100	20	[106,120]	[1,30]	[2284,11428]	1.198	0.073	-2283.8	-2023.3	94.621 %	0.0216
10	100	20	[106,120]	[15,30]	[1143,11435]	1.001	0.068	-1112.6	-937.7	96.903 %	0.0171
10	100	20	[106,120]	[15,30]	[2286,11435]	1.019	0.068	-2240.4	-1857.0	92.517 %	0.0147
10	100	20	[112,120]	[1,10]	[1172,11721]	0.800	0.068	-1142.5	-901.4	95.769 %	0.0229
10	100	20	[112,120]	[1,10]	[2344,11721]	0.819	0.070	-2302.4	-1927.6	92.725 %	0.0142
10	100	20	[112,120]	[5,10]	[1172,11723]	0.688	0.071	-1172.1	-933.0	95.784 %	0.0236
10	100	20	[112,120]	[5,10]	[2344,11723]	0.707	0.068	-2337.4	-2114.6	95.431 %	0.0248
10	100	20	[112,120]	[1,30]	[1173,11731]	1.225	0.066	-1162.7	-906.2	95.436 %	0.0189
10	100	20	[112,120]	[1,30]	[2346,11731]	1.192	0.069	-2259.6	-1942.6	93.906 %	0.0152
10	100	20	[112,120]	[15,30]	[1173,11738]	1.015	0.065	-1176.6	-911.8	95.313 %	0.0253
10	100	20	[112,120]	[15,30]	[2346,11738]	0.939	0.067	-2333.6	-2036.6	94.058 %	0.0142

Tiempo Promedio Total H_2: 0.972 seg.

Tiempo Promedio Total H_1: 0.069 seg.

Rendimiento Promedio Total: 94.945 %

Tabla de Experimentos

$n : 200, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	20	[100,120]	[1,10]	[2222,22225]	5.885	0.224	-2169.6	-1585.7	94.583 %	0.0197
10	200	20	[100,120]	[1,10]	[4444,22225]	5.861	0.219	-4407.8	-3664.4	92.312 %	0.0173
10	200	20	[100,120]	[5,10]	[2222,22227]	5.478	0.220	-2227.3	-1611.2	94.171 %	0.0182
10	200	20	[100,120]	[5,10]	[4444,22227]	5.697	0.222	-4390.3	-3874.6	94.517 %	0.0235
10	200	20	[100,120]	[1,30]	[2223,22235]	7.105	0.212	-2191.1	-1474.6	93.422 %	0.0093
10	200	20	[100,120]	[1,30]	[4446,22235]	7.155	0.220	-4421.2	-3787.6	93.456 %	0.0229
10	200	20	[100,120]	[15,30]	[2224,22242]	6.386	0.215	-2217.2	-1536.7	93.666 %	0.0194
10	200	20	[100,120]	[15,30]	[4448,22242]	6.300	0.215	-4366.5	-3758.9	93.485 %	0.0171
10	200	20	[106,120]	[1,10]	[2283,22831]	5.662	0.215	-2223.6	-1641.5	94.690 %	0.0209
10	200	20	[106,120]	[1,10]	[4566,22831]	5.331	0.220	-4533.8	-3868.6	93.157 %	0.0188
10	200	20	[106,120]	[5,10]	[2283,22833]	5.200	0.220	-2243.8	-1676.3	94.770 %	0.0207
10	200	20	[106,120]	[5,10]	[4566,22833]	5.236	0.224	-4525.5	-3830.2	92.959 %	0.0178
10	200	20	[106,120]	[1,30]	[2284,22841]	6.933	0.211	-2250.8	-1526.3	93.477 %	0.0160
10	200	20	[106,120]	[1,30]	[4568,22841]	7.133	0.213	-4489.3	-3715.9	92.261 %	0.0133
10	200	20	[106,120]	[15,30]	[2284,22848]	6.347	0.222	-2210.0	-1539.1	93.770 %	0.0151
10	200	20	[106,120]	[15,30]	[4568,22848]	6.233	0.215	-4552.4	-3825.4	92.672 %	0.0180
10	200	20	[112,120]	[1,10]	[2343,23437]	5.211	0.218	-2387.5	-1624.7	93.201 %	0.0136
10	200	20	[112,120]	[1,10]	[4686,23437]	5.040	0.225	-4656.7	-3961.3	93.000 %	0.0189
10	200	20	[112,120]	[5,10]	[2343,23439]	4.491	0.244	-2310.2	-1725.5	94.764 %	0.0145
10	200	20	[112,120]	[5,10]	[4686,23439]	4.454	0.224	-4640.6	-4051.2	94.104 %	0.0260
10	200	20	[112,120]	[1,30]	[2344,23447]	7.001	0.214	-2268.1	-1650.8	94.516 %	0.0159
10	200	20	[112,120]	[1,30]	[4688,23447]	6.881	0.213	-4661.9	-3978.5	93.311 %	0.0171
10	200	20	[112,120]	[15,30]	[2345,23454]	5.877	0.218	-2271.6	-1558.1	93.686 %	0.0157
10	200	20	[112,120]	[15,30]	[4690,23454]	5.819	0.211	-4625.4	-3806.4	91.996 %	0.0128

Tiempo Promedio Total H_2: 5.946 seg.

Tiempo Promedio Total H_1: 0.219 seg.

Rendimiento Promedio Total: 93.581 %

Tabla de Experimentos

$n : 300, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	20	[100,120]	[1,10]	[3333,33335]	18.956	0.448	-3322.0	-2220.9	93.201 %	0.0074
10	300	20	[100,120]	[1,10]	[6666,33335]	19.379	0.451	-6628.7	-5419.1	91.617 %	0.0095
10	300	20	[100,120]	[5,10]	[3333,33337]	18.108	0.468	-3309.3	-2193.1	93.015 %	0.0139
10	300	20	[100,120]	[5,10]	[6666,33337]	18.654	0.462	-6656.8	-5552.9	92.312 %	0.0125
10	300	20	[100,120]	[1,30]	[3334,33345]	22.081	0.451	-3277.1	-2182.2	93.286 %	0.0119
10	300	20	[100,120]	[1,30]	[6668,33345]	21.852	0.440	-6606.2	-5434.3	91.873 %	0.0152
10	300	20	[100,120]	[15,30]	[3335,33352]	19.894	0.452	-3366.1	-2262.1	93.344 %	0.0109
10	300	20	[100,120]	[15,30]	[6670,33352]	19.756	0.452	-6589.3	-5451.9	92.067 %	0.0138
10	300	20	[106,120]	[1,10]	[3424,34244]	17.811	0.453	-3423.9	-2267.3	92.978 %	0.0126
10	300	20	[106,120]	[1,10]	[6848,34244]	17.863	0.451	-6791.3	-5658.1	92.319 %	0.0168
10	300	20	[106,120]	[5,10]	[3424,34246]	16.832	0.469	-3430.3	-2431.0	93.943 %	0.0222
10	300	20	[106,120]	[5,10]	[6848,34246]	17.306	0.460	-6846.9	-5726.2	92.512 %	0.0147
10	300	20	[106,120]	[1,30]	[3425,34254]	21.947	0.456	-3435.9	-2322.3	93.264 %	0.0102
10	300	20	[106,120]	[1,30]	[6850,34254]	21.563	0.448	-6884.4	-5708.2	92.045 %	0.0163
10	300	20	[106,120]	[15,30]	[3426,34261]	19.251	0.451	-3415.9	-2175.0	92.643 %	0.0090
10	300	20	[106,120]	[15,30]	[6852,34261]	19.270	0.451	-6806.3	-5675.3	92.408 %	0.0176
10	300	20	[112,120]	[1,10]	[3515,35153]	16.193	0.452	-3514.9	-2536.0	94.171 %	0.0151
10	300	20	[112,120]	[1,10]	[7030,35153]	16.772	0.449	-7007.4	-5879.3	92.570 %	0.0142
10	300	20	[112,120]	[5,10]	[3515,35155]	14.475	0.460	-3534.2	-2558.0	94.165 %	0.0119
10	300	20	[112,120]	[5,10]	[7030,35155]	14.665	0.461	-6951.1	-5886.6	93.024 %	0.0122
10	300	20	[112,120]	[1,30]	[3516,35163]	21.591	0.441	-3455.6	-2166.1	92.420 %	0.0085
10	300	20	[112,120]	[1,30]	[7032,35163]	21.721	0.443	-6969.5	-5666.9	91.493 %	0.0128
10	300	20	[112,120]	[15,30]	[3517,35170]	18.152	0.450	-3464.8	-2210.8	92.634 %	0.0152
10	300	20	[112,120]	[15,30]	[7034,35170]	18.044	0.450	-6969.0	-5872.5	92.881 %	0.0183

Tiempo Promedio Total H_2: 18.839 seg.

Tiempo Promedio Total H_1: 0.453 seg.

Rendimiento Promedio Total: 92.758 %

Tabla de Experimentos

$n : 500, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	20	[100,120]	[1,10]	[5555,55555]	90.057	1.181	-5521.5	-3626.9	92.960 %	0.0162
10	500	20	[100,120]	[1,10]	[11110,55555]	89.285	1.181	-11063.1	-9124.1	91.955 %	0.0124
10	500	20	[100,120]	[5,10]	[5555,55557]	88.429	1.204	-5514.4	-3908.2	93.949 %	0.0095
10	500	20	[100,120]	[5,10]	[11110,55557]	88.099	1.205	-11049.6	-9222.0	92.500 %	0.0111
10	500	20	[100,120]	[1,30]	[5556,55565]	100.610	1.169	-5519.0	-3449.6	92.359 %	0.0095
10	500	20	[100,120]	[1,30]	[11112,55565]	99.408	1.147	-11069.5	-9103.5	91.910 %	0.0098
10	500	20	[100,120]	[15,30]	[5557,55572]	92.481	1.166	-5517.7	-3355.2	92.016 %	0.0096
10	500	20	[100,120]	[15,30]	[11114,55572]	94.815	1.178	-11072.0	-9126.3	91.839 %	0.0147
10	500	20	[106,120]	[1,10]	[5707,57070]	85.403	1.171	-5660.6	-3670.5	92.766 %	0.0082
10	500	20	[106,120]	[1,10]	[11414,57070]	84.802	1.173	-11415.3	-9522.6	92.390 %	0.0165
10	500	20	[106,120]	[5,10]	[5707,57072]	80.567	1.232	-5730.0	-3846.9	93.192 %	0.0149
10	500	20	[106,120]	[5,10]	[11414,57072]	82.670	1.212	-11377.2	-9298.7	91.625 %	0.0065
10	500	20	[106,120]	[1,30]	[5708,57080]	98.178	1.147	-5657.5	-3564.4	92.573 %	0.0083
10	500	20	[106,120]	[1,30]	[11416,57080]	100.052	1.161	-11391.0	-9206.3	91.205 %	0.0119
10	500	20	[106,120]	[15,30]	[5708,57087]	89.793	1.163	-5723.0	-3854.0	93.178 %	0.0123
10	500	20	[106,120]	[15,30]	[11416,57087]	90.262	1.163	-11411.0	-9306.8	91.608 %	0.0116
10	500	20	[112,120]	[1,10]	[5858,58585]	79.213	1.168	-5804.3	-3715.6	92.658 %	0.0102
10	500	20	[112,120]	[1,10]	[11716,58585]	77.604	1.184	-11678.5	-9550.8	91.707 %	0.0097
10	500	20	[112,120]	[5,10]	[5858,58587]	71.153	1.208	-5815.4	-3861.7	93.176 %	0.0101
10	500	20	[112,120]	[5,10]	[11716,58587]	71.399	1.202	-11726.2	-9806.0	92.371 %	0.0127
10	500	20	[112,120]	[1,30]	[5859,58595]	97.591	1.146	-5833.6	-3717.5	92.641 %	0.0068
10	500	20	[112,120]	[1,30]	[11718,58595]	96.060	1.156	-11696.4	-9390.2	91.066 %	0.0123
10	500	20	[112,120]	[15,30]	[5860,58602]	84.388	1.182	-5886.6	-3818.4	92.748 %	0.0118
10	500	20	[112,120]	[15,30]	[11720,58602]	84.111	1.170	-11654.1	-9432.3	91.310 %	0.0124

Tiempo Promedio Total H_2: 88.185 seg.

Tiempo Promedio Total H_1: 1.178 seg.

Rendimiento Promedio Total: 92.321 %

Tabla de Experimentos

$n : 750, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	20	[100,120]	[1,10]	[8333,83330]	322.529	2.534	-8317.9	-5241.6	92.427 %	0.0102
10	750	20	[100,120]	[1,10]	[16666,83330]	320.283	2.533	-16635.4	-13244.7	90.800 %	0.0070
10	750	20	[100,120]	[5,10]	[8333,83332]	315.713	2.604	-8316.8	-5449.4	92.917 %	0.0056
10	750	20	[100,120]	[5,10]	[16666,83332]	317.551	2.611	-16610.2	-13596.8	91.807 %	0.0077
10	750	20	[100,120]	[1,30]	[8334,83340]	347.516	2.464	-8363.0	-5148.1	92.128 %	0.0094
10	750	20	[100,120]	[1,30]	[16668,83340]	346.599	2.458	-16644.5	-13346.0	90.928 %	0.0105
10	750	20	[100,120]	[15,30]	[8334,83347]	331.373	2.487	-8306.0	-5355.8	92.694 %	0.0109
10	750	20	[100,120]	[15,30]	[16668,83347]	334.528	2.487	-16709.3	-13371.2	90.872 %	0.0096
10	750	20	[106,120]	[1,10]	[8560,85602]	311.608	2.527	-8543.6	-5541.0	92.783 %	0.0117
10	750	20	[106,120]	[1,10]	[17120,85602]	310.890	2.531	-17116.9	-14046.5	91.717 %	0.0115
10	750	20	[106,120]	[5,10]	[8560,85604]	301.679	2.613	-8549.7	-5549.2	92.813 %	0.0071
10	750	20	[106,120]	[5,10]	[17120,85604]	300.250	2.612	-17128.6	-14190.8	92.131 %	0.0049
10	750	20	[106,120]	[1,30]	[8561,85612]	341.832	2.470	-8532.8	-5157.2	92.016 %	0.0065
10	750	20	[106,120]	[1,30]	[17122,85612]	343.956	2.487	-17098.4	-13483.1	90.328 %	0.0061
10	750	20	[106,120]	[15,30]	[8561,85619]	318.819	2.498	-8515.2	-5316.5	92.365 %	0.0149
10	750	20	[106,120]	[15,30]	[17122,85619]	317.836	2.500	-17062.2	-13701.4	91.022 %	0.0128
10	750	20	[112,120]	[1,10]	[8787,87875]	286.902	2.574	-8747.1	-5287.0	91.890 %	0.0058
10	750	20	[112,120]	[1,10]	[17574,87875]	279.548	2.532	-17572.7	-14262.8	91.390 %	0.0077
10	750	20	[112,120]	[5,10]	[8787,87877]	270.413	2.618	-8803.0	-5598.9	92.485 %	0.0065
10	750	20	[112,120]	[5,10]	[17574,87877]	259.531	2.596	-17513.4	-14396.3	91.911 %	0.0097
10	750	20	[112,120]	[1,30]	[8788,87885]	341.682	2.468	-8772.1	-5130.3	91.548 %	0.0067
10	750	20	[112,120]	[1,30]	[17576,87885]	335.585	2.475	-17551.4	-14097.9	91.049 %	0.0074
10	750	20	[112,120]	[15,30]	[8789,87892]	307.485	2.497	-8776.4	-5438.8	92.145 %	0.0094
10	750	20	[112,120]	[15,30]	[17578,87892]	307.009	2.523	-17498.5	-14000.6	90.923 %	0.0076

Tiempo Promedio Total H_2: 315.463 seg.

Tiempo Promedio Total H_1: 2.529 seg.

Rendimiento Promedio Total: 91.795 %

Tabla de Experimentos

$n : 1000, m : 20, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	20	[100,120]	[1,10]	[11110,111105]	812.778	4.768	-11051.6	-6761.3	92.101 %	0.0090
10	1000	20	[100,120]	[1,10]	[22220,111105]	803.701	4.622	-22210.4	-18156.4	91.646 %	0.0104
10	1000	20	[100,120]	[5,10]	[11110,111107]	795.010	4.779	-11106.4	-7090.4	92.575 %	0.0073
10	1000	20	[100,120]	[5,10]	[22220,111107]	783.455	4.722	-22154.3	-17993.1	91.417 %	0.0045
10	1000	20	[100,120]	[1,30]	[11111,111115]	854.519	4.447	-11152.2	-6495.7	91.503 %	0.0055
10	1000	20	[100,120]	[1,30]	[22222,111115]	852.139	4.532	-22161.1	-17770.8	91.091 %	0.0086
10	1000	20	[100,120]	[15,30]	[11112,111122]	824.243	4.623	-11150.6	-6871.5	92.105 %	0.0063
10	1000	20	[100,120]	[15,30]	[22224,111122]	819.758	4.580	-22201.7	-17855.8	91.048 %	0.0098
10	1000	20	[106,120]	[1,10]	[11413,114135]	771.152	4.655	-11351.7	-6852.9	91.965 %	0.0093
10	1000	20	[106,120]	[1,10]	[22826,114135]	780.376	4.669	-22848.7	-18408.6	91.209 %	0.0073
10	1000	20	[106,120]	[5,10]	[11413,114137]	757.295	4.746	-11374.6	-7296.4	92.637 %	0.0098
10	1000	20	[106,120]	[5,10]	[22826,114137]	753.237	4.791	-22855.0	-18447.5	91.204 %	0.0050
10	1000	20	[106,120]	[1,30]	[11414,114145]	849.961	4.569	-11415.1	-6622.0	91.425 %	0.0064
10	1000	20	[106,120]	[1,30]	[22828,114145]	842.298	4.535	-22751.9	-18129.0	90.847 %	0.0042
10	1000	20	[106,120]	[15,30]	[11415,114152]	792.991	4.563	-11379.3	-6927.5	92.070 %	0.0089
10	1000	20	[106,120]	[15,30]	[22830,114152]	793.912	4.641	-22878.5	-18403.9	91.120 %	0.0091
10	1000	20	[112,120]	[1,10]	[11716,117165]	715.665	4.597	-11703.7	-7310.9	92.337 %	0.0097
10	1000	20	[112,120]	[1,10]	[23432,117165]	700.935	4.581	-23368.3	-18794.9	91.088 %	0.0062
10	1000	20	[112,120]	[5,10]	[11716,117167]	682.365	4.763	-11684.6	-7389.0	92.464 %	0.0071
10	1000	20	[112,120]	[5,10]	[23432,117167]	686.535	4.724	-23385.4	-19113.2	91.713 %	0.0086
10	1000	20	[112,120]	[1,30]	[11717,117175]	822.640	4.522	-11662.9	-7124.5	92.025 %	0.0076
10	1000	20	[112,120]	[1,30]	[23434,117175]	839.671	4.542	-23424.6	-18773.7	91.045 %	0.0077
10	1000	20	[112,120]	[15,30]	[11718,117182]	777.714	4.609	-11698.9	-7176.2	92.158 %	0.0077
10	1000	20	[112,120]	[15,30]	[23436,117182]	751.132	4.615	-23376.0	-18712.1	90.972 %	0.0060

Tiempo Promedio Total H_2: 785.979 seg.

Tiempo Promedio Total H_1: 4.633 seg.

Rendimiento Promedio Total: 91.657 %

Tabla de Experimentos

$n : 10, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	50	[100,120]	[1,10]	[111,1116]	0.023	0.010	-70.8	-70.8	100.000 %	0.0000
10	10	50	[100,120]	[1,10]	[222,1116]	0.023	0.007	-167.4	-167.4	100.000 %	0.0000
10	10	50	[100,120]	[5,10]	[111,1118]	0.020	0.011	-63.0	-63.0	100.000 %	0.0000
10	10	50	[100,120]	[5,10]	[222,1118]	0.022	0.010	-160.1	-160.1	100.000 %	0.0000
10	10	50	[100,120]	[1,30]	[112,1126]	0.029	0.016	-81.8	-81.8	100.000 %	0.0000
10	10	50	[100,120]	[1,30]	[224,1126]	0.027	0.006	-225.7	-225.7	100.000 %	0.0000
10	10	50	[100,120]	[15,30]	[113,1133]	0.031	0.010	-70.6	-69.4	99.770 %	0.0069
10	10	50	[100,120]	[15,30]	[226,1133]	0.041	0.026	-144.5	-144.5	100.000 %	0.0000
10	10	50	[106,120]	[1,10]	[114,1146]	0.036	0.018	-135.3	-135.3	100.000 %	0.0000
10	10	50	[106,120]	[1,10]	[228,1146]	0.024	0.008	-165.1	-165.1	100.000 %	0.0000
10	10	50	[106,120]	[5,10]	[114,1148]	0.065	0.029	-82.7	-82.7	100.000 %	0.0000
10	10	50	[106,120]	[5,10]	[228,1148]	0.027	0.015	-198.3	-198.3	100.000 %	0.0000
10	10	50	[106,120]	[1,30]	[115,1156]	0.026	0.009	-115.4	-115.4	100.000 %	0.0000
10	10	50	[106,120]	[1,30]	[230,1156]	0.031	0.013	-200.1	-200.1	100.000 %	0.0000
10	10	50	[106,120]	[15,30]	[116,1163]	0.028	0.012	-81.8	-81.8	100.000 %	0.0000
10	10	50	[106,120]	[15,30]	[232,1163]	0.025	0.010	-170.8	-170.8	100.000 %	0.0000
10	10	50	[112,120]	[1,10]	[117,1176]	0.026	0.010	-117.4	-117.4	100.000 %	0.0000
10	10	50	[112,120]	[1,10]	[234,1176]	0.029	0.011	-225.6	-225.6	100.000 %	0.0000
10	10	50	[112,120]	[5,10]	[117,1178]	0.020	0.006	-104.4	-104.4	100.000 %	0.0000
10	10	50	[112,120]	[5,10]	[234,1178]	0.026	0.008	-171.2	-171.2	100.000 %	0.0000
10	10	50	[112,120]	[1,30]	[118,1186]	0.032	0.012	-88.2	-88.2	100.000 %	0.0000
10	10	50	[112,120]	[1,30]	[236,1186]	0.041	0.016	-170.3	-170.3	100.000 %	0.0000
10	10	50	[112,120]	[15,30]	[119,1193]	0.032	0.016	-66.8	-58.4	98.518 %	0.0445
10	10	50	[112,120]	[15,30]	[238,1193]	0.044	0.020	-168.0	-168.0	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.030 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 99.929 %

Tabla de Experimentos

$n : 20, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	50	[100,120]	[1,10]	[222,2227]	0.055	0.016	-163.6	-163.6	100.000 %	0.0000
10	20	50	[100,120]	[1,10]	[444,2227]	0.056	0.019	-471.6	-471.6	100.000 %	0.0000
10	20	50	[100,120]	[5,10]	[222,2229]	0.048	0.019	-208.8	-208.8	100.000 %	0.0000
10	20	50	[100,120]	[5,10]	[444,2229]	0.040	0.014	-419.2	-419.2	100.000 %	0.0000
10	20	50	[100,120]	[1,30]	[223,2237]	0.067	0.012	-188.4	-188.4	100.000 %	0.0000
10	20	50	[100,120]	[1,30]	[446,2237]	0.069	0.012	-475.7	-475.7	100.000 %	0.0000
10	20	50	[100,120]	[15,30]	[224,2244]	0.057	0.011	-202.6	-202.6	100.000 %	0.0000
10	20	50	[100,120]	[15,30]	[448,2244]	0.058	0.016	-388.8	-388.8	100.000 %	0.0000
10	20	50	[106,120]	[1,10]	[228,2287]	0.049	0.015	-199.4	-199.4	100.000 %	0.0000
10	20	50	[106,120]	[1,10]	[456,2287]	0.046	0.014	-476.2	-476.2	100.000 %	0.0000
10	20	50	[106,120]	[5,10]	[228,2289]	0.068	0.019	-249.4	-249.4	100.000 %	0.0000
10	20	50	[106,120]	[5,10]	[456,2289]	0.036	0.016	-427.1	-427.1	100.000 %	0.0000
10	20	50	[106,120]	[1,30]	[229,2297]	0.068	0.014	-162.5	-162.5	100.000 %	0.0000
10	20	50	[106,120]	[1,30]	[458,2297]	0.066	0.017	-436.8	-436.8	100.000 %	0.0000
10	20	50	[106,120]	[15,30]	[230,2304]	0.055	0.016	-162.2	-162.2	100.000 %	0.0000
10	20	50	[106,120]	[15,30]	[460,2304]	0.052	0.015	-462.6	-462.6	100.000 %	0.0000
10	20	50	[112,120]	[1,10]	[234,2348]	0.046	0.015	-177.0	-177.0	100.000 %	0.0000
10	20	50	[112,120]	[1,10]	[468,2348]	0.048	0.017	-452.9	-452.9	100.000 %	0.0000
10	20	50	[112,120]	[5,10]	[235,2350]	0.035	0.014	-217.6	-217.6	100.000 %	0.0000
10	20	50	[112,120]	[5,10]	[470,2350]	0.035	0.014	-445.9	-445.9	100.000 %	0.0000
10	20	50	[112,120]	[1,30]	[235,2358]	0.069	0.016	-202.5	-202.5	100.000 %	0.0000
10	20	50	[112,120]	[1,30]	[470,2358]	0.067	0.013	-436.7	-436.7	100.000 %	0.0000
10	20	50	[112,120]	[15,30]	[236,2365]	0.053	0.018	-204.0	-204.0	100.000 %	0.0000
10	20	50	[112,120]	[15,30]	[472,2365]	0.055	0.015	-480.1	-480.1	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.054 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 30, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	50	[100,120]	[1,10]	[333,3338]	0.089	0.019	-309.2	-309.2	100.000 %	0.0000
10	30	50	[100,120]	[1,10]	[666,3338]	0.090	0.019	-683.0	-683.0	100.000 %	0.0000
10	30	50	[100,120]	[5,10]	[334,3340]	0.069	0.020	-330.3	-330.3	100.000 %	0.0000
10	30	50	[100,120]	[5,10]	[668,3340]	0.068	0.021	-629.9	-629.9	100.000 %	0.0000
10	30	50	[100,120]	[1,30]	[334,3348]	0.125	0.021	-310.9	-310.9	100.000 %	0.0000
10	30	50	[100,120]	[1,30]	[668,3348]	0.163	0.022	-606.4	-606.4	100.000 %	0.0000
10	30	50	[100,120]	[15,30]	[335,3355]	0.110	0.021	-301.5	-301.5	100.000 %	0.0000
10	30	50	[100,120]	[15,30]	[670,3355]	0.122	0.024	-612.2	-612.2	100.000 %	0.0000
10	30	50	[106,120]	[1,10]	[342,3428]	0.101	0.026	-302.4	-302.4	100.000 %	0.0000
10	30	50	[106,120]	[1,10]	[684,3428]	0.084	0.020	-640.9	-640.9	100.000 %	0.0000
10	30	50	[106,120]	[5,10]	[343,3430]	0.063	0.020	-337.8	-337.8	100.000 %	0.0000
10	30	50	[106,120]	[5,10]	[686,3430]	0.067	0.021	-651.7	-651.7	100.000 %	0.0000
10	30	50	[106,120]	[1,30]	[343,3439]	0.132	0.020	-344.1	-344.1	100.000 %	0.0000
10	30	50	[106,120]	[1,30]	[686,3439]	0.123	0.020	-675.7	-675.7	100.000 %	0.0000
10	30	50	[106,120]	[15,30]	[344,3446]	0.102	0.018	-332.7	-332.7	100.000 %	0.0000
10	30	50	[106,120]	[15,30]	[688,3446]	0.096	0.019	-632.6	-632.6	100.000 %	0.0000
10	30	50	[112,120]	[1,10]	[351,3519]	0.080	0.021	-319.4	-319.4	100.000 %	0.0000
10	30	50	[112,120]	[1,10]	[702,3519]	0.076	0.020	-661.3	-661.3	100.000 %	0.0000
10	30	50	[112,120]	[5,10]	[352,3521]	0.056	0.019	-353.9	-353.9	100.000 %	0.0000
10	30	50	[112,120]	[5,10]	[704,3521]	0.058	0.020	-656.4	-656.4	100.000 %	0.0000
10	30	50	[112,120]	[1,30]	[352,3529]	0.121	0.021	-294.7	-294.7	100.000 %	0.0000
10	30	50	[112,120]	[1,30]	[704,3529]	0.126	0.021	-630.2	-630.2	100.000 %	0.0000
10	30	50	[112,120]	[15,30]	[353,3537]	0.099	0.022	-368.6	-368.6	100.000 %	0.0000
10	30	50	[112,120]	[15,30]	[706,3537]	0.096	0.020	-724.7	-724.7	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.096 seg.

Tiempo Promedio Total H_1: 0.021 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 50, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	50	[100,120]	[1,10]	[556,5560]	0.174	0.033	-525.4	-525.4	100.000 %	0.0000
10	50	50	[100,120]	[1,10]	[1112,5560]	0.179	0.032	-1099.8	-1098.8	99.955 %	0.0014
10	50	50	[100,120]	[5,10]	[556,5562]	0.161	0.034	-538.9	-538.7	99.992 %	0.0002
10	50	50	[100,120]	[5,10]	[1112,5562]	0.182	0.045	-1112.0	-1112.0	100.000 %	0.0000
10	50	50	[100,120]	[1,30]	[557,5570]	0.325	0.034	-544.8	-544.8	100.000 %	0.0000
10	50	50	[100,120]	[1,30]	[1114,5570]	0.319	0.033	-1062.9	-1061.1	99.927 %	0.0022
10	50	50	[100,120]	[15,30]	[557,5577]	0.232	0.033	-517.3	-516.1	99.956 %	0.0009
10	50	50	[100,120]	[15,30]	[1114,5577]	0.236	0.031	-1050.0	-1050.0	100.000 %	0.0000
10	50	50	[106,120]	[1,10]	[571,5711]	0.185	0.034	-547.3	-547.3	100.000 %	0.0000
10	50	50	[106,120]	[1,10]	[1142,5711]	0.162	0.034	-1110.5	-1110.5	100.000 %	0.0000
10	50	50	[106,120]	[5,10]	[571,5713]	0.125	0.032	-538.4	-538.4	100.000 %	0.0000
10	50	50	[106,120]	[5,10]	[1142,5713]	0.138	0.033	-1188.9	-1188.9	100.000 %	0.0000
10	50	50	[106,120]	[1,30]	[572,5721]	0.316	0.035	-596.7	-596.6	99.996 %	0.0001
10	50	50	[106,120]	[1,30]	[1144,5721]	0.315	0.034	-1072.9	-1072.9	100.000 %	0.0000
10	50	50	[106,120]	[15,30]	[572,5728]	0.208	0.030	-503.1	-503.1	100.000 %	0.0000
10	50	50	[106,120]	[15,30]	[1144,5728]	0.244	0.030	-1109.4	-1109.4	100.000 %	0.0000
10	50	50	[112,120]	[1,10]	[586,5863]	0.167	0.037	-552.4	-552.4	100.000 %	0.0000
10	50	50	[112,120]	[1,10]	[1172,5863]	0.146	0.033	-1150.0	-1150.0	100.000 %	0.0000
10	50	50	[112,120]	[5,10]	[586,5865]	0.107	0.035	-564.9	-564.9	100.000 %	0.0000
10	50	50	[112,120]	[5,10]	[1172,5865]	0.106	0.033	-1159.4	-1159.4	100.000 %	0.0000
10	50	50	[112,120]	[1,30]	[587,5873]	0.290	0.033	-536.6	-536.6	100.000 %	0.0000
10	50	50	[112,120]	[1,30]	[1174,5873]	0.298	0.030	-1162.1	-1161.9	99.992 %	0.0003
10	50	50	[112,120]	[15,30]	[588,5880]	0.192	0.033	-541.9	-541.6	99.990 %	0.0003
10	50	50	[112,120]	[15,30]	[1176,5880]	0.219	0.034	-1185.4	-1185.4	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.209 seg.

Tiempo Promedio Total H_1: 0.034 seg.

Rendimiento Promedio Total: 99.992 %

Tabla de Experimentos

$n : 100, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	50	[100,120]	[1,10]	[1111,11115]	0.709	0.081	-1157.1	-1114.8	99.128 %	0.0099
10	100	50	[100,120]	[1,10]	[2222,11115]	0.797	0.100	-2192.5	-2138.0	98.776 %	0.0109
10	100	50	[100,120]	[5,10]	[1111,11117]	0.681	0.083	-1116.5	-1082.2	99.316 %	0.0087
10	100	50	[100,120]	[5,10]	[2222,11117]	0.605	0.080	-2174.3	-2147.7	99.436 %	0.0084
10	100	50	[100,120]	[1,30]	[1112,11125]	1.234	0.078	-1084.7	-1029.8	98.893 %	0.0091
10	100	50	[100,120]	[1,30]	[2224,11125]	1.261	0.079	-2224.2	-2176.6	98.937 %	0.0099
10	100	50	[100,120]	[15,30]	[1113,11132]	0.904	0.082	-1049.7	-978.7	98.603 %	0.0067
10	100	50	[100,120]	[15,30]	[2226,11132]	0.926	0.080	-2211.5	-2152.0	98.699 %	0.0088
10	100	50	[106,120]	[1,10]	[1141,11418]	0.641	0.081	-1149.4	-1048.1	98.075 %	0.0021
10	100	50	[106,120]	[1,10]	[2282,11418]	0.669	0.079	-2263.6	-2180.2	98.245 %	0.0089
10	100	50	[106,120]	[5,10]	[1142,11420]	0.567	0.081	-1162.7	-1112.3	99.023 %	0.0099
10	100	50	[106,120]	[5,10]	[2284,11420]	0.535	0.080	-2219.3	-2152.8	98.565 %	0.0105
10	100	50	[106,120]	[1,30]	[1142,11428]	1.177	0.077	-1113.0	-1044.1	98.703 %	0.0075
10	100	50	[106,120]	[1,30]	[2284,11428]	1.178	0.076	-2338.6	-2273.5	98.605 %	0.0092
10	100	50	[106,120]	[15,30]	[1143,11435]	0.885	0.080	-1083.8	-1003.9	98.453 %	0.0068
10	100	50	[106,120]	[15,30]	[2286,11435]	0.822	0.080	-2229.4	-2173.0	98.838 %	0.0100
10	100	50	[112,120]	[1,10]	[1172,11721]	0.609	0.080	-1129.6	-1056.4	98.601 %	0.0090
10	100	50	[112,120]	[1,10]	[2344,11721]	0.597	0.080	-2284.2	-2217.8	98.605 %	0.0088
10	100	50	[112,120]	[5,10]	[1172,11723]	0.428	0.082	-1148.1	-1100.9	99.099 %	0.0099
10	100	50	[112,120]	[5,10]	[2344,11723]	0.449	0.079	-2271.8	-2198.2	98.499 %	0.0099
10	100	50	[112,120]	[1,30]	[1173,11731]	1.166	0.082	-1128.4	-1047.3	98.528 %	0.0074
10	100	50	[112,120]	[1,30]	[2346,11731]	1.183	0.080	-2332.4	-2255.8	98.379 %	0.0075
10	100	50	[112,120]	[15,30]	[1173,11738]	0.774	0.077	-1181.3	-1122.8	98.911 %	0.0093
10	100	50	[112,120]	[15,30]	[2346,11738]	0.785	0.079	-2320.6	-2277.8	99.133 %	0.0105

Tiempo Promedio Total H_2: 0.816 seg.

Tiempo Promedio Total H_1: 0.081 seg.

Rendimiento Promedio Total: 98.752 %

Tabla de Experimentos

$n : 200, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	50	[100,120]	[1,10]	[2222,22225]	4.307	0.258	-2184.9	-2007.7	98.262 %	0.0101
10	200	50	[100,120]	[1,10]	[4444,22225]	4.266	0.245	-4392.2	-4165.8	97.458 %	0.0103
10	200	50	[100,120]	[5,10]	[2222,22227]	3.848	0.248	-2184.3	-2036.2	98.577 %	0.0081
10	200	50	[100,120]	[5,10]	[4444,22227]	3.855	0.244	-4445.4	-4295.8	98.342 %	0.0131
10	200	50	[100,120]	[1,30]	[2223,22235]	6.175	0.232	-2185.7	-2073.1	98.908 %	0.0110
10	200	50	[100,120]	[1,30]	[4446,22235]	6.279	0.232	-4451.7	-4271.3	98.027 %	0.0100
10	200	50	[100,120]	[15,30]	[2224,22242]	4.834	0.236	-2178.9	-1984.9	98.110 %	0.0067
10	200	50	[100,120]	[15,30]	[4448,22242]	4.846	0.236	-4389.9	-4225.8	98.214 %	0.0084
10	200	50	[106,120]	[1,10]	[2283,22831]	3.763	0.233	-2306.8	-2147.8	98.487 %	0.0081
10	200	50	[106,120]	[1,10]	[4566,22831]	3.614	0.244	-4531.2	-4324.4	97.796 %	0.0097
10	200	50	[106,120]	[5,10]	[2283,22833]	3.282	0.243	-2260.4	-2075.2	98.260 %	0.0103
10	200	50	[106,120]	[5,10]	[4566,22833]	3.279	0.246	-4569.5	-4378.2	97.970 %	0.0088
10	200	50	[106,120]	[1,30]	[2284,22841]	5.928	0.235	-2320.3	-2131.2	98.212 %	0.0074
10	200	50	[106,120]	[1,30]	[4568,22841]	6.297	0.239	-4521.6	-4309.9	97.745 %	0.0099
10	200	50	[106,120]	[15,30]	[2284,22848]	4.527	0.238	-2265.9	-2101.1	98.453 %	0.0069
10	200	50	[106,120]	[15,30]	[4568,22848]	4.484	0.243	-4564.3	-4313.6	97.353 %	0.0077
10	200	50	[112,120]	[1,10]	[2343,23437]	3.227	0.243	-2383.4	-2153.9	97.856 %	0.0075
10	200	50	[112,120]	[1,10]	[4686,23437]	3.205	0.242	-4642.8	-4395.2	97.425 %	0.0107
10	200	50	[112,120]	[5,10]	[2343,23439]	2.587	0.248	-2294.5	-2117.3	98.350 %	0.0102
10	200	50	[112,120]	[5,10]	[4686,23439]	2.650	0.248	-4675.5	-4508.0	98.291 %	0.0089
10	200	50	[112,120]	[1,30]	[2344,23447]	5.791	0.234	-2318.4	-2162.0	98.560 %	0.0103
10	200	50	[112,120]	[1,30]	[4688,23447]	5.906	0.234	-4605.2	-4364.9	97.534 %	0.0091
10	200	50	[112,120]	[15,30]	[2345,23454]	4.111	0.240	-2277.0	-2055.0	97.933 %	0.0087
10	200	50	[112,120]	[15,30]	[4690,23454]	4.102	0.256	-4623.8	-4385.8	97.602 %	0.0089

Tiempo Promedio Total H_2: 4.382 seg.

Tiempo Promedio Total H_1: 0.242 seg.

Rendimiento Promedio Total: 98.072 %

Tabla de Experimentos

$n : 300, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	50	[100,120]	[1,10]	[3333,33335]	13.430	0.489	-3321.8	-2986.8	97.846 %	0.0075
10	300	50	[100,120]	[1,10]	[6666,33335]	13.183	0.498	-6647.2	-6305.6	97.443 %	0.0081
10	300	50	[100,120]	[5,10]	[3333,33337]	11.577	0.493	-3299.4	-2966.2	97.829 %	0.0088
10	300	50	[100,120]	[5,10]	[6666,33337]	11.957	0.498	-6633.3	-6259.9	97.287 %	0.0081
10	300	50	[100,120]	[1,30]	[3334,33345]	17.982	0.480	-3282.1	-2879.7	97.438 %	0.0075
10	300	50	[100,120]	[1,30]	[6668,33345]	17.899	0.475	-6651.8	-6355.9	97.854 %	0.0107
10	300	50	[100,120]	[15,30]	[3335,33352]	14.503	0.480	-3279.5	-2907.7	97.601 %	0.0095
10	300	50	[100,120]	[15,30]	[6670,33352]	14.781	0.484	-6627.4	-6231.0	97.156 %	0.0087
10	300	50	[106,120]	[1,10]	[3424,34244]	11.566	0.485	-3405.2	-3067.5	97.886 %	0.0087
10	300	50	[106,120]	[1,10]	[6848,34244]	11.367	0.485	-6810.3	-6456.4	97.493 %	0.0080
10	300	50	[106,120]	[5,10]	[3424,34246]	10.223	0.497	-3399.1	-3094.9	98.080 %	0.0086
10	300	50	[106,120]	[5,10]	[6848,34246]	10.142	0.493	-6824.5	-6466.5	97.453 %	0.0076
10	300	50	[106,120]	[1,30]	[3425,34254]	17.746	0.477	-3429.0	-3196.1	98.507 %	0.0069
10	300	50	[106,120]	[1,30]	[6850,34254]	17.630	0.471	-6787.2	-6405.9	97.294 %	0.0057
10	300	50	[106,120]	[15,30]	[3426,34261]	13.749	0.486	-3445.8	-3079.6	97.699 %	0.0080
10	300	50	[106,120]	[15,30]	[6852,34261]	13.003	0.478	-6792.1	-6434.9	97.466 %	0.0098
10	300	50	[112,120]	[1,10]	[3515,35153]	9.917	0.485	-3558.1	-3170.3	97.598 %	0.0074
10	300	50	[112,120]	[1,10]	[7030,35153]	10.198	0.519	-6978.9	-6609.1	97.419 %	0.0097
10	300	50	[112,120]	[5,10]	[3515,35155]	8.201	0.505	-3474.4	-3099.0	97.655 %	0.0093
10	300	50	[112,120]	[5,10]	[7030,35155]	7.868	0.492	-7016.7	-6718.2	97.926 %	0.0111
10	300	50	[112,120]	[1,30]	[3516,35163]	16.998	0.479	-3512.7	-3105.9	97.495 %	0.0078
10	300	50	[112,120]	[1,30]	[7032,35163]	16.569	0.474	-7012.8	-6651.9	97.515 %	0.0115
10	300	50	[112,120]	[15,30]	[3517,35170]	12.433	0.480	-3525.8	-3135.3	97.610 %	0.0094
10	300	50	[112,120]	[15,30]	[7034,35170]	12.142	0.478	-6934.7	-6548.6	97.304 %	0.0099

Tiempo Promedio Total H_2: 13.128 seg.

Tiempo Promedio Total H_1: 0.487 seg.

Rendimiento Promedio Total: 97.619 %

Tabla de Experimentos

$n : 500, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	50	[100,120]	[1,10]	[5555,55555]	62.556	1.216	-5515.9	-4834.6	97.364 %	0.0054
10	500	50	[100,120]	[1,10]	[11110,55555]	59.340	1.217	-11056.0	-10430.8	97.285 %	0.0069
10	500	50	[100,120]	[5,10]	[5555,55557]	58.776	1.238	-5520.4	-4915.1	97.642 %	0.0083
10	500	50	[100,120]	[5,10]	[11110,55557]	58.052	1.234	-11154.2	-10664.8	97.826 %	0.0075
10	500	50	[100,120]	[1,30]	[5556,55565]	79.430	1.194	-5593.3	-4993.6	97.644 %	0.0086
10	500	50	[100,120]	[1,30]	[11112,55565]	80.632	1.168	-11078.8	-10314.7	96.705 %	0.0055
10	500	50	[100,120]	[15,30]	[5557,55572]	67.059	1.190	-5528.5	-4875.5	97.410 %	0.0095
10	500	50	[100,120]	[15,30]	[11114,55572]	67.749	1.199	-11052.0	-10488.1	97.527 %	0.0108
10	500	50	[106,120]	[1,10]	[5707,57070]	55.501	1.214	-5664.3	-4934.1	97.234 %	0.0060
10	500	50	[106,120]	[1,10]	[11414,57070]	54.486	1.202	-11379.1	-10654.6	96.967 %	0.0042
10	500	50	[106,120]	[5,10]	[5707,57072]	49.252	1.246	-5668.0	-4932.1	97.234 %	0.0056
10	500	50	[106,120]	[5,10]	[11414,57072]	49.063	1.236	-11398.1	-10715.1	97.080 %	0.0075
10	500	50	[106,120]	[1,30]	[5708,57080]	77.441	1.193	-5776.8	-5065.6	97.315 %	0.0053
10	500	50	[106,120]	[1,30]	[11416,57080]	76.140	1.181	-11391.4	-10754.0	97.324 %	0.0074
10	500	50	[106,120]	[15,30]	[5708,57087]	63.892	1.193	-5676.4	-4879.4	97.039 %	0.0036
10	500	50	[106,120]	[15,30]	[11416,57087]	62.457	1.190	-11408.6	-10748.0	97.224 %	0.0081
10	500	50	[112,120]	[1,10]	[5858,58585]	46.360	1.213	-5904.6	-5180.1	97.344 %	0.0047
10	500	50	[112,120]	[1,10]	[11716,58585]	48.265	1.201	-11712.9	-11076.3	97.355 %	0.0057
10	500	50	[112,120]	[5,10]	[5858,58587]	38.756	1.243	-5797.5	-5162.7	97.652 %	0.0088
10	500	50	[112,120]	[5,10]	[11716,58587]	39.098	1.268	-11661.2	-10814.4	96.554 %	0.0027
10	500	50	[112,120]	[1,30]	[5859,58595]	75.594	1.180	-5858.1	-5206.5	97.613 %	0.0095
10	500	50	[112,120]	[1,30]	[11718,58595]	75.339	1.186	-11662.8	-10944.6	97.040 %	0.0102
10	500	50	[112,120]	[15,30]	[5860,58602]	57.202	1.194	-5823.2	-5165.2	97.566 %	0.0060
10	500	50	[112,120]	[15,30]	[11720,58602]	56.170	1.196	-11671.6	-10927.6	96.906 %	0.0064

Tiempo Promedio Total H_2: 60.775 seg.

Tiempo Promedio Total H_1: 1.208 seg.

Rendimiento Promedio Total: 97.285 %

Tabla de Experimentos

$n : 750, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	50	[100,120]	[1,10]	[8333,83330]	224.855	2.638	-8307.0	-7113.6	96.933 %	0.0036
10	750	50	[100,120]	[1,10]	[16666,83330]	227.390	2.614	-16622.0	-15592.3	97.009 %	0.0044
10	750	50	[100,120]	[5,10]	[8333,83332]	215.277	2.680	-8308.9	-7289.2	97.361 %	0.0049
10	750	50	[100,120]	[5,10]	[16666,83332]	215.343	2.678	-16629.4	-15558.5	96.913 %	0.0034
10	750	50	[100,120]	[1,30]	[8334,83340]	280.840	2.533	-8348.9	-7241.9	97.113 %	0.0070
10	750	50	[100,120]	[1,30]	[16668,83340]	280.802	2.553	-16623.2	-15420.1	96.523 %	0.0055
10	750	50	[100,120]	[15,30]	[8334,83347]	243.745	2.571	-8295.3	-7244.3	97.297 %	0.0079
10	750	50	[100,120]	[15,30]	[16668,83347]	244.041	2.550	-16595.1	-15399.0	96.531 %	0.0043
10	750	50	[106,120]	[1,10]	[8560,85602]	199.933	2.622	-8539.6	-7380.9	97.075 %	0.0046
10	750	50	[106,120]	[1,10]	[17120,85602]	200.603	2.636	-17146.7	-15898.2	96.448 %	0.0067
10	750	50	[106,120]	[5,10]	[8560,85604]	183.054	2.674	-8537.5	-7431.9	97.199 %	0.0063
10	750	50	[106,120]	[5,10]	[17120,85604]	184.910	2.679	-17057.0	-16077.3	97.200 %	0.0071
10	750	50	[106,120]	[1,30]	[8561,85612]	271.245	2.540	-8554.3	-7366.5	96.980 %	0.0070
10	750	50	[106,120]	[1,30]	[17122,85612]	266.452	2.530	-17094.6	-15941.0	96.794 %	0.0065
10	750	50	[106,120]	[15,30]	[8561,85619]	220.574	2.591	-8477.1	-7227.0	96.887 %	0.0044
10	750	50	[106,120]	[15,30]	[17122,85619]	224.218	2.564	-17051.1	-15750.6	96.321 %	0.0058
10	750	50	[112,120]	[1,10]	[8787,87875]	171.100	2.593	-8729.7	-7605.6	97.233 %	0.0059
10	750	50	[112,120]	[1,10]	[17574,87875]	170.178	2.628	-17551.2	-16362.6	96.759 %	0.0064
10	750	50	[112,120]	[5,10]	[8787,87877]	144.407	2.691	-8791.0	-7671.5	97.238 %	0.0053
10	750	50	[112,120]	[5,10]	[17574,87877]	148.223	2.670	-17548.4	-16498.3	97.106 %	0.0051
10	750	50	[112,120]	[1,30]	[8788,87885]	264.789	2.560	-8753.3	-7438.2	96.767 %	0.0052
10	750	50	[112,120]	[1,30]	[17576,87885]	261.613	2.539	-17572.8	-16459.0	96.931 %	0.0054
10	750	50	[112,120]	[15,30]	[8789,87892]	202.236	2.575	-8799.2	-7601.7	97.068 %	0.0081
10	750	50	[112,120]	[15,30]	[17578,87892]	206.235	2.580	-17563.7	-16468.7	96.952 %	0.0069

Tiempo Promedio Total H_2: 218.836 seg.

Tiempo Promedio Total H_1: 2.604 seg.

Rendimiento Promedio Total: 96.943 %

Tabla de Experimentos

$n : 1000, m : 50, p_{max} : 120$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	50	[100,120]	[1,10]	[11110,111105]	572.099	4.557	-11099.5	-9641.7	97.181 %	0.0036
10	1000	50	[100,120]	[1,10]	[22220,111105]	575.032	4.566	-22171.8	-20695.8	96.818 %	0.0041
10	1000	50	[100,120]	[5,10]	[11110,111107]	551.379	4.706	-11096.5	-9721.1	97.327 %	0.0044
10	1000	50	[100,120]	[5,10]	[22220,111107]	546.689	4.719	-22170.5	-20850.6	97.137 %	0.0047
10	1000	50	[100,120]	[1,30]	[11111,111115]	678.757	4.514	-11125.6	-9622.4	97.099 %	0.0063
10	1000	50	[100,120]	[1,30]	[22222,111115]	677.370	4.454	-22151.0	-20527.6	96.456 %	0.0040
10	1000	50	[100,120]	[15,30]	[11112,111122]	609.592	4.534	-11112.4	-9543.3	96.954 %	0.0061
10	1000	50	[100,120]	[15,30]	[22224,111122]	618.121	4.480	-22209.8	-20675.2	96.663 %	0.0052
10	1000	50	[106,120]	[1,10]	[11413,114135]	505.569	4.553	-11421.3	-9964.6	97.230 %	0.0055
10	1000	50	[106,120]	[1,10]	[22826,114135]	505.849	4.614	-22820.7	-21280.3	96.731 %	0.0052
10	1000	50	[106,120]	[5,10]	[11413,114137]	471.328	4.696	-11393.2	-10017.5	97.366 %	0.0045
10	1000	50	[106,120]	[5,10]	[22826,114137]	473.468	4.731	-22789.0	-21250.7	96.753 %	0.0050
10	1000	50	[106,120]	[1,30]	[11414,114145]	655.198	4.463	-11364.0	-9567.4	96.659 %	0.0045
10	1000	50	[106,120]	[1,30]	[22828,114145]	647.255	4.492	-22773.3	-21240.1	96.765 %	0.0054
10	1000	50	[106,120]	[15,30]	[11415,114152]	559.759	4.487	-11389.3	-9707.9	96.813 %	0.0047
10	1000	50	[106,120]	[15,30]	[22830,114152]	555.748	4.443	-22757.0	-20978.8	96.243 %	0.0039
10	1000	50	[112,120]	[1,10]	[11716,117165]	427.615	4.642	-11694.4	-10244.1	97.322 %	0.0050
10	1000	50	[112,120]	[1,10]	[23432,117165]	418.947	4.640	-23378.8	-21624.9	96.406 %	0.0043
10	1000	50	[112,120]	[5,10]	[11716,117167]	368.953	4.711	-11730.5	-10290.4	97.356 %	0.0045
10	1000	50	[112,120]	[5,10]	[23432,117167]	369.938	4.676	-23405.2	-21932.5	96.975 %	0.0047
10	1000	50	[112,120]	[1,30]	[11717,117175]	642.265	4.410	-11635.3	-9880.7	96.802 %	0.0049
10	1000	50	[112,120]	[1,30]	[23434,117175]	645.259	4.461	-23390.4	-21614.2	96.359 %	0.0039
10	1000	50	[112,120]	[15,30]	[11718,117182]	506.303	4.466	-11643.5	-9938.9	96.874 %	0.0034
10	1000	50	[112,120]	[15,30]	[23436,117182]	503.342	4.495	-23364.6	-21664.7	96.491 %	0.0045

Tiempo Promedio Total H_2: 545.243 seg.

Tiempo Promedio Total H_1: 4.563 seg.

Rendimiento Promedio Total: 96.866 %

Tabla de Experimentos

$n : 10, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	2	[100,200]	[1,10]	[152,1520]	0.016	0.009	-102.0	216.0	69.554 %	0.0745
10	10	2	[100,200]	[1,10]	[304,1520]	0.018	0.008	-220.7	194.3	61.631 %	0.0815
10	10	2	[100,200]	[5,10]	[152,1522]	0.018	0.011	-88.3	201.6	73.236 %	0.1047
10	10	2	[100,200]	[5,10]	[304,1522]	0.016	0.012	-264.0	104.6	64.405 %	0.0609
10	10	2	[100,200]	[1,30]	[153,1530]	0.019	0.009	-116.5	268.6	68.449 %	0.1336
10	10	2	[100,200]	[1,30]	[306,1530]	0.022	0.008	-241.2	130.4	65.729 %	0.0927
10	10	2	[100,200]	[15,30]	[153,1537]	0.018	0.011	-101.0	258.4	66.634 %	0.0588
10	10	2	[100,200]	[15,30]	[306,1537]	0.020	0.008	-272.2	126.6	64.831 %	0.1272
10	10	2	[133,200]	[1,10]	[168,1681]	0.018	0.010	-140.4	336.6	61.107 %	0.0770
10	10	2	[133,200]	[1,10]	[336,1681]	0.023	0.009	-259.3	126.0	67.524 %	0.0880
10	10	2	[133,200]	[5,10]	[168,1683]	0.021	0.009	-151.1	167.1	72.220 %	0.1458
10	10	2	[133,200]	[5,10]	[336,1683]	0.019	0.013	-260.8	144.2	65.708 %	0.1099
10	10	2	[133,200]	[1,30]	[169,1691]	0.022	0.008	-132.3	258.8	68.823 %	0.0696
10	10	2	[133,200]	[1,30]	[338,1691]	0.020	0.009	-278.4	49.7	71.387 %	0.1359
10	10	2	[133,200]	[15,30]	[169,1698]	0.025	0.014	-63.7	341.1	68.083 %	0.0964
10	10	2	[133,200]	[15,30]	[338,1698]	0.019	0.009	-279.5	129.9	63.466 %	0.1007
10	10	2	[166,200]	[1,10]	[185,1853]	0.020	0.010	-112.7	403.1	63.940 %	0.0691
10	10	2	[166,200]	[1,10]	[370,1853]	0.017	0.011	-294.3	161.6	65.271 %	0.0756
10	10	2	[166,200]	[5,10]	[185,1855]	0.022	0.011	-115.0	320.2	68.750 %	0.1473
10	10	2	[166,200]	[5,10]	[370,1855]	0.035	0.024	-259.9	106.3	69.288 %	0.1108
10	10	2	[166,200]	[1,30]	[186,1863]	0.019	0.009	-140.7	328.6	68.042 %	0.1302
10	10	2	[166,200]	[1,30]	[372,1863]	0.019	0.007	-209.3	315.7	63.356 %	0.1142
10	10	2	[166,200]	[15,30]	[187,1870]	0.018	0.009	-148.7	280.3	67.395 %	0.0490
10	10	2	[166,200]	[15,30]	[374,1870]	0.017	0.009	-232.9	329.5	62.291 %	0.0947

Tiempo Promedio Total H_2: 0.020 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 66.713 %

Tabla de Experimentos

$n : 20, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	2	[100,200]	[1,10]	[303,3035]	0.038	0.013	-272.3	712.7	58.911 %	0.0569
10	20	2	[100,200]	[1,10]	[606,3035]	0.037	0.009	-609.6	176.0	62.490 %	0.1018
10	20	2	[100,200]	[5,10]	[303,3037]	0.031	0.010	-288.6	543.8	63.633 %	0.0580
10	20	2	[100,200]	[5,10]	[606,3037]	0.033	0.008	-541.5	248.9	62.014 %	0.0557
10	20	2	[100,200]	[1,30]	[304,3045]	0.038	0.010	-184.8	781.4	60.145 %	0.0528
10	20	2	[100,200]	[1,30]	[608,3045]	0.039	0.010	-479.4	378.0	59.317 %	0.0558
10	20	2	[100,200]	[15,30]	[305,3052]	0.040	0.012	-277.8	738.8	57.830 %	0.0611
10	20	2	[100,200]	[15,30]	[610,3052]	0.044	0.013	-620.2	184.1	60.979 %	0.0374
10	20	2	[133,200]	[1,10]	[335,3358]	0.036	0.009	-326.2	792.7	57.543 %	0.0670
10	20	2	[133,200]	[1,10]	[670,3358]	0.032	0.010	-603.5	450.3	57.423 %	0.0400
10	20	2	[133,200]	[5,10]	[336,3360]	0.046	0.019	-284.7	885.5	57.241 %	0.0334
10	20	2	[133,200]	[5,10]	[672,3360]	0.031	0.010	-621.8	313.4	60.585 %	0.0646
10	20	2	[133,200]	[1,30]	[336,3368]	0.040	0.013	-299.9	810.3	57.957 %	0.0674
10	20	2	[133,200]	[1,30]	[672,3368]	0.047	0.013	-625.5	482.9	56.868 %	0.0378
10	20	2	[133,200]	[15,30]	[337,3375]	0.037	0.011	-353.0	721.8	58.993 %	0.0847
10	20	2	[133,200]	[15,30]	[674,3375]	0.035	0.012	-627.2	409.9	60.144 %	0.0600
10	20	2	[166,200]	[1,10]	[370,3701]	0.038	0.009	-341.6	739.2	60.879 %	0.0590
10	20	2	[166,200]	[1,10]	[740,3701]	0.035	0.009	-678.1	342.0	60.978 %	0.0637
10	20	2	[166,200]	[5,10]	[370,3703]	0.033	0.012	-321.9	656.6	65.211 %	0.0881
10	20	2	[166,200]	[5,10]	[740,3703]	0.033	0.011	-660.8	393.2	60.277 %	0.0626
10	20	2	[166,200]	[1,30]	[371,3711]	0.084	0.018	-204.2	964.8	58.773 %	0.0356
10	20	2	[166,200]	[1,30]	[742,3711]	0.040	0.009	-631.9	599.0	56.058 %	0.0579
10	20	2	[166,200]	[15,30]	[371,3718]	0.038	0.008	-284.9	790.3	62.345 %	0.0639
10	20	2	[166,200]	[15,30]	[742,3718]	0.039	0.012	-600.3	578.0	56.853 %	0.0631

Tiempo Promedio Total H_2: 0.039 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 59.727 %

Tabla de Experimentos

$n : 30, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	2	[100,200]	[1,10]	[455,4550]	0.064	0.013	-403.2	1114.6	56.577 %	0.0600
10	30	2	[100,200]	[1,10]	[910,4550]	0.064	0.014	-847.9	509.9	58.917 %	0.0731
10	30	2	[100,200]	[5,10]	[455,4552]	0.057	0.014	-457.8	1042.1	58.315 %	0.0616
10	30	2	[100,200]	[5,10]	[910,4552]	0.057	0.012	-900.4	385.7	59.176 %	0.0378
10	30	2	[100,200]	[1,30]	[456,4560]	0.076	0.013	-363.6	1224.5	58.215 %	0.0661
10	30	2	[100,200]	[1,30]	[912,4560]	0.078	0.016	-807.2	719.9	56.108 %	0.0600
10	30	2	[100,200]	[15,30]	[456,4567]	0.072	0.017	-352.0	1220.5	56.635 %	0.0463
10	30	2	[100,200]	[15,30]	[912,4567]	0.080	0.024	-826.7	672.0	56.183 %	0.0685
10	30	2	[133,200]	[1,10]	[503,5034]	0.064	0.016	-460.6	1209.6	59.115 %	0.0386
10	30	2	[133,200]	[1,10]	[1006,5034]	0.065	0.013	-893.4	702.6	56.693 %	0.0667
10	30	2	[133,200]	[5,10]	[503,5036]	0.082	0.025	-444.0	1050.2	61.093 %	0.0685
10	30	2	[133,200]	[5,10]	[1006,5036]	0.059	0.016	-968.3	803.2	54.814 %	0.0171
10	30	2	[133,200]	[1,30]	[504,5044]	0.075	0.014	-501.5	1263.5	56.973 %	0.0535
10	30	2	[133,200]	[1,30]	[1008,5044]	0.079	0.012	-915.7	599.2	59.494 %	0.0639
10	30	2	[133,200]	[15,30]	[505,5052]	0.068	0.014	-389.2	1209.8	59.723 %	0.0555
10	30	2	[133,200]	[15,30]	[1010,5052]	0.066	0.013	-899.4	779.4	56.351 %	0.0290
10	30	2	[166,200]	[1,10]	[554,5549]	0.064	0.012	-371.8	1578.7	57.234 %	0.0361
10	30	2	[166,200]	[1,10]	[1108,5549]	0.069	0.014	-1032.1	603.6	58.493 %	0.0482
10	30	2	[166,200]	[5,10]	[555,5551]	0.056	0.014	-543.9	1131.2	60.688 %	0.0694
10	30	2	[166,200]	[5,10]	[1110,5551]	0.061	0.011	-1011.2	638.0	58.095 %	0.0679
10	30	2	[166,200]	[1,30]	[556,5560]	0.077	0.014	-572.9	1205.6	58.744 %	0.0530
10	30	2	[166,200]	[1,30]	[1112,5560]	0.078	0.014	-1017.9	879.8	54.389 %	0.0425
10	30	2	[166,200]	[15,30]	[556,5567]	0.069	0.012	-412.7	1562.0	55.451 %	0.0447
10	30	2	[166,200]	[15,30]	[1112,5567]	0.069	0.019	-974.9	919.6	56.524 %	0.0491

Tiempo Promedio Total H_2: 0.069 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 57.667 %

Tabla de Experimentos

$n : 50, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	2	[100,200]	[1,10]	[758,7580]	0.173	0.021	-747.8	1991.2	55.604 %	0.0349
10	50	2	[100,200]	[1,10]	[1516,7580]	0.175	0.024	-1492.4	1273.0	52.558 %	0.0500
10	50	2	[100,200]	[5,10]	[758,7582]	0.161	0.022	-779.1	1516.3	59.470 %	0.0571
10	50	2	[100,200]	[5,10]	[1516,7582]	0.205	0.029	-1439.4	1154.2	53.764 %	0.0327
10	50	2	[100,200]	[1,30]	[759,7590]	0.225	0.022	-678.0	1913.2	58.182 %	0.0607
10	50	2	[100,200]	[1,30]	[1518,7590]	0.219	0.023	-1416.8	1228.5	53.193 %	0.0479
10	50	2	[100,200]	[15,30]	[759,7597]	0.194	0.022	-683.1	1960.2	57.214 %	0.0497
10	50	2	[100,200]	[15,30]	[1518,7597]	0.189	0.023	-1499.5	962.9	55.336 %	0.0619
10	50	2	[133,200]	[1,10]	[838,8388]	0.175	0.023	-787.9	1886.9	60.013 %	0.0711
10	50	2	[133,200]	[1,10]	[1676,8388]	0.184	0.020	-1639.2	1269.6	54.277 %	0.0511
10	50	2	[133,200]	[5,10]	[839,8390]	0.164	0.024	-773.6	2117.4	58.344 %	0.0477
10	50	2	[133,200]	[5,10]	[1678,8390]	0.161	0.023	-1640.4	1184.4	54.605 %	0.0614
10	50	2	[133,200]	[1,30]	[839,8398]	0.219	0.026	-730.9	2639.0	53.358 %	0.0336
10	50	2	[133,200]	[1,30]	[1678,8398]	0.212	0.024	-1641.6	1632.5	51.724 %	0.0461
10	50	2	[133,200]	[15,30]	[840,8405]	0.196	0.024	-696.7	2571.8	54.542 %	0.0315
10	50	2	[133,200]	[15,30]	[1680,8405]	0.189	0.021	-1617.8	1383.9	53.622 %	0.0297
10	50	2	[166,200]	[1,10]	[924,9246]	0.173	0.021	-885.8	2639.8	54.641 %	0.0338
10	50	2	[166,200]	[1,10]	[1848,9246]	0.183	0.024	-1831.8	1565.5	53.103 %	0.0509
10	50	2	[166,200]	[5,10]	[924,9248]	0.158	0.024	-942.1	2389.3	54.921 %	0.0486
10	50	2	[166,200]	[5,10]	[1848,9248]	0.171	0.023	-1754.7	1151.8	57.115 %	0.0513
10	50	2	[166,200]	[1,30]	[925,9256]	0.214	0.023	-859.8	2745.2	53.990 %	0.0170
10	50	2	[166,200]	[1,30]	[1850,9256]	0.220	0.022	-1871.7	1523.5	53.497 %	0.0491
10	50	2	[166,200]	[15,30]	[926,9263]	0.189	0.023	-883.4	2594.4	55.087 %	0.0481
10	50	2	[166,200]	[15,30]	[1852,9263]	0.193	0.023	-1767.5	1429.5	53.951 %	0.0545

Tiempo Promedio Total H_2: 0.189 seg.

Tiempo Promedio Total H_1: 0.023 seg.

Rendimiento Promedio Total: 55.088 %

Tabla de Experimentos

$n : 100, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	2	[100,200]	[1,10]	[1515,15155]	1.019	0.060	-1502.5	3893.1	55.901 %	0.0461
10	100	2	[100,200]	[1,10]	[3030,15155]	0.996	0.062	-2870.8	3050.1	50.379 %	0.0300
10	100	2	[100,200]	[5,10]	[1515,15157]	0.960	0.059	-1541.3	3767.9	56.446 %	0.0344
10	100	2	[100,200]	[5,10]	[3030,15157]	0.964	0.062	-2979.3	2694.0	51.861 %	0.0254
10	100	2	[100,200]	[1,30]	[1516,15165]	1.164	0.060	-1465.1	4233.6	54.791 %	0.0472
10	100	2	[100,200]	[1,30]	[3032,15165]	1.174	0.058	-2935.6	2977.2	51.031 %	0.0324
10	100	2	[100,200]	[15,30]	[1517,15172]	1.065	0.061	-1479.1	4576.2	53.401 %	0.0362
10	100	2	[100,200]	[15,30]	[3034,15172]	1.051	0.062	-2962.1	2925.9	50.725 %	0.0262
10	100	2	[133,200]	[1,10]	[1677,16771]	0.979	0.062	-1681.5	4850.7	53.613 %	0.0360
10	100	2	[133,200]	[1,10]	[3354,16771]	0.999	0.061	-3290.6	3135.2	50.828 %	0.0291
10	100	2	[133,200]	[5,10]	[1677,16773]	0.937	0.062	-1612.4	4678.1	54.372 %	0.0157
10	100	2	[133,200]	[5,10]	[3354,16773]	0.955	0.061	-3264.4	2703.2	53.874 %	0.0306
10	100	2	[133,200]	[1,30]	[1678,16781]	1.157	0.059	-1587.8	5485.1	52.219 %	0.0223
10	100	2	[133,200]	[1,30]	[3356,16781]	1.173	0.061	-3206.4	3977.2	48.731 %	0.0242
10	100	2	[133,200]	[15,30]	[1678,16788]	1.020	0.061	-1640.7	4784.3	54.335 %	0.0404
10	100	2	[133,200]	[15,30]	[3356,16788]	1.065	0.060	-3212.9	3643.1	49.691 %	0.0262
10	100	2	[166,200]	[1,10]	[1848,18488]	0.979	0.060	-1751.6	5154.3	55.179 %	0.0266
10	100	2	[166,200]	[1,10]	[3696,18488]	0.989	0.059	-3644.1	3654.5	50.846 %	0.0324
10	100	2	[166,200]	[5,10]	[1849,18490]	0.956	0.061	-1777.9	4763.0	56.946 %	0.0222
10	100	2	[166,200]	[5,10]	[3698,18490]	0.966	0.058	-3606.3	3377.7	51.840 %	0.0264
10	100	2	[166,200]	[1,30]	[1849,18498]	1.154	0.060	-1880.3	5660.7	52.300 %	0.0174
10	100	2	[166,200]	[1,30]	[3698,18498]	1.194	0.061	-3610.9	4240.6	48.649 %	0.0198
10	100	2	[166,200]	[15,30]	[1850,18505]	1.066	0.061	-1861.8	5515.8	53.493 %	0.0322
10	100	2	[166,200]	[15,30]	[3700,18505]	1.055	0.058	-3723.4	3447.3	50.944 %	0.0230

Tiempo Promedio Total H_2: 1.043 seg.

Tiempo Promedio Total H_1: 0.060 seg.

Rendimiento Promedio Total: 52.600 %

Tabla de Experimentos

$n : 200, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	2	[100,200]	[1,10]	[3030,30305]	7.201	0.202	-3038.0	8470.7	54.339 %	0.0230
10	200	2	[100,200]	[1,10]	[6060,30305]	7.164	0.203	-6068.3	5791.1	50.927 %	0.0207
10	200	2	[100,200]	[5,10]	[3030,30307]	6.937	0.207	-2983.0	8519.0	53.868 %	0.0205
10	200	2	[100,200]	[5,10]	[6060,30307]	6.939	0.204	-6043.3	5216.0	52.411 %	0.0080
10	200	2	[100,200]	[1,30]	[3031,30315]	7.853	0.194	-2992.1	9775.4	51.982 %	0.0203
10	200	2	[100,200]	[1,30]	[6062,30315]	7.840	0.202	-5992.3	6426.1	49.879 %	0.0227
10	200	2	[100,200]	[15,30]	[3032,30322]	7.195	0.199	-2989.7	9122.9	52.546 %	0.0208
10	200	2	[100,200]	[15,30]	[6064,30322]	7.242	0.196	-6031.4	6285.3	50.361 %	0.0198
10	200	2	[133,200]	[1,10]	[3353,33537]	7.096	0.205	-3338.3	10427.7	52.746 %	0.0179
10	200	2	[133,200]	[1,10]	[6706,33537]	7.040	0.202	-6668.2	7129.2	48.958 %	0.0243
10	200	2	[133,200]	[5,10]	[3353,33539]	6.888	0.209	-3302.6	9409.8	54.448 %	0.0329
10	200	2	[133,200]	[5,10]	[6706,33539]	6.997	0.205	-6607.5	6656.2	50.331 %	0.0084
10	200	2	[133,200]	[1,30]	[3354,33547]	7.717	0.200	-3200.4	10746.7	52.788 %	0.0134
10	200	2	[133,200]	[1,30]	[6708,33547]	7.782	0.201	-6634.1	7199.8	49.479 %	0.0253
10	200	2	[133,200]	[15,30]	[3355,33554]	7.246	0.200	-3382.5	10676.4	51.665 %	0.0226
10	200	2	[133,200]	[15,30]	[6710,33554]	7.302	0.202	-6709.0	7654.2	48.648 %	0.0145
10	200	2	[166,200]	[1,10]	[3697,36971]	7.091	0.205	-3670.6	11151.2	53.349 %	0.0276
10	200	2	[166,200]	[1,10]	[7394,36971]	7.146	0.203	-7296.1	7637.3	49.737 %	0.0174
10	200	2	[166,200]	[5,10]	[3697,36973]	6.885	0.208	-3690.3	10231.8	53.995 %	0.0185
10	200	2	[166,200]	[5,10]	[7394,36973]	6.913	0.204	-7361.8	6959.2	51.076 %	0.0157
10	200	2	[166,200]	[1,30]	[3698,36981]	7.737	0.199	-3635.4	11224.8	53.013 %	0.0275
10	200	2	[166,200]	[1,30]	[7396,36981]	7.690	0.196	-7325.7	8445.4	48.825 %	0.0133
10	200	2	[166,200]	[15,30]	[3698,36988]	7.274	0.200	-3549.4	12063.3	51.878 %	0.0183
10	200	2	[166,200]	[15,30]	[7396,36988]	7.331	0.202	-7295.8	8815.9	47.873 %	0.0208

Tiempo Promedio Total H_2: 7.271 seg.

Tiempo Promedio Total H_1: 0.202 seg.

Rendimiento Promedio Total: 51.463 %

Tabla de Experimentos

$n : 300, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	2	[100,200]	[1,10]	[4545,45455]	23.120	0.424	-4477.4	13611.4	52.888 %	0.0138
10	300	2	[100,200]	[1,10]	[9090,45455]	22.947	0.416	-9009.5	9611.6	49.745 %	0.0129
10	300	2	[100,200]	[5,10]	[4545,45457]	23.123	0.435	-4496.0	12598.0	54.403 %	0.0232
10	300	2	[100,200]	[5,10]	[9090,45457]	22.710	0.431	-8925.2	8225.7	51.283 %	0.0152
10	300	2	[100,200]	[1,30]	[4546,45465]	24.368	0.411	-4507.9	14403.9	52.218 %	0.0202
10	300	2	[100,200]	[1,30]	[9092,45465]	24.266	0.416	-8938.5	10048.0	49.237 %	0.0198
10	300	2	[100,200]	[15,30]	[4547,45472]	23.317	0.414	-4464.1	14315.8	52.228 %	0.0262
10	300	2	[100,200]	[15,30]	[9094,45472]	23.356	0.411	-9002.0	10274.0	48.989 %	0.0246
10	300	2	[133,200]	[1,10]	[5030,50303]	22.831	0.426	-4954.3	15759.6	52.199 %	0.0226
10	300	2	[133,200]	[1,10]	[10060,50303]	23.133	0.418	-9920.3	11404.5	48.536 %	0.0129
10	300	2	[133,200]	[5,10]	[5030,50305]	22.673	0.433	-4996.8	14649.5	53.405 %	0.0124
10	300	2	[133,200]	[5,10]	[10060,50305]	22.672	0.425	-9905.6	9710.7	50.448 %	0.0150
10	300	2	[133,200]	[1,30]	[5031,50313]	24.602	0.410	-5064.2	17569.6	49.523 %	0.0174
10	300	2	[133,200]	[1,30]	[10062,50313]	24.495	0.413	-10077.1	12049.4	47.634 %	0.0134
10	300	2	[133,200]	[15,30]	[5032,50320]	23.409	0.408	-4999.2	15652.1	52.283 %	0.0233
10	300	2	[133,200]	[15,30]	[10064,50320]	23.721	0.424	-9986.2	11137.7	49.138 %	0.0171
10	300	2	[166,200]	[1,10]	[5545,55454]	23.040	0.416	-5513.4	18206.1	51.603 %	0.0107
10	300	2	[166,200]	[1,10]	[11090,55454]	23.238	0.422	-11002.9	12252.1	48.723 %	0.0114
10	300	2	[166,200]	[5,10]	[5545,55456]	22.513	0.426	-5517.2	16265.1	53.463 %	0.0186
10	300	2	[166,200]	[5,10]	[11090,55456]	22.691	0.426	-11031.2	9983.5	51.299 %	0.0178
10	300	2	[166,200]	[1,30]	[5546,55464]	24.460	0.420	-5573.6	18493.0	51.013 %	0.0036
10	300	2	[166,200]	[1,30]	[11092,55464]	24.429	0.409	-10960.2	13721.7	47.649 %	0.0096
10	300	2	[166,200]	[15,30]	[5547,55471]	23.247	0.413	-5526.8	18285.7	51.158 %	0.0179
10	300	2	[166,200]	[15,30]	[11094,55471]	23.436	0.417	-11011.1	12780.6	48.377 %	0.0122

Tiempo Promedio Total H_2: 23.408 seg.

Tiempo Promedio Total H_1: 0.419 seg.

Rendimiento Promedio Total: 50.727 %

Tabla de Experimentos

$n : 500, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	2	[100,200]	[1,10]	[7575,75755]	107.993	1.143	-7550.1	23278.2	52.206 %	0.0121
10	500	2	[100,200]	[1,10]	[15150,75755]	107.539	1.152	-15105.1	16955.5	48.494 %	0.0083
10	500	2	[100,200]	[5,10]	[7575,75757]	107.157	1.180	-7479.4	21736.2	53.408 %	0.0086
10	500	2	[100,200]	[5,10]	[15150,75757]	107.140	1.178	-15114.8	14465.2	50.384 %	0.0100
10	500	2	[100,200]	[1,30]	[7576,75765]	111.619	1.130	-7509.4	25939.5	50.677 %	0.0093
10	500	2	[100,200]	[1,30]	[15152,75765]	112.582	1.131	-15041.1	17771.7	47.723 %	0.0151
10	500	2	[100,200]	[15,30]	[7577,75772]	108.371	1.133	-7467.9	24439.1	52.096 %	0.0148
10	500	2	[100,200]	[15,30]	[15154,75772]	108.308	1.137	-15212.7	16709.0	48.670 %	0.0078
10	500	2	[133,200]	[1,10]	[8383,83835]	108.230	1.143	-8313.6	26458.4	51.955 %	0.0127
10	500	2	[133,200]	[1,10]	[16766,83835]	107.827	1.158	-16683.9	19779.3	47.801 %	0.0072
10	500	2	[133,200]	[5,10]	[8383,83837]	107.382	1.179	-8234.6	24819.4	52.985 %	0.0066
10	500	2	[133,200]	[5,10]	[16766,83837]	107.259	1.189	-16641.2	16922.9	49.947 %	0.0088
10	500	2	[133,200]	[1,30]	[8384,83845]	111.727	1.115	-8304.9	28690.0	50.899 %	0.0122
10	500	2	[133,200]	[1,30]	[16768,83845]	111.521	1.118	-16718.3	20197.4	47.679 %	0.0088
10	500	2	[133,200]	[15,30]	[8385,83852]	109.318	1.126	-8338.4	27923.2	50.777 %	0.0094
10	500	2	[133,200]	[15,30]	[16770,83852]	108.579	1.131	-16622.5	19792.8	48.171 %	0.0172
10	500	2	[166,200]	[1,10]	[9242,92420]	107.887	1.153	-9197.5	31318.7	50.967 %	0.0070
10	500	2	[166,200]	[1,10]	[18484,92420]	107.723	1.161	-18284.6	20926.6	48.762 %	0.0185
10	500	2	[166,200]	[5,10]	[9242,92422]	107.176	1.184	-9137.9	27412.4	53.011 %	0.0111
10	500	2	[166,200]	[5,10]	[18484,92422]	106.983	1.180	-18386.7	19002.0	49.807 %	0.0088
10	500	2	[166,200]	[1,30]	[9243,92430]	112.123	1.121	-9221.3	32073.4	50.510 %	0.0106
10	500	2	[166,200]	[1,30]	[18486,92430]	112.344	1.130	-18357.7	23799.7	46.294 %	0.0112
10	500	2	[166,200]	[15,30]	[9243,92437]	109.067	1.151	-9123.4	31623.6	50.694 %	0.0115
10	500	2	[166,200]	[15,30]	[18486,92437]	109.886	1.146	-18365.9	22520.9	47.576 %	0.0112

Tiempo Promedio Total H_2: 108.989 seg.

Tiempo Promedio Total H_1: 1.149 seg.

Rendimiento Promedio Total: 50.062 %

Tabla de Experimentos

$n : 750, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	2	[100,200]	[1,10]	[11363,113630]	387.521	2.591	-11308.3	35583.1	52.397 %	0.0089
10	750	2	[100,200]	[1,10]	[22726,113630]	382.965	2.585	-22629.8	25408.5	48.545 %	0.0035
10	750	2	[100,200]	[5,10]	[11363,113632]	382.166	2.644	-11395.7	32718.5	53.888 %	0.0081
10	750	2	[100,200]	[5,10]	[22726,113632]	380.558	2.636	-22717.3	21797.7	50.728 %	0.0051
10	750	2	[100,200]	[1,30]	[11364,113640]	394.016	2.547	-11336.5	38065.1	50.726 %	0.0107
10	750	2	[100,200]	[1,30]	[22728,113640]	390.699	2.489	-22741.8	27365.5	47.419 %	0.0103
10	750	2	[100,200]	[15,30]	[11364,113647]	386.742	2.521	-11320.1	37002.1	51.512 %	0.0108
10	750	2	[100,200]	[15,30]	[22728,113647]	383.796	2.532	-22716.8	26675.0	48.205 %	0.0069
10	750	2	[133,200]	[1,10]	[12575,125750]	384.147	2.564	-12478.1	41927.0	51.042 %	0.0080
10	750	2	[133,200]	[1,10]	[25150,125750]	383.303	2.560	-25093.1	29171.9	48.203 %	0.0082
10	750	2	[133,200]	[5,10]	[12575,125752]	381.351	2.645	-12524.3	38074.6	52.787 %	0.0096
10	750	2	[133,200]	[5,10]	[25150,125752]	381.482	2.623	-25146.1	25572.5	49.780 %	0.0085
10	750	2	[133,200]	[1,30]	[12576,125760]	393.680	2.488	-12491.4	43618.1	50.369 %	0.0153
10	750	2	[133,200]	[1,30]	[25152,125760]	392.291	2.509	-25091.9	30938.6	47.423 %	0.0090
10	750	2	[133,200]	[15,30]	[12576,125767]	384.693	2.538	-12491.7	43641.3	50.271 %	0.0157
10	750	2	[133,200]	[15,30]	[25152,125767]	386.245	2.552	-25099.7	31807.7	47.165 %	0.0048
10	750	2	[166,200]	[1,10]	[13862,138627]	383.001	2.569	-13748.2	46645.7	50.659 %	0.0164
10	750	2	[166,200]	[1,10]	[27724,138627]	381.543	2.561	-27712.2	32127.8	48.020 %	0.0060
10	750	2	[166,200]	[5,10]	[13862,138629]	382.340	2.625	-13786.4	42308.4	52.743 %	0.0060
10	750	2	[166,200]	[5,10]	[27724,138629]	379.479	2.629	-27633.9	28848.5	49.616 %	0.0045
10	750	2	[166,200]	[1,30]	[13863,138637]	393.729	2.472	-13742.7	50092.3	49.436 %	0.0083
10	750	2	[166,200]	[1,30]	[27726,138637]	394.655	2.486	-27591.3	35743.0	46.508 %	0.0074
10	750	2	[166,200]	[15,30]	[13864,138644]	385.834	2.514	-13766.0	48255.5	50.288 %	0.0091
10	750	2	[166,200]	[15,30]	[27728,138644]	386.140	2.528	-27805.5	35081.9	47.150 %	0.0069

Tiempo Promedio Total H_2: 385.932 seg.

Tiempo Promedio Total H_1: 2.559 seg.

Rendimiento Promedio Total: 49.787 %

Tabla de Experimentos

$n : 1000, m : 2, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	2	[100,200]	[1,10]	[15150,151505]	937.980	4.643	-15145.9	47171.3	52.470 %	0.0098
10	1000	2	[100,200]	[1,10]	[30300,151505]	933.406	4.643	-30241.2	33887.2	48.703 %	0.0081
10	1000	2	[100,200]	[5,10]	[15150,151507]	932.873	4.624	-15159.5	44074.3	53.249 %	0.0084
10	1000	2	[100,200]	[5,10]	[30300,151507]	931.094	4.683	-30199.9	29883.6	49.934 %	0.0040
10	1000	2	[100,200]	[1,30]	[15151,151515]	959.037	4.428	-15097.3	51005.5	50.559 %	0.0122
10	1000	2	[100,200]	[1,30]	[30302,151515]	959.412	4.493	-30235.5	37436.6	47.106 %	0.0085
10	1000	2	[100,200]	[15,30]	[15152,151522]	946.805	4.543	-15054.5	50342.4	51.083 %	0.0082
10	1000	2	[100,200]	[15,30]	[30304,151522]	948.986	4.488	-30260.5	34946.2	48.239 %	0.0077
10	1000	2	[133,200]	[1,10]	[16766,167665]	935.394	4.629	-16649.9	55760.5	51.168 %	0.0065
10	1000	2	[133,200]	[1,10]	[33532,167665]	937.446	4.656	-33482.2	38360.3	48.406 %	0.0085
10	1000	2	[133,200]	[5,10]	[16766,167667]	935.118	4.703	-16607.0	51300.2	52.840 %	0.0081
10	1000	2	[133,200]	[5,10]	[33532,167667]	934.127	4.680	-33516.0	34119.5	49.796 %	0.0056
10	1000	2	[133,200]	[1,30]	[16767,167675]	954.274	4.431	-16735.5	60222.4	49.519 %	0.0066
10	1000	2	[133,200]	[1,30]	[33534,167675]	959.982	4.433	-33376.0	42549.9	46.833 %	0.0078
10	1000	2	[133,200]	[15,30]	[16768,167682]	938.301	4.552	-16708.8	58581.9	50.245 %	0.0055
10	1000	2	[133,200]	[15,30]	[33536,167682]	945.109	4.457	-33400.7	42322.9	47.082 %	0.0069
10	1000	2	[166,200]	[1,10]	[18483,184835]	942.725	4.580	-18457.3	61914.9	50.884 %	0.0053
10	1000	2	[166,200]	[1,10]	[36966,184835]	941.899	4.646	-36928.8	43619.8	47.764 %	0.0038
10	1000	2	[166,200]	[5,10]	[18483,184837]	937.287	4.747	-18378.9	57414.1	52.289 %	0.0068
10	1000	2	[166,200]	[5,10]	[36966,184837]	934.793	4.780	-36925.6	38852.7	49.135 %	0.0056
10	1000	2	[166,200]	[1,30]	[18484,184845]	958.539	4.505	-18458.3	67972.8	48.902 %	0.0073
10	1000	2	[166,200]	[1,30]	[36968,184845]	963.426	4.445	-36799.0	48535.8	46.223 %	0.0100
10	1000	2	[166,200]	[15,30]	[18485,184852]	951.613	4.492	-18449.3	65625.6	49.951 %	0.0055
10	1000	2	[166,200]	[15,30]	[36970,184852]	946.786	4.570	-36879.1	46741.1	46.830 %	0.0052

Tiempo Promedio Total H_2: 944.434 seg.

Tiempo Promedio Total H_1: 4.577 seg.

Rendimiento Promedio Total: 49.550 %

Tabla de Experimentos

$n : 10, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	4	[100,200]	[1,10]	[152,1520]	0.020	0.011	-147.9	-47.0	88.016 %	0.0971
10	10	4	[100,200]	[1,10]	[304,1520]	0.021	0.008	-246.2	-160.1	89.764 %	0.0906
10	10	4	[100,200]	[5,10]	[152,1522]	0.019	0.005	-149.3	-30.3	86.191 %	0.0899
10	10	4	[100,200]	[5,10]	[304,1522]	0.017	0.009	-264.6	-136.3	84.146 %	0.1123
10	10	4	[100,200]	[1,30]	[153,1530]	0.022	0.009	-47.5	113.2	83.343 %	0.0864
10	10	4	[100,200]	[1,30]	[306,1530]	0.023	0.005	-280.1	-180.2	84.821 %	0.0891
10	10	4	[100,200]	[15,30]	[153,1537]	0.022	0.007	-181.0	-47.2	84.694 %	0.1142
10	10	4	[100,200]	[15,30]	[306,1537]	0.020	0.007	-272.0	-63.9	76.478 %	0.0334
10	10	4	[133,200]	[1,10]	[168,1681]	0.023	0.007	-156.9	39.0	80.229 %	0.0799
10	10	4	[133,200]	[1,10]	[336,1681]	0.022	0.016	-326.8	-115.7	77.267 %	0.0843
10	10	4	[133,200]	[5,10]	[168,1683]	0.027	0.012	-174.5	-0.8	82.310 %	0.0412
10	10	4	[133,200]	[5,10]	[336,1683]	0.022	0.009	-248.7	-127.1	86.097 %	0.0987
10	10	4	[133,200]	[1,30]	[169,1691]	0.028	0.012	-154.2	14.4	83.518 %	0.0666
10	10	4	[133,200]	[1,30]	[338,1691]	0.032	0.013	-319.2	-186.6	84.868 %	0.0849
10	10	4	[133,200]	[15,30]	[169,1698]	0.023	0.009	-94.8	76.0	81.785 %	0.0771
10	10	4	[133,200]	[15,30]	[338,1698]	0.035	0.018	-289.2	-155.2	85.563 %	0.0738
10	10	4	[166,200]	[1,10]	[185,1853]	0.024	0.012	-82.0	90.6	84.221 %	0.0984
10	10	4	[166,200]	[1,10]	[370,1853]	0.019	0.008	-322.2	-154.7	82.372 %	0.0719
10	10	4	[166,200]	[5,10]	[185,1855]	0.044	0.020	-160.8	-19.3	85.894 %	0.1027
10	10	4	[166,200]	[5,10]	[370,1855]	0.028	0.015	-371.3	-203.4	83.082 %	0.0904
10	10	4	[166,200]	[1,30]	[186,1863]	0.028	0.012	-117.1	93.3	81.154 %	0.0525
10	10	4	[166,200]	[1,30]	[372,1863]	0.043	0.018	-285.9	-119.6	83.180 %	0.0678
10	10	4	[166,200]	[15,30]	[187,1870]	0.023	0.009	-131.8	69.2	83.269 %	0.0597
10	10	4	[166,200]	[15,30]	[374,1870]	0.018	0.007	-409.6	-230.3	81.659 %	0.0796

Tiempo Promedio Total H_2: 0.025 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 83.497 %

Tabla de Experimentos

$n : 20, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	4	[100,200]	[1,10]	[303,3035]	0.041	0.012	-324.7	-15.0	81.618 %	0.0903
10	20	4	[100,200]	[1,10]	[606,3035]	0.039	0.010	-586.3	-260.8	80.083 %	0.0962
10	20	4	[100,200]	[5,10]	[303,3037]	0.035	0.011	-261.4	-6.2	84.995 %	0.0715
10	20	4	[100,200]	[5,10]	[606,3037]	0.040	0.012	-559.2	-198.7	76.311 %	0.1039
10	20	4	[100,200]	[1,30]	[304,3045]	0.048	0.009	-236.1	143.4	78.832 %	0.0461
10	20	4	[100,200]	[1,30]	[608,3045]	0.048	0.012	-551.9	-182.2	76.771 %	0.0845
10	20	4	[100,200]	[15,30]	[305,3052]	0.045	0.010	-278.7	113.2	76.517 %	0.0571
10	20	4	[100,200]	[15,30]	[610,3052]	0.045	0.013	-599.8	-253.5	80.336 %	0.0657
10	20	4	[133,200]	[1,10]	[335,3358]	0.039	0.011	-314.6	150.4	75.997 %	0.0497
10	20	4	[133,200]	[1,10]	[670,3358]	0.037	0.009	-640.9	-212.4	77.301 %	0.0750
10	20	4	[133,200]	[5,10]	[336,3360]	0.055	0.015	-380.2	56.1	77.429 %	0.0630
10	20	4	[133,200]	[5,10]	[672,3360]	0.039	0.011	-634.9	-284.6	80.135 %	0.0917
10	20	4	[133,200]	[1,30]	[336,3368]	0.047	0.011	-336.6	71.5	79.226 %	0.0743
10	20	4	[133,200]	[1,30]	[672,3368]	0.052	0.014	-655.4	-146.6	71.528 %	0.0465
10	20	4	[133,200]	[15,30]	[337,3375]	0.040	0.011	-336.7	58.8	79.958 %	0.0662
10	20	4	[133,200]	[15,30]	[674,3375]	0.042	0.011	-692.9	-200.7	75.258 %	0.0562
10	20	4	[166,200]	[1,10]	[370,3701]	0.039	0.009	-312.2	157.7	77.971 %	0.0503
10	20	4	[166,200]	[1,10]	[740,3701]	0.042	0.010	-634.9	-206.8	77.568 %	0.0656
10	20	4	[166,200]	[5,10]	[370,3703]	0.039	0.008	-282.7	233.8	77.334 %	0.0481
10	20	4	[166,200]	[5,10]	[740,3703]	0.039	0.009	-730.6	-303.1	78.382 %	0.0657
10	20	4	[166,200]	[1,30]	[371,3711]	0.049	0.012	-270.3	211.5	79.706 %	0.0809
10	20	4	[166,200]	[1,30]	[742,3711]	0.045	0.010	-632.1	-189.9	77.815 %	0.0744
10	20	4	[166,200]	[15,30]	[371,3718]	0.050	0.017	-248.7	261.7	78.530 %	0.0606
10	20	4	[166,200]	[15,30]	[742,3718]	0.043	0.013	-688.9	-240.8	78.207 %	0.0956

Tiempo Promedio Total H_2: 0.043 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 78.242 %

Tabla de Experimentos

$n : 30, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	4	[100,200]	[1,10]	[455,4550]	0.070	0.011	-460.0	195.5	75.851 %	0.0484
10	30	4	[100,200]	[1,10]	[910,4550]	0.070	0.012	-847.1	-110.4	71.890 %	0.0535
10	30	4	[100,200]	[5,10]	[455,4552]	0.068	0.012	-451.7	135.0	78.460 %	0.0817
10	30	4	[100,200]	[5,10]	[910,4552]	0.066	0.014	-888.2	-207.6	71.656 %	0.0591
10	30	4	[100,200]	[1,30]	[456,4560]	0.084	0.014	-386.2	128.8	81.356 %	0.0961
10	30	4	[100,200]	[1,30]	[912,4560]	0.113	0.020	-852.4	-246.0	75.854 %	0.0531
10	30	4	[100,200]	[15,30]	[456,4567]	0.106	0.018	-417.0	275.0	74.961 %	0.0499
10	30	4	[100,200]	[15,30]	[912,4567]	0.080	0.018	-830.6	-232.7	77.027 %	0.0625
10	30	4	[133,200]	[1,10]	[503,5034]	0.069	0.013	-454.2	417.9	71.349 %	0.0484
10	30	4	[133,200]	[1,10]	[1006,5034]	0.074	0.015	-1019.2	-311.1	75.718 %	0.0804
10	30	4	[133,200]	[5,10]	[503,5036]	0.063	0.014	-434.9	314.4	76.035 %	0.0598
10	30	4	[133,200]	[5,10]	[1006,5036]	0.067	0.019	-962.7	-288.8	76.523 %	0.0787
10	30	4	[133,200]	[1,30]	[504,5044]	0.087	0.016	-479.9	277.8	75.252 %	0.0409
10	30	4	[133,200]	[1,30]	[1008,5044]	0.091	0.011	-986.4	-365.1	76.931 %	0.0677
10	30	4	[133,200]	[15,30]	[505,5052]	0.083	0.016	-485.2	222.1	75.787 %	0.0697
10	30	4	[133,200]	[15,30]	[1010,5052]	0.076	0.015	-932.3	-149.7	72.712 %	0.0456
10	30	4	[166,200]	[1,10]	[554,5549]	0.075	0.019	-617.7	321.8	72.445 %	0.0475
10	30	4	[166,200]	[1,10]	[1108,5549]	0.071	0.012	-974.5	-95.0	72.443 %	0.0394
10	30	4	[166,200]	[5,10]	[555,5551]	0.065	0.013	-590.3	186.6	77.323 %	0.0642
10	30	4	[166,200]	[5,10]	[1110,5551]	0.065	0.015	-1025.6	-224.2	75.647 %	0.0724
10	30	4	[166,200]	[1,30]	[556,5560]	0.086	0.020	-558.3	327.5	73.775 %	0.0647
10	30	4	[166,200]	[1,30]	[1112,5560]	0.085	0.014	-1077.3	-241.8	73.462 %	0.0615
10	30	4	[166,200]	[15,30]	[556,5567]	0.080	0.014	-478.3	446.4	73.453 %	0.0462
10	30	4	[166,200]	[15,30]	[1112,5567]	0.088	0.019	-1086.0	-287.3	73.711 %	0.0416

Tiempo Promedio Total H_2: 0.078 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 74.984 %

Tabla de Experimentos

$n : 50, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	4	[100,200]	[1,10]	[758,7580]	0.181	0.022	-736.1	248.2	77.568 %	0.0615
10	50	4	[100,200]	[1,10]	[1516,7580]	0.186	0.022	-1517.8	-452.3	74.366 %	0.0517
10	50	4	[100,200]	[5,10]	[758,7582]	0.168	0.022	-736.8	338.1	76.448 %	0.0664
10	50	4	[100,200]	[5,10]	[1516,7582]	0.175	0.024	-1460.5	-380.0	74.243 %	0.0344
10	50	4	[100,200]	[1,30]	[759,7590]	0.230	0.025	-672.0	392.1	76.997 %	0.0540
10	50	4	[100,200]	[1,30]	[1518,7590]	0.235	0.022	-1465.3	-163.6	70.302 %	0.0574
10	50	4	[100,200]	[15,30]	[759,7597]	0.199	0.022	-732.9	447.8	75.211 %	0.0402
10	50	4	[100,200]	[15,30]	[1518,7597]	0.205	0.022	-1440.8	-267.3	71.199 %	0.0511
10	50	4	[133,200]	[1,10]	[838,8388]	0.189	0.026	-810.6	416.6	76.402 %	0.0548
10	50	4	[133,200]	[1,10]	[1676,8388]	0.181	0.022	-1637.8	-279.2	72.832 %	0.0570
10	50	4	[133,200]	[5,10]	[839,8390]	0.181	0.021	-803.6	379.7	77.012 %	0.0606
10	50	4	[133,200]	[5,10]	[1678,8390]	0.167	0.024	-1675.8	-316.2	71.802 %	0.0270
10	50	4	[133,200]	[1,30]	[839,8398]	0.232	0.023	-815.6	614.6	72.887 %	0.0517
10	50	4	[133,200]	[1,30]	[1678,8398]	0.237	0.024	-1658.2	-266.5	70.826 %	0.0367
10	50	4	[133,200]	[15,30]	[840,8405]	0.200	0.023	-808.5	613.7	72.598 %	0.0473
10	50	4	[133,200]	[15,30]	[1680,8405]	0.200	0.022	-1661.3	-434.6	73.297 %	0.0377
10	50	4	[166,200]	[1,10]	[924,9246]	0.181	0.024	-968.1	699.8	70.018 %	0.0371
10	50	4	[166,200]	[1,10]	[1848,9246]	0.185	0.021	-1876.2	-422.9	72.088 %	0.0383
10	50	4	[166,200]	[5,10]	[924,9248]	0.175	0.024	-852.5	513.8	76.796 %	0.0566
10	50	4	[166,200]	[5,10]	[1848,9248]	0.174	0.025	-1817.5	-280.4	70.176 %	0.0420
10	50	4	[166,200]	[1,30]	[925,9256]	0.225	0.021	-902.9	591.6	73.830 %	0.0262
10	50	4	[166,200]	[1,30]	[1850,9256]	0.224	0.022	-1855.8	-375.7	72.367 %	0.0480
10	50	4	[166,200]	[15,30]	[926,9263]	0.212	0.021	-905.1	525.4	74.594 %	0.0522
10	50	4	[166,200]	[15,30]	[1852,9263]	0.199	0.022	-1787.5	-403.2	73.608 %	0.0594

Tiempo Promedio Total H_2: 0.198 seg.

Tiempo Promedio Total H_1: 0.023 seg.

Rendimiento Promedio Total: 73.644 %

Tabla de Experimentos

$n : 100, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	4	[100,200]	[1,10]	[1515,15155]	1.041	0.071	-1487.5	1317.0	70.842 %	0.0214
10	100	4	[100,200]	[1,10]	[3030,15155]	1.020	0.063	-2967.6	-622.9	72.291 %	0.0301
10	100	4	[100,200]	[5,10]	[1515,15157]	0.984	0.061	-1520.9	884.0	74.028 %	0.0287
10	100	4	[100,200]	[5,10]	[3030,15157]	0.984	0.063	-3034.0	-564.4	70.739 %	0.0343
10	100	4	[100,200]	[1,30]	[1516,15165]	1.181	0.064	-1508.1	1287.5	71.377 %	0.0242
10	100	4	[100,200]	[1,30]	[3032,15165]	1.204	0.060	-2956.2	-529.2	71.478 %	0.0344
10	100	4	[100,200]	[15,30]	[1517,15172]	1.066	0.060	-1532.6	1073.0	72.442 %	0.0441
10	100	4	[100,200]	[15,30]	[3034,15172]	1.069	0.064	-2972.8	-452.0	71.196 %	0.0442
10	100	4	[133,200]	[1,10]	[1677,16771]	1.007	0.062	-1625.4	1265.3	72.951 %	0.0370
10	100	4	[133,200]	[1,10]	[3354,16771]	1.028	0.060	-3282.4	-308.7	69.419 %	0.0219
10	100	4	[133,200]	[5,10]	[1677,16773]	0.975	0.065	-1660.9	1073.6	74.027 %	0.0389
10	100	4	[133,200]	[5,10]	[3354,16773]	1.019	0.065	-3338.0	-390.8	69.016 %	0.0279
10	100	4	[133,200]	[1,30]	[1678,16781]	1.210	0.061	-1613.5	1318.2	72.237 %	0.0432
10	100	4	[133,200]	[1,30]	[3356,16781]	1.163	0.064	-3302.2	-431.9	70.537 %	0.0464
10	100	4	[133,200]	[15,30]	[1678,16788]	1.090	0.061	-1699.9	1256.9	71.954 %	0.0239
10	100	4	[133,200]	[15,30]	[3356,16788]	1.058	0.062	-3289.8	-148.5	68.840 %	0.0224
10	100	4	[166,200]	[1,10]	[1848,18488]	0.997	0.065	-1881.2	1265.9	73.167 %	0.0456
10	100	4	[166,200]	[1,10]	[3696,18488]	1.020	0.065	-3668.4	-282.7	68.520 %	0.0263
10	100	4	[166,200]	[5,10]	[1849,18490]	0.964	0.063	-1854.2	1388.7	71.917 %	0.0304
10	100	4	[166,200]	[5,10]	[3698,18490]	0.960	0.062	-3598.8	-239.1	68.563 %	0.0335
10	100	4	[166,200]	[1,30]	[1849,18498]	1.201	0.062	-1872.0	1525.2	70.911 %	0.0290
10	100	4	[166,200]	[1,30]	[3698,18498]	1.199	0.060	-3588.8	-194.5	68.791 %	0.0213
10	100	4	[166,200]	[15,30]	[1850,18505]	1.066	0.060	-1821.8	1393.8	72.666 %	0.0353
10	100	4	[166,200]	[15,30]	[3700,18505]	1.073	0.060	-3753.4	-462.9	69.730 %	0.0479

Tiempo Promedio Total H_2: 1.066 seg.

Tiempo Promedio Total H_1: 0.063 seg.

Rendimiento Promedio Total: 71.152 %

Tabla de Experimentos

$n : 200, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	4	[100,200]	[1,10]	[3030,30305]	7.136	0.208	-3017.6	2753.1	70.479 %	0.0118
10	200	4	[100,200]	[1,10]	[6060,30305]	6.968	0.210	-6021.1	-358.7	68.673 %	0.0223
10	200	4	[100,200]	[5,10]	[3030,30307]	6.839	0.209	-3109.1	1920.4	72.903 %	0.0201
10	200	4	[100,200]	[5,10]	[6060,30307]	6.788	0.214	-6106.0	-861.9	70.145 %	0.0191
10	200	4	[100,200]	[1,30]	[3031,30315]	7.660	0.200	-3022.5	2878.7	70.178 %	0.0256
10	200	4	[100,200]	[1,30]	[6062,30315]	7.675	0.203	-6058.7	-273.3	68.101 %	0.0187
10	200	4	[100,200]	[15,30]	[3032,30322]	7.383	0.212	-3009.5	2943.1	69.195 %	0.0142
10	200	4	[100,200]	[15,30]	[6064,30322]	7.248	0.208	-6069.9	-358.1	68.201 %	0.0172
10	200	4	[133,200]	[1,10]	[3353,33537]	7.003	0.208	-3306.7	3139.9	70.032 %	0.0259
10	200	4	[133,200]	[1,10]	[6706,33537]	6.971	0.206	-6646.6	125.5	65.944 %	0.0265
10	200	4	[133,200]	[5,10]	[3353,33539]	7.014	0.214	-3384.8	2861.6	70.919 %	0.0211
10	200	4	[133,200]	[5,10]	[6706,33539]	6.935	0.212	-6650.5	-858.7	70.331 %	0.0237
10	200	4	[133,200]	[1,30]	[3354,33547]	7.658	0.202	-3369.5	3236.4	69.288 %	0.0198
10	200	4	[133,200]	[1,30]	[6708,33547]	7.742	0.202	-6638.2	193.8	66.476 %	0.0256
10	200	4	[133,200]	[15,30]	[3355,33554]	7.252	0.203	-3249.2	3189.8	70.286 %	0.0243
10	200	4	[133,200]	[15,30]	[6710,33554]	7.112	0.203	-6687.3	-258.8	68.036 %	0.0212
10	200	4	[166,200]	[1,10]	[3697,36971]	6.939	0.205	-3630.0	3727.1	69.488 %	0.0155
10	200	4	[166,200]	[1,10]	[7394,36971]	6.996	0.205	-7404.9	-123.5	66.932 %	0.0165
10	200	4	[166,200]	[5,10]	[3697,36973]	6.831	0.209	-3618.7	3209.9	70.521 %	0.0366
10	200	4	[166,200]	[5,10]	[7394,36973]	6.826	0.214	-7339.5	-600.6	68.941 %	0.0213
10	200	4	[166,200]	[1,30]	[3698,36981]	7.665	0.202	-3722.9	4022.9	68.388 %	0.0199
10	200	4	[166,200]	[1,30]	[7396,36981]	7.595	0.202	-7427.5	-323.7	67.938 %	0.0215
10	200	4	[166,200]	[15,30]	[3698,36988]	7.318	0.206	-3668.8	3792.0	68.856 %	0.0179
10	200	4	[166,200]	[15,30]	[7396,36988]	7.379	0.208	-7372.7	-407.6	68.103 %	0.0257

Tiempo Promedio Total H_2: 7.206 seg.

Tiempo Promedio Total H_1: 0.207 seg.

Rendimiento Promedio Total: 69.098 %

Tabla de Experimentos

$n : 300, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	4	[100,200]	[1,10]	[4545,45455]	22.840	0.441	-4516.6	3982.6	70.824 %	0.0191
10	300	4	[100,200]	[1,10]	[9090,45455]	22.712	0.431	-9075.5	-577.9	68.447 %	0.0208
10	300	4	[100,200]	[5,10]	[4545,45457]	22.465	0.450	-4634.5	3710.2	70.928 %	0.0213
10	300	4	[100,200]	[5,10]	[9090,45457]	22.467	0.439	-9051.2	-667.4	68.611 %	0.0157
10	300	4	[100,200]	[1,30]	[4546,45465]	24.275	0.419	-4526.8	4397.5	69.831 %	0.0177
10	300	4	[100,200]	[1,30]	[9092,45465]	24.434	0.422	-9090.3	-58.9	67.058 %	0.0186
10	300	4	[100,200]	[15,30]	[4547,45472]	23.174	0.430	-4510.8	4210.1	70.420 %	0.0183
10	300	4	[100,200]	[15,30]	[9094,45472]	23.293	0.425	-9178.1	-169.9	66.887 %	0.0211
10	300	4	[133,200]	[1,10]	[5030,50303]	22.724	0.434	-5024.8	4989.2	69.270 %	0.0146
10	300	4	[133,200]	[1,10]	[10060,50303]	22.949	0.440	-10031.4	-287.7	66.893 %	0.0225
10	300	4	[133,200]	[5,10]	[5030,50305]	22.586	0.441	-5125.7	4518.3	69.653 %	0.0161
10	300	4	[133,200]	[5,10]	[10060,50305]	22.749	0.457	-10028.7	-1012.1	69.093 %	0.0201
10	300	4	[133,200]	[1,30]	[5031,50313]	24.047	0.421	-4954.7	5006.6	69.490 %	0.0290
10	300	4	[133,200]	[1,30]	[10062,50313]	24.366	0.424	-9976.2	299.7	65.987 %	0.0171
10	300	4	[133,200]	[15,30]	[5032,50320]	23.368	0.426	-4981.7	4747.3	69.898 %	0.0212
10	300	4	[133,200]	[15,30]	[10064,50320]	23.234	0.430	-10061.2	81.6	66.580 %	0.0177
10	300	4	[166,200]	[1,10]	[5545,55454]	22.870	0.434	-5466.5	5841.1	68.793 %	0.0207
10	300	4	[166,200]	[1,10]	[11090,55454]	22.872	0.437	-10979.1	-4.1	66.879 %	0.0154
10	300	4	[166,200]	[5,10]	[5545,55456]	22.487	0.447	-5636.8	5016.0	70.094 %	0.0107
10	300	4	[166,200]	[5,10]	[11090,55456]	22.487	0.443	-11011.5	-29.1	66.981 %	0.0112
10	300	4	[166,200]	[1,30]	[5546,55464]	24.332	0.436	-5428.8	6248.7	67.952 %	0.0174
10	300	4	[166,200]	[1,30]	[11092,55464]	24.220	0.420	-11036.3	930.8	65.008 %	0.0124
10	300	4	[166,200]	[15,30]	[5547,55471]	23.230	0.435	-5528.2	5707.0	69.135 %	0.0161
10	300	4	[166,200]	[15,30]	[11094,55471]	23.281	0.430	-11052.5	214.3	66.227 %	0.0165

Tiempo Promedio Total H_2: 23.228 seg.

Tiempo Promedio Total H_1: 0.434 seg.

Rendimiento Promedio Total: 68.372 %

Tabla de Experimentos

$n : 500, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	4	[100,200]	[1,10]	[7575,75755]	106.221	1.160	-7594.8	7426.8	69.580 %	0.0147
10	500	4	[100,200]	[1,10]	[15150,75755]	106.661	1.144	-15151.4	-214.3	66.876 %	0.0089
10	500	4	[100,200]	[5,10]	[7575,75757]	106.025	1.189	-7534.8	6028.1	71.853 %	0.0130
10	500	4	[100,200]	[5,10]	[15150,75757]	106.070	1.175	-15252.9	-1120.0	68.389 %	0.0070
10	500	4	[100,200]	[1,30]	[7576,75765]	110.566	1.130	-7600.7	7735.5	69.103 %	0.0062
10	500	4	[100,200]	[1,30]	[15152,75765]	111.433	1.120	-15152.9	293.1	65.763 %	0.0187
10	500	4	[100,200]	[15,30]	[7577,75772]	108.500	1.137	-7541.5	7514.5	69.505 %	0.0154
10	500	4	[100,200]	[15,30]	[15154,75772]	108.434	1.141	-15157.9	314.7	66.007 %	0.0186
10	500	4	[133,200]	[1,10]	[8383,83835]	106.738	1.158	-8403.2	8342.0	69.241 %	0.0205
10	500	4	[133,200]	[1,10]	[16766,83835]	106.776	1.157	-16710.2	314.9	66.470 %	0.0144
10	500	4	[133,200]	[5,10]	[8383,83837]	105.683	1.175	-8293.4	7273.3	70.955 %	0.0166
10	500	4	[133,200]	[5,10]	[16766,83837]	106.192	1.195	-16720.3	-765.6	68.142 %	0.0152
10	500	4	[133,200]	[1,30]	[8384,83845]	111.097	1.131	-8353.7	9337.0	68.246 %	0.0241
10	500	4	[133,200]	[1,30]	[16768,83845]	111.187	1.122	-16744.9	1331.5	65.260 %	0.0191
10	500	4	[133,200]	[15,30]	[8385,83852]	109.015	1.147	-8339.3	9399.4	67.838 %	0.0119
10	500	4	[133,200]	[15,30]	[16770,83852]	108.158	1.138	-16726.2	1415.7	64.885 %	0.0092
10	500	4	[166,200]	[1,10]	[9242,92420]	106.932	1.154	-9268.1	9207.2	69.029 %	0.0151
10	500	4	[166,200]	[1,10]	[18484,92420]	106.875	1.159	-18405.8	818.7	66.058 %	0.0127
10	500	4	[166,200]	[5,10]	[9242,92422]	105.839	1.192	-9196.9	9499.6	68.946 %	0.0061
10	500	4	[166,200]	[5,10]	[18484,92422]	104.733	1.192	-18447.5	-480.2	67.694 %	0.0129
10	500	4	[166,200]	[1,30]	[9243,92430]	110.946	1.128	-9232.4	10959.3	67.188 %	0.0148
10	500	4	[166,200]	[1,30]	[18486,92430]	110.573	1.116	-18454.5	2340.4	63.673 %	0.0081
10	500	4	[166,200]	[15,30]	[9243,92437]	108.388	1.153	-9207.3	10499.3	67.850 %	0.0138
10	500	4	[166,200]	[15,30]	[18486,92437]	107.895	1.161	-18446.4	1172.6	65.263 %	0.0137

Tiempo Promedio Total H_2: 107.956 seg.

Tiempo Promedio Total H_1: 1.153 seg.

Rendimiento Promedio Total: 67.659 %

Tabla de Experimentos

$n : 750, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	4	[100,200]	[1,10]	[11363,113630]	379.501	2.472	-11371.4	11044.6	69.458 %	0.0099
10	750	4	[100,200]	[1,10]	[22726,113630]	378.468	2.472	-22673.0	-154.1	66.833 %	0.0092
10	750	4	[100,200]	[5,10]	[11363,113632]	374.220	2.540	-11408.1	9867.6	70.312 %	0.0078
10	750	4	[100,200]	[5,10]	[22726,113632]	375.058	2.541	-22679.9	-1245.9	68.107 %	0.0108
10	750	4	[100,200]	[1,30]	[11364,113640]	390.497	2.398	-11310.6	12879.4	67.797 %	0.0077
10	750	4	[100,200]	[1,30]	[22728,113640]	387.461	2.400	-22682.6	854.7	65.848 %	0.0118
10	750	4	[100,200]	[15,30]	[11364,113647]	381.578	2.427	-11300.5	11410.3	69.419 %	0.0101
10	750	4	[100,200]	[15,30]	[22728,113647]	379.069	2.442	-22695.5	1386.8	65.276 %	0.0098
10	750	4	[133,200]	[1,10]	[12575,125750]	377.289	2.516	-12590.6	13396.6	68.664 %	0.0142
10	750	4	[133,200]	[1,10]	[25150,125750]	378.181	2.471	-25109.1	686.9	66.033 %	0.0088
10	750	4	[133,200]	[5,10]	[12575,125752]	376.779	2.541	-12624.4	11904.7	69.887 %	0.0091
10	750	4	[133,200]	[5,10]	[25150,125752]	376.816	2.558	-25060.0	-362.3	67.134 %	0.0062
10	750	4	[133,200]	[1,30]	[12576,125760]	390.156	2.416	-12645.0	15189.2	67.145 %	0.0121
10	750	4	[133,200]	[1,30]	[25152,125760]	387.343	2.422	-25136.6	1733.9	65.349 %	0.0154
10	750	4	[133,200]	[15,30]	[12576,125767]	383.102	2.431	-12556.9	15110.8	66.922 %	0.0085
10	750	4	[133,200]	[15,30]	[25152,125767]	383.547	2.432	-25107.7	2761.3	64.409 %	0.0080
10	750	4	[166,200]	[1,10]	[13862,138627]	379.762	2.476	-13834.6	15398.2	67.848 %	0.0084
10	750	4	[166,200]	[1,10]	[27724,138627]	378.827	2.465	-27645.6	1175.1	65.948 %	0.0125
10	750	4	[166,200]	[5,10]	[13862,138629]	374.386	2.532	-13850.4	13228.6	69.514 %	0.0092
10	750	4	[166,200]	[5,10]	[27724,138629]	378.455	2.533	-27716.3	129.9	66.477 %	0.0122
10	750	4	[166,200]	[1,30]	[13863,138637]	388.551	2.406	-13741.6	16867.2	67.053 %	0.0109
10	750	4	[166,200]	[1,30]	[27726,138637]	389.812	2.435	-27692.0	3170.6	64.098 %	0.0102
10	750	4	[166,200]	[15,30]	[13864,138644]	379.122	2.421	-13853.2	15634.2	67.900 %	0.0106
10	750	4	[166,200]	[15,30]	[27728,138644]	378.965	2.434	-27679.9	2539.5	64.606 %	0.0155

Tiempo Promedio Total H_2: 381.123 seg.

Tiempo Promedio Total H_1: 2.466 seg.

Rendimiento Promedio Total: 67.168 %

Tabla de Experimentos

$n : 1000, m : 4, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	4	[100,200]	[1,10]	[15150,151505]	934.113	4.703	-15124.1	15885.6	68.381 %	0.0068
10	1000	4	[100,200]	[1,10]	[30300,151505]	941.500	4.757	-30310.6	294.8	66.133 %	0.0085
10	1000	4	[100,200]	[5,10]	[15150,151507]	930.542	4.968	-15141.9	14079.3	69.853 %	0.0057
10	1000	4	[100,200]	[5,10]	[30300,151507]	934.740	4.888	-30262.7	-1446.6	67.585 %	0.0050
10	1000	4	[100,200]	[1,30]	[15151,151515]	957.792	4.658	-15092.3	16710.3	68.350 %	0.0076
10	1000	4	[100,200]	[1,30]	[30302,151515]	959.294	4.583	-30315.3	2056.3	65.200 %	0.0136
10	1000	4	[100,200]	[15,30]	[15152,151522]	946.748	4.670	-15161.8	16712.7	68.134 %	0.0088
10	1000	4	[100,200]	[15,30]	[30304,151522]	945.710	4.703	-30283.3	1540.3	65.383 %	0.0110
10	1000	4	[133,200]	[1,10]	[16766,167665]	941.117	4.729	-16760.1	18420.5	68.161 %	0.0109
10	1000	4	[133,200]	[1,10]	[33532,167665]	935.409	4.762	-33482.0	1657.3	65.372 %	0.0113
10	1000	4	[133,200]	[5,10]	[16766,167667]	935.560	4.934	-16726.5	16546.2	69.292 %	0.0056
10	1000	4	[133,200]	[5,10]	[33532,167667]	932.644	5.046	-33481.0	-343.3	66.997 %	0.0059
10	1000	4	[133,200]	[1,30]	[16767,167675]	962.019	4.631	-16806.9	20472.0	66.964 %	0.0072
10	1000	4	[133,200]	[1,30]	[33534,167675]	959.439	4.526	-33480.9	3509.5	64.566 %	0.0065
10	1000	4	[133,200]	[15,30]	[16768,167682]	945.579	4.717	-16809.7	19288.1	67.657 %	0.0121
10	1000	4	[133,200]	[15,30]	[33536,167682]	939.639	4.627	-33465.5	2824.8	64.956 %	0.0059
10	1000	4	[166,200]	[1,10]	[18483,184835]	935.122	4.812	-18400.6	21679.4	67.673 %	0.0049
10	1000	4	[166,200]	[1,10]	[36966,184835]	933.003	4.801	-36925.2	2057.6	65.447 %	0.0104
10	1000	4	[166,200]	[5,10]	[18483,184837]	931.687	4.856	-18450.9	18621.0	69.229 %	0.0057
10	1000	4	[166,200]	[5,10]	[36966,184837]	932.788	4.839	-36890.9	573.0	66.345 %	0.0075
10	1000	4	[166,200]	[1,30]	[18484,184845]	955.843	4.749	-18472.4	22388.3	67.264 %	0.0074
10	1000	4	[166,200]	[1,30]	[36968,184845]	951.565	4.672	-36894.6	4337.1	64.252 %	0.0121
10	1000	4	[166,200]	[15,30]	[18485,184852]	941.376	4.649	-18330.7	22302.3	67.055 %	0.0087
10	1000	4	[166,200]	[15,30]	[36970,184852]	943.544	4.692	-36911.3	4849.7	63.812 %	0.0077

Tiempo Promedio Total H_2: 942.782 seg.

Tiempo Promedio Total H_1: 4.749 seg.

Rendimiento Promedio Total: 66.836 %

Tabla de Experimentos

$n : 10, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	6	[100,200]	[1,10]	[152,1520]	0.022	0.010	-78.0	-32.4	94.305 %	0.0702
10	10	6	[100,200]	[1,10]	[304,1520]	0.023	0.008	-297.2	-256.7	94.625 %	0.0519
10	10	6	[100,200]	[5,10]	[152,1522]	0.022	0.009	-111.3	-73.0	95.583 %	0.0586
10	10	6	[100,200]	[5,10]	[304,1522]	0.020	0.007	-273.2	-223.5	93.763 %	0.0706
10	10	6	[100,200]	[1,30]	[153,1530]	0.024	0.010	-135.6	-67.8	91.076 %	0.0873
10	10	6	[100,200]	[1,30]	[306,1530]	0.022	0.007	-234.7	-157.8	89.931 %	0.0747
10	10	6	[100,200]	[15,30]	[153,1537]	0.022	0.006	-126.9	-67.9	92.045 %	0.0650
10	10	6	[100,200]	[15,30]	[306,1537]	0.022	0.009	-282.4	-228.5	93.136 %	0.0762
10	10	6	[133,200]	[1,10]	[168,1681]	0.022	0.008	-197.9	-103.6	88.670 %	0.0813
10	10	6	[133,200]	[1,10]	[336,1681]	0.021	0.009	-296.9	-224.9	90.256 %	0.0776
10	10	6	[133,200]	[5,10]	[168,1683]	0.020	0.008	-140.0	-50.7	90.096 %	0.0740
10	10	6	[133,200]	[5,10]	[336,1683]	0.027	0.013	-323.6	-283.2	94.652 %	0.0670
10	10	6	[133,200]	[1,30]	[169,1691]	0.021	0.010	-94.1	-22.1	92.555 %	0.0767
10	10	6	[133,200]	[1,30]	[338,1691]	0.028	0.011	-320.1	-266.1	92.854 %	0.0884
10	10	6	[133,200]	[15,30]	[169,1698]	0.023	0.011	-185.4	-135.2	93.910 %	0.0690
10	10	6	[133,200]	[15,30]	[338,1698]	0.023	0.008	-264.8	-204.0	93.483 %	0.0736
10	10	6	[166,200]	[1,10]	[185,1853]	0.022	0.007	-214.8	-133.0	91.381 %	0.0739
10	10	6	[166,200]	[1,10]	[370,1853]	0.021	0.009	-293.6	-221.5	93.078 %	0.0762
10	10	6	[166,200]	[5,10]	[185,1855]	0.017	0.010	-160.9	-42.1	87.950 %	0.0677
10	10	6	[166,200]	[5,10]	[370,1855]	0.044	0.028	-295.8	-217.0	90.788 %	0.0852
10	10	6	[166,200]	[1,30]	[186,1863]	0.023	0.009	-239.2	-141.9	88.729 %	0.0902
10	10	6	[166,200]	[1,30]	[372,1863]	0.032	0.010	-374.7	-312.4	93.019 %	0.0820
10	10	6	[166,200]	[15,30]	[187,1870]	0.022	0.012	-131.0	-64.7	93.819 %	0.0760
10	10	6	[166,200]	[15,30]	[374,1870]	0.025	0.009	-296.7	-236.7	93.339 %	0.0686

Tiempo Promedio Total H_2: 0.024 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 92.210 %

Tabla de Experimentos

$n : 20, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	6	[100,200]	[1,10]	[303,3035]	0.044	0.011	-326.4	-81.2	84.099 %	0.0616
10	20	6	[100,200]	[1,10]	[606,3035]	0.047	0.014	-560.4	-354.0	85.503 %	0.0446
10	20	6	[100,200]	[5,10]	[303,3037]	0.040	0.011	-348.1	-221.0	91.831 %	0.0885
10	20	6	[100,200]	[5,10]	[606,3037]	0.039	0.010	-535.2	-331.1	86.500 %	0.0759
10	20	6	[100,200]	[1,30]	[304,3045]	0.051	0.011	-334.2	-87.6	85.361 %	0.0360
10	20	6	[100,200]	[1,30]	[608,3045]	0.049	0.010	-535.7	-315.4	85.783 %	0.0632
10	20	6	[100,200]	[15,30]	[305,3052]	0.051	0.012	-259.0	-68.3	88.618 %	0.0744
10	20	6	[100,200]	[15,30]	[610,3052]	0.048	0.012	-545.2	-358.2	87.552 %	0.0451
10	20	6	[133,200]	[1,10]	[335,3358]	0.066	0.016	-263.1	-23.3	86.416 %	0.0761
10	20	6	[133,200]	[1,10]	[670,3358]	0.066	0.021	-623.8	-364.8	84.707 %	0.0693
10	20	6	[133,200]	[5,10]	[336,3360]	0.047	0.012	-317.6	-165.8	91.222 %	0.0650
10	20	6	[133,200]	[5,10]	[672,3360]	0.043	0.010	-630.9	-350.1	83.578 %	0.0558
10	20	6	[133,200]	[1,30]	[336,3368]	0.100	0.043	-307.6	-116.3	88.926 %	0.0856
10	20	6	[133,200]	[1,30]	[672,3368]	0.054	0.009	-548.9	-311.9	85.378 %	0.0656
10	20	6	[133,200]	[15,30]	[337,3375]	0.049	0.014	-246.6	21.4	85.604 %	0.0537
10	20	6	[133,200]	[15,30]	[674,3375]	0.045	0.012	-575.3	-344.3	86.113 %	0.0589
10	20	6	[166,200]	[1,10]	[370,3701]	0.042	0.013	-311.5	-132.5	91.510 %	0.0636
10	20	6	[166,200]	[1,10]	[740,3701]	0.044	0.009	-667.7	-402.7	84.813 %	0.0628
10	20	6	[166,200]	[5,10]	[370,3703]	0.043	0.013	-349.0	-64.5	85.595 %	0.0538
10	20	6	[166,200]	[5,10]	[740,3703]	0.040	0.012	-706.5	-439.0	85.637 %	0.0562
10	20	6	[166,200]	[1,30]	[371,3711]	0.052	0.012	-370.5	-27.7	82.749 %	0.0643
10	20	6	[166,200]	[1,30]	[742,3711]	0.056	0.011	-725.9	-454.6	84.958 %	0.0600
10	20	6	[166,200]	[15,30]	[371,3718]	0.054	0.012	-335.1	-12.4	84.030 %	0.0665
10	20	6	[166,200]	[15,30]	[742,3718]	0.044	0.012	-719.7	-475.8	85.598 %	0.0734

Tiempo Promedio Total H_2: 0.051 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 86.337 %

Tabla de Experimentos

$n : 30, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	6	[100,200]	[1,10]	[455,4550]	0.077	0.014	-432.2	-46.5	83.805 %	0.0601
10	30	6	[100,200]	[1,10]	[910,4550]	0.087	0.019	-917.6	-575.0	84.407 %	0.0378
10	30	6	[100,200]	[5,10]	[455,4552]	0.067	0.014	-415.8	-89.7	86.506 %	0.0474
10	30	6	[100,200]	[5,10]	[910,4552]	0.072	0.019	-845.8	-548.6	86.183 %	0.0468
10	30	6	[100,200]	[1,30]	[456,4560]	0.098	0.014	-519.5	-201.1	86.377 %	0.0602
10	30	6	[100,200]	[1,30]	[912,4560]	0.096	0.017	-912.3	-442.1	79.826 %	0.0291
10	30	6	[100,200]	[15,30]	[456,4567]	0.084	0.015	-400.6	-5.2	84.267 %	0.0537
10	30	6	[100,200]	[15,30]	[912,4567]	0.091	0.014	-884.9	-461.0	81.269 %	0.0275
10	30	6	[133,200]	[1,10]	[503,5034]	0.078	0.014	-447.8	-75.2	86.481 %	0.0648
10	30	6	[133,200]	[1,10]	[1006,5034]	0.082	0.012	-1020.2	-591.6	82.524 %	0.0545
10	30	6	[133,200]	[5,10]	[503,5036]	0.069	0.016	-417.9	65.0	83.061 %	0.0568
10	30	6	[133,200]	[5,10]	[1006,5036]	0.075	0.017	-1030.1	-671.7	85.173 %	0.0740
10	30	6	[133,200]	[1,30]	[504,5044]	0.103	0.016	-504.9	-137.9	85.758 %	0.0494
10	30	6	[133,200]	[1,30]	[1008,5044]	0.093	0.015	-984.7	-580.1	83.924 %	0.0608
10	30	6	[133,200]	[15,30]	[505,5052]	0.088	0.017	-513.0	-83.9	84.947 %	0.0524
10	30	6	[133,200]	[15,30]	[1010,5052]	0.086	0.013	-914.4	-568.4	86.832 %	0.0792
10	30	6	[166,200]	[1,10]	[554,5549]	0.077	0.015	-574.3	-49.8	82.343 %	0.0557
10	30	6	[166,200]	[1,10]	[1108,5549]	0.077	0.015	-1056.1	-532.9	81.145 %	0.0341
10	30	6	[166,200]	[5,10]	[555,5551]	0.074	0.015	-502.1	-108.2	86.835 %	0.0539
10	30	6	[166,200]	[5,10]	[1110,5551]	0.069	0.015	-1072.5	-605.1	82.883 %	0.0467
10	30	6	[166,200]	[1,30]	[556,5560]	0.095	0.016	-541.5	-93.1	85.199 %	0.0557
10	30	6	[166,200]	[1,30]	[1112,5560]	0.100	0.015	-1053.6	-642.7	84.701 %	0.0526
10	30	6	[166,200]	[15,30]	[556,5567]	0.086	0.013	-553.4	-92.8	84.517 %	0.0474
10	30	6	[166,200]	[15,30]	[1112,5567]	0.085	0.014	-1066.3	-472.3	79.222 %	0.0261

Tiempo Promedio Total H_2: 0.084 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 84.091 %

Tabla de Experimentos

$n : 50, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	6	[100,200]	[1,10]	[758,7580]	0.196	0.026	-833.7	-146.4	82.910 %	0.0500
10	50	6	[100,200]	[1,10]	[1516,7580]	0.194	0.024	-1580.5	-929.9	82.158 %	0.0523
10	50	6	[100,200]	[5,10]	[758,7582]	0.181	0.024	-680.8	-73.9	84.963 %	0.0361
10	50	6	[100,200]	[5,10]	[1516,7582]	0.191	0.026	-1499.2	-864.2	83.008 %	0.0215
10	50	6	[100,200]	[1,30]	[759,7590]	0.242	0.026	-764.0	-38.1	82.452 %	0.0377
10	50	6	[100,200]	[1,30]	[1518,7590]	0.240	0.025	-1566.1	-856.8	80.815 %	0.0293
10	50	6	[100,200]	[15,30]	[759,7597]	0.229	0.022	-732.6	-67.3	84.148 %	0.0407
10	50	6	[100,200]	[15,30]	[1518,7597]	0.214	0.026	-1489.2	-756.1	81.206 %	0.0383
10	50	6	[133,200]	[1,10]	[838,8388]	0.196	0.024	-795.6	25.6	82.758 %	0.0517
10	50	6	[133,200]	[1,10]	[1676,8388]	0.197	0.026	-1626.1	-800.8	79.998 %	0.0433
10	50	6	[133,200]	[5,10]	[839,8390]	0.179	0.022	-785.1	-94.6	84.476 %	0.0547
10	50	6	[133,200]	[5,10]	[1678,8390]	0.191	0.028	-1680.3	-908.9	81.414 %	0.0580
10	50	6	[133,200]	[1,30]	[839,8398]	0.247	0.026	-765.8	-19.6	84.156 %	0.0608
10	50	6	[133,200]	[1,30]	[1678,8398]	0.248	0.021	-1610.8	-773.2	80.428 %	0.0293
10	50	6	[133,200]	[15,30]	[840,8405]	0.208	0.022	-754.6	78.9	82.349 %	0.0461
10	50	6	[133,200]	[15,30]	[1680,8405]	0.219	0.026	-1601.4	-736.1	79.957 %	0.0534
10	50	6	[166,200]	[1,10]	[924,9246]	0.193	0.023	-876.1	19.6	82.263 %	0.0370
10	50	6	[166,200]	[1,10]	[1848,9246]	0.196	0.028	-1793.3	-930.9	80.773 %	0.0612
10	50	6	[166,200]	[5,10]	[924,9248]	0.175	0.027	-883.6	-79.7	83.570 %	0.0445
10	50	6	[166,200]	[5,10]	[1848,9248]	0.175	0.024	-1784.0	-767.1	77.795 %	0.0374
10	50	6	[166,200]	[1,30]	[925,9256]	0.241	0.026	-904.5	-5.0	81.695 %	0.0321
10	50	6	[166,200]	[1,30]	[1850,9256]	0.250	0.025	-1734.6	-749.8	79.583 %	0.0600
10	50	6	[166,200]	[15,30]	[926,9263]	0.212	0.025	-934.8	-14.1	82.236 %	0.0407
10	50	6	[166,200]	[15,30]	[1852,9263]	0.213	0.022	-1768.0	-778.4	78.977 %	0.0272

Tiempo Promedio Total H_2: 0.209 seg.

Tiempo Promedio Total H_1: 0.025 seg.

Rendimiento Promedio Total: 81.837 %

Tabla de Experimentos

$n : 100, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	6	[100,200]	[1,10]	[1515,15155]	1.029	0.064	-1491.7	40.8	82.223 %	0.0204
10	100	6	[100,200]	[1,10]	[3030,15155]	1.010	0.063	-2989.6	-1372.5	79.041 %	0.0424
10	100	6	[100,200]	[5,10]	[1515,15157]	0.988	0.061	-1456.6	91.0	81.863 %	0.0354
10	100	6	[100,200]	[5,10]	[3030,15157]	0.999	0.067	-2965.4	-1515.4	80.554 %	0.0315
10	100	6	[100,200]	[1,30]	[1516,15165]	1.185	0.060	-1555.1	197.5	79.337 %	0.0286
10	100	6	[100,200]	[1,30]	[3032,15165]	1.240	0.063	-3028.6	-1617.7	81.368 %	0.0472
10	100	6	[100,200]	[15,30]	[1517,15172]	1.104	0.065	-1468.5	138.2	81.547 %	0.0307
10	100	6	[100,200]	[15,30]	[3034,15172]	1.109	0.062	-2958.5	-1328.6	78.923 %	0.0325
10	100	6	[133,200]	[1,10]	[1677,16771]	1.038	0.063	-1686.8	203.0	80.028 %	0.0167
10	100	6	[133,200]	[1,10]	[3354,16771]	1.003	0.064	-3280.4	-1334.9	77.641 %	0.0293
10	100	6	[133,200]	[5,10]	[1677,16773]	0.968	0.066	-1690.0	67.1	81.239 %	0.0218
10	100	6	[133,200]	[5,10]	[3354,16773]	0.977	0.064	-3335.1	-1498.1	78.162 %	0.0241
10	100	6	[133,200]	[1,30]	[1678,16781]	1.200	0.061	-1584.6	104.1	82.245 %	0.0443
10	100	6	[133,200]	[1,30]	[3356,16781]	1.200	0.064	-3325.0	-1453.9	78.462 %	0.0364
10	100	6	[133,200]	[15,30]	[1678,16788]	1.088	0.062	-1662.6	210.5	80.635 %	0.0457
10	100	6	[133,200]	[15,30]	[3356,16788]	1.065	0.060	-3363.7	-1426.3	77.119 %	0.0302
10	100	6	[166,200]	[1,10]	[1848,18488]	1.013	0.063	-1905.5	179.4	80.150 %	0.0366
10	100	6	[166,200]	[1,10]	[3696,18488]	1.023	0.064	-3609.9	-1642.7	79.313 %	0.0417
10	100	6	[166,200]	[5,10]	[1849,18490]	0.958	0.066	-1856.5	-196.4	83.818 %	0.0459
10	100	6	[166,200]	[5,10]	[3698,18490]	0.979	0.062	-3671.8	-1522.8	77.815 %	0.0269
10	100	6	[166,200]	[1,30]	[1849,18498]	1.190	0.060	-1792.2	128.7	81.645 %	0.0364
10	100	6	[166,200]	[1,30]	[3698,18498]	1.206	0.063	-3595.2	-1614.4	79.181 %	0.0494
10	100	6	[166,200]	[15,30]	[1850,18505]	1.073	0.062	-1818.0	222.6	80.257 %	0.0377
10	100	6	[166,200]	[15,30]	[3700,18505]	1.082	0.060	-3655.3	-1266.6	75.786 %	0.0175

Tiempo Promedio Total H_2: 1.072 seg.

Tiempo Promedio Total H_1: 0.063 seg.

Rendimiento Promedio Total: 79.931 %

Tabla de Experimentos

$n : 200, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	6	[100,200]	[1,10]	[3030,30305]	7.197	0.203	-3018.5	537.1	79.730 %	0.0253
10	200	6	[100,200]	[1,10]	[6060,30305]	7.166	0.203	-6091.2	-2543.7	77.303 %	0.0343
10	200	6	[100,200]	[5,10]	[3030,30307]	6.794	0.203	-3062.6	439.7	79.639 %	0.0190
10	200	6	[100,200]	[5,10]	[6060,30307]	6.827	0.206	-6082.8	-2770.9	78.773 %	0.0199
10	200	6	[100,200]	[1,30]	[3031,30315]	7.689	0.195	-2982.0	745.9	78.871 %	0.0292
10	200	6	[100,200]	[1,30]	[6062,30315]	7.633	0.197	-6051.7	-2443.8	77.314 %	0.0267
10	200	6	[100,200]	[15,30]	[3032,30322]	7.202	0.197	-3012.9	131.8	81.452 %	0.0346
10	200	6	[100,200]	[15,30]	[6064,30322]	7.252	0.201	-5984.4	-2263.7	76.518 %	0.0259
10	200	6	[133,200]	[1,10]	[3353,33537]	6.996	0.201	-3312.6	803.7	78.515 %	0.0270
10	200	6	[133,200]	[1,10]	[6706,33537]	6.957	0.200	-6672.1	-2619.8	76.922 %	0.0292
10	200	6	[133,200]	[5,10]	[3353,33539]	6.773	0.204	-3257.6	82.3	82.145 %	0.0372
10	200	6	[133,200]	[5,10]	[6706,33539]	6.813	0.212	-6627.9	-2751.1	77.630 %	0.0194
10	200	6	[133,200]	[1,30]	[3354,33547]	7.737	0.194	-3294.8	819.1	78.645 %	0.0199
10	200	6	[133,200]	[1,30]	[6708,33547]	7.657	0.209	-6679.9	-2647.7	76.865 %	0.0150
10	200	6	[133,200]	[15,30]	[3355,33554]	7.177	0.198	-3325.4	958.0	78.045 %	0.0197
10	200	6	[133,200]	[15,30]	[6710,33554]	7.187	0.200	-6710.1	-2549.7	76.650 %	0.0152
10	200	6	[166,200]	[1,10]	[3697,36971]	6.894	0.201	-3698.8	581.7	79.574 %	0.0272
10	200	6	[166,200]	[1,10]	[7394,36971]	6.811	0.198	-7307.7	-2627.9	76.500 %	0.0171
10	200	6	[166,200]	[5,10]	[3697,36973]	6.821	0.204	-3592.0	1019.4	78.888 %	0.0164
10	200	6	[166,200]	[5,10]	[7394,36973]	6.805	0.226	-7345.5	-2723.7	76.111 %	0.0168
10	200	6	[166,200]	[1,30]	[3698,36981]	7.611	0.194	-3597.4	1518.5	76.204 %	0.0129
10	200	6	[166,200]	[1,30]	[7396,36981]	7.636	0.195	-7342.0	-2512.1	75.753 %	0.0178
10	200	6	[166,200]	[15,30]	[3698,36988]	6.990	0.200	-3692.3	377.5	80.569 %	0.0252
10	200	6	[166,200]	[15,30]	[7396,36988]	7.111	0.197	-7330.3	-2485.5	75.246 %	0.0157

Tiempo Promedio Total H_2: 7.156 seg.

Tiempo Promedio Total H_1: 0.202 seg.

Rendimiento Promedio Total: 78.078 %

Tabla de Experimentos

$n : 300, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	6	[100,200]	[1,10]	[4545,45455]	23.068	0.438	-4566.9	1012.7	78.377 %	0.0202
10	300	6	[100,200]	[1,10]	[9090,45455]	22.827	0.438	-9071.0	-3491.5	76.618 %	0.0207
10	300	6	[100,200]	[5,10]	[4545,45457]	22.324	0.457	-4512.0	691.7	79.573 %	0.0191
10	300	6	[100,200]	[5,10]	[9090,45457]	22.476	0.447	-9030.9	-3981.6	78.486 %	0.0176
10	300	6	[100,200]	[1,30]	[4546,45465]	24.225	0.430	-4470.4	931.3	79.482 %	0.0218
10	300	6	[100,200]	[1,30]	[9092,45465]	24.245	0.427	-9086.2	-3497.8	76.734 %	0.0141
10	300	6	[100,200]	[15,30]	[4547,45472]	23.150	0.435	-4538.2	1163.6	78.245 %	0.0186
10	300	6	[100,200]	[15,30]	[9094,45472]	23.324	0.431	-9116.1	-3431.5	76.298 %	0.0166
10	300	6	[133,200]	[1,10]	[5030,50303]	23.068	0.436	-4985.5	1408.9	77.960 %	0.0144
10	300	6	[133,200]	[1,10]	[10060,50303]	23.065	0.441	-9985.8	-3414.4	75.619 %	0.0119
10	300	6	[133,200]	[5,10]	[5030,50305]	22.586	0.445	-5032.0	732.8	79.742 %	0.0238
10	300	6	[133,200]	[5,10]	[10060,50305]	22.571	0.452	-10008.1	-3845.9	76.496 %	0.0117
10	300	6	[133,200]	[1,30]	[5031,50313]	24.692	0.429	-5010.0	1309.3	78.182 %	0.0249
10	300	6	[133,200]	[1,30]	[10062,50313]	24.447	0.427	-10017.5	-3105.4	74.650 %	0.0125
10	300	6	[133,200]	[15,30]	[5032,50320]	23.150	0.429	-4990.3	1718.5	77.398 %	0.0099
10	300	6	[133,200]	[15,30]	[10064,50320]	23.153	0.443	-9977.6	-3174.7	74.843 %	0.0218
10	300	6	[166,200]	[1,10]	[5545,55454]	22.784	0.440	-5601.3	1344.8	78.395 %	0.0193
10	300	6	[166,200]	[1,10]	[11090,55454]	22.619	0.435	-10964.2	-3590.7	74.848 %	0.0166
10	300	6	[166,200]	[5,10]	[5545,55456]	22.294	0.448	-5522.9	1463.2	77.818 %	0.0153
10	300	6	[166,200]	[5,10]	[11090,55456]	22.294	0.455	-11037.0	-4166.5	76.227 %	0.0188
10	300	6	[166,200]	[1,30]	[5546,55464]	24.069	0.426	-5569.2	1686.0	77.749 %	0.0258
10	300	6	[166,200]	[1,30]	[11092,55464]	24.381	0.424	-11136.9	-3734.7	75.312 %	0.0166
10	300	6	[166,200]	[15,30]	[5547,55471]	22.957	0.432	-5538.7	1709.9	77.545 %	0.0147
10	300	6	[166,200]	[15,30]	[11094,55471]	23.437	0.440	-11087.2	-3874.9	75.456 %	0.0274

Tiempo Promedio Total H_2: 23.217 seg.

Tiempo Promedio Total H_1: 0.438 seg.

Rendimiento Promedio Total: 77.169 %

Tabla de Experimentos

$n : 500, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	6	[100,200]	[1,10]	[7575,75755]	105.415	1.131	-7565.5	1633.9	78.608 %	0.0144
10	500	6	[100,200]	[1,10]	[15150,75755]	106.458	1.135	-15133.6	-5915.5	76.672 %	0.0169
10	500	6	[100,200]	[5,10]	[7575,75757]	106.392	1.160	-7544.4	1693.7	78.663 %	0.0078
10	500	6	[100,200]	[5,10]	[15150,75757]	105.350	1.154	-15135.1	-6343.6	77.421 %	0.0193
10	500	6	[100,200]	[1,30]	[7576,75765]	111.498	1.116	-7544.0	1962.9	78.473 %	0.0130
10	500	6	[100,200]	[1,30]	[15152,75765]	111.538	1.122	-15075.7	-5459.5	76.071 %	0.0112
10	500	6	[100,200]	[15,30]	[7577,75772]	108.727	1.120	-7639.4	2328.2	77.263 %	0.0167
10	500	6	[100,200]	[15,30]	[15154,75772]	107.155	1.133	-15102.9	-4829.1	74.958 %	0.0101
10	500	6	[133,200]	[1,10]	[8383,83835]	107.642	1.141	-8348.5	2079.9	78.548 %	0.0173
10	500	6	[133,200]	[1,10]	[16766,83835]	107.055	1.140	-16781.1	-5424.4	74.714 %	0.0092
10	500	6	[133,200]	[5,10]	[8383,83837]	106.009	1.165	-8412.4	1785.4	78.883 %	0.0109
10	500	6	[133,200]	[5,10]	[16766,83837]	106.201	1.168	-16739.8	-6629.6	77.011 %	0.0132
10	500	6	[133,200]	[1,30]	[8384,83845]	110.931	1.116	-8512.0	2845.1	76.945 %	0.0170
10	500	6	[133,200]	[1,30]	[16768,83845]	111.693	1.115	-16683.0	-4831.0	73.684 %	0.0126
10	500	6	[133,200]	[15,30]	[8385,83852]	108.325	1.124	-8297.8	3597.1	76.016 %	0.0074
10	500	6	[133,200]	[15,30]	[16770,83852]	108.159	1.134	-16731.4	-5025.3	74.374 %	0.0142
10	500	6	[166,200]	[1,10]	[9242,92420]	107.014	1.140	-9185.8	2798.0	77.902 %	0.0119
10	500	6	[166,200]	[1,10]	[18484,92420]	106.762	1.145	-18439.6	-5791.6	74.517 %	0.0123
10	500	6	[166,200]	[5,10]	[9242,92422]	105.525	1.173	-9329.0	2580.5	77.543 %	0.0079
10	500	6	[166,200]	[5,10]	[18484,92422]	106.363	1.171	-18444.5	-6944.1	76.340 %	0.0120
10	500	6	[166,200]	[1,30]	[9243,92430]	111.231	1.103	-9145.9	3630.6	76.627 %	0.0135
10	500	6	[166,200]	[1,30]	[18486,92430]	111.986	1.107	-18471.3	-5299.9	73.633 %	0.0135
10	500	6	[166,200]	[15,30]	[9243,92437]	107.699	1.149	-9165.2	3482.9	77.130 %	0.0177
10	500	6	[166,200]	[15,30]	[18486,92437]	108.583	1.112	-18505.3	-4951.9	73.203 %	0.0099

Tiempo Promedio Total H_2: 108.071 seg.

Tiempo Promedio Total H_1: 1.136 seg.

Rendimiento Promedio Total: 76.467 %

Tabla de Experimentos

$n : 750, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	6	[100,200]	[1,10]	[11363,113630]	375.495	2.592	-11311.8	3339.8	77.734 %	0.0074
10	750	6	[100,200]	[1,10]	[22726,113630]	378.159	2.605	-22741.5	-7959.4	75.407 %	0.0108
10	750	6	[100,200]	[5,10]	[11363,113632]	375.006	2.629	-11304.9	2641.9	78.497 %	0.0083
10	750	6	[100,200]	[5,10]	[22726,113632]	375.559	2.641	-22698.2	-8870.6	76.668 %	0.0076
10	750	6	[100,200]	[1,30]	[11364,113640]	386.569	2.476	-11339.3	4177.8	76.654 %	0.0103
10	750	6	[100,200]	[1,30]	[22728,113640]	388.038	2.509	-22684.2	-7367.9	74.976 %	0.0089
10	750	6	[100,200]	[15,30]	[11364,113647]	378.830	2.540	-11264.8	3988.7	77.046 %	0.0090
10	750	6	[100,200]	[15,30]	[22728,113647]	379.257	2.513	-22654.7	-7916.8	75.543 %	0.0132
10	750	6	[133,200]	[1,10]	[12575,125750]	379.160	2.565	-12549.3	4286.8	77.173 %	0.0136
10	750	6	[133,200]	[1,10]	[25150,125750]	376.529	2.556	-25185.0	-8817.9	75.504 %	0.0170
10	750	6	[133,200]	[5,10]	[12575,125752]	373.627	2.611	-12515.9	3550.4	77.955 %	0.0061
10	750	6	[133,200]	[5,10]	[25150,125752]	376.770	2.644	-25113.9	-8838.0	75.340 %	0.0098
10	750	6	[133,200]	[1,30]	[12576,125760]	388.292	2.505	-12452.1	5198.4	76.274 %	0.0115
10	750	6	[133,200]	[1,30]	[25152,125760]	387.005	2.501	-25127.5	-7724.7	74.458 %	0.0142
10	750	6	[133,200]	[15,30]	[12576,125767]	379.561	2.524	-12519.4	5259.7	76.250 %	0.0058
10	750	6	[133,200]	[15,30]	[25152,125767]	379.847	2.531	-25160.0	-7625.4	73.722 %	0.0059
10	750	6	[166,200]	[1,10]	[13862,138627]	376.299	2.556	-13835.0	5061.8	76.895 %	0.0127
10	750	6	[166,200]	[1,10]	[27724,138627]	378.243	2.565	-27662.2	-8838.7	74.918 %	0.0144
10	750	6	[166,200]	[5,10]	[13862,138629]	377.541	2.661	-13810.7	4144.2	77.696 %	0.0094
10	750	6	[166,200]	[5,10]	[27724,138629]	375.033	2.623	-27690.3	-9348.2	75.118 %	0.0059
10	750	6	[166,200]	[1,30]	[13863,138637]	390.398	2.494	-13872.2	6023.8	75.822 %	0.0104
10	750	6	[166,200]	[1,30]	[27726,138637]	387.358	2.506	-27631.9	-7990.0	74.015 %	0.0107
10	750	6	[166,200]	[15,30]	[13864,138644]	383.158	2.518	-13899.2	5339.2	76.412 %	0.0179
10	750	6	[166,200]	[15,30]	[27728,138644]	380.500	2.522	-27633.1	-7888.0	73.789 %	0.0092

Tiempo Promedio Total H_2: 380.260 seg.

Tiempo Promedio Total H_1: 2.558 seg.

Rendimiento Promedio Total: 75.994 %

Tabla de Experimentos

$n : 1000, m : 6, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	6	[100,200]	[1,10]	[15150,151505]	927.066	4.756	-15248.3	4591.8	77.391 %	0.0095
10	1000	6	[100,200]	[1,10]	[30300,151505]	934.653	4.630	-30272.6	-10538.8	75.530 %	0.0091
10	1000	6	[100,200]	[5,10]	[15150,151507]	923.190	4.733	-15147.0	3994.4	78.006 %	0.0042
10	1000	6	[100,200]	[5,10]	[30300,151507]	924.138	4.760	-30241.9	-11561.9	76.224 %	0.0065
10	1000	6	[100,200]	[1,30]	[15151,151515]	942.499	4.555	-15070.7	5362.6	76.853 %	0.0086
10	1000	6	[100,200]	[1,30]	[30302,151515]	947.007	4.458	-30249.1	-8693.6	73.668 %	0.0075
10	1000	6	[100,200]	[15,30]	[15152,151522]	935.140	4.595	-15064.9	4615.6	77.535 %	0.0139
10	1000	6	[100,200]	[15,30]	[30304,151522]	928.648	4.590	-30206.4	-10010.8	74.982 %	0.0097
10	1000	6	[133,200]	[1,10]	[16766,167665]	927.856	4.577	-16727.1	6431.6	76.415 %	0.0110
10	1000	6	[133,200]	[1,10]	[33532,167665]	928.470	4.634	-33481.9	-10675.0	74.446 %	0.0113
10	1000	6	[133,200]	[5,10]	[16766,167667]	924.902	4.731	-16749.6	4823.5	77.775 %	0.0071
10	1000	6	[133,200]	[5,10]	[33532,167667]	930.475	4.735	-33443.3	-11804.8	75.715 %	0.0070
10	1000	6	[133,200]	[1,30]	[16767,167675]	948.817	4.550	-16782.2	7468.1	75.549 %	0.0058
10	1000	6	[133,200]	[1,30]	[33534,167675]	949.797	4.539	-33509.4	-9568.9	73.595 %	0.0138
10	1000	6	[133,200]	[15,30]	[16768,167682]	937.934	4.557	-16752.1	7157.5	75.962 %	0.0090
10	1000	6	[133,200]	[15,30]	[33536,167682]	932.679	4.542	-33512.7	-10432.8	74.312 %	0.0118
10	1000	6	[166,200]	[1,10]	[18483,184835]	934.043	4.653	-18470.7	7252.6	76.102 %	0.0071
10	1000	6	[166,200]	[1,10]	[36966,184835]	936.370	4.644	-36901.9	-10407.5	73.616 %	0.0065
10	1000	6	[166,200]	[5,10]	[18483,184837]	932.157	4.781	-18526.0	5598.1	77.533 %	0.0083
10	1000	6	[166,200]	[5,10]	[36966,184837]	928.218	4.833	-36969.6	-12321.3	75.090 %	0.0060
10	1000	6	[166,200]	[1,30]	[18484,184845]	951.219	4.504	-18469.5	8893.7	75.256 %	0.0114
10	1000	6	[166,200]	[1,30]	[36968,184845]	948.075	4.468	-36947.5	-10817.0	73.818 %	0.0096
10	1000	6	[166,200]	[15,30]	[18485,184852]	929.988	4.586	-18503.8	7651.0	76.017 %	0.0108
10	1000	6	[166,200]	[15,30]	[36970,184852]	937.096	4.535	-36962.2	-9994.4	73.378 %	0.0107

Tiempo Promedio Total H_2: 935.018 seg.

Tiempo Promedio Total H_1: 4.623 seg.

Rendimiento Promedio Total: 75.615 %

Tabla de Experimentos

$n : 10, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	10	[100,200]	[1,10]	[152,1520]	0.043	0.030	-202.2	-202.2	100.000 %	0.0000
10	10	10	[100,200]	[1,10]	[304,1520]	0.030	0.010	-313.7	-302.2	98.363 %	0.0337
10	10	10	[100,200]	[5,10]	[152,1522]	0.025	0.010	-143.1	-143.1	100.000 %	0.0000
10	10	10	[100,200]	[5,10]	[304,1522]	0.025	0.010	-311.6	-307.2	99.192 %	0.0162
10	10	10	[100,200]	[1,30]	[153,1530]	0.029	0.010	-146.7	-136.0	98.428 %	0.0315
10	10	10	[100,200]	[1,30]	[306,1530]	0.031	0.015	-309.2	-309.2	100.000 %	0.0000
10	10	10	[100,200]	[15,30]	[153,1537]	0.029	0.011	-132.3	-132.3	100.000 %	0.0000
10	10	10	[100,200]	[15,30]	[306,1537]	0.027	0.011	-233.0	-222.6	98.451 %	0.0308
10	10	10	[133,200]	[1,10]	[168,1681]	0.026	0.010	-149.0	-149.0	100.000 %	0.0000
10	10	10	[133,200]	[1,10]	[336,1681]	0.050	0.021	-280.9	-270.9	98.568 %	0.0281
10	10	10	[133,200]	[5,10]	[168,1683]	0.027	0.014	-120.4	-120.4	100.000 %	0.0000
10	10	10	[133,200]	[5,10]	[336,1683]	0.024	0.012	-323.9	-323.9	100.000 %	0.0000
10	10	10	[133,200]	[1,30]	[169,1691]	0.053	0.019	-118.4	-118.4	100.000 %	0.0000
10	10	10	[133,200]	[1,30]	[338,1691]	0.035	0.013	-295.3	-291.4	99.445 %	0.0167
10	10	10	[133,200]	[15,30]	[169,1698]	0.032	0.011	-148.0	-147.1	99.904 %	0.0029
10	10	10	[133,200]	[15,30]	[338,1698]	0.033	0.013	-275.0	-269.2	99.211 %	0.0136
10	10	10	[166,200]	[1,10]	[185,1853]	0.029	0.011	-136.7	-136.4	99.965 %	0.0011
10	10	10	[166,200]	[1,10]	[370,1853]	0.031	0.011	-270.7	-268.2	99.730 %	0.0081
10	10	10	[166,200]	[5,10]	[185,1855]	0.028	0.011	-95.3	-94.9	99.953 %	0.0014
10	10	10	[166,200]	[5,10]	[370,1855]	0.026	0.014	-359.1	-358.9	99.981 %	0.0006
10	10	10	[166,200]	[1,30]	[186,1863]	0.031	0.012	-119.6	-119.6	100.000 %	0.0000
10	10	10	[166,200]	[1,30]	[372,1863]	0.031	0.012	-246.4	-244.6	99.788 %	0.0048
10	10	10	[166,200]	[15,30]	[187,1870]	0.027	0.011	-131.8	-131.3	99.944 %	0.0012
10	10	10	[166,200]	[15,30]	[374,1870]	0.038	0.013	-332.1	-329.7	99.699 %	0.0090

Tiempo Promedio Total H_2: 0.032 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 99.609 %

Tabla de Experimentos

$n : 20, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	10	[100,200]	[1,10]	[303,3035]	0.047	0.010	-268.0	-201.9	95.627 %	0.0430
10	20	10	[100,200]	[1,10]	[606,3035]	0.048	0.010	-633.9	-576.0	95.669 %	0.0441
10	20	10	[100,200]	[5,10]	[303,3037]	0.044	0.012	-288.4	-207.2	94.282 %	0.0478
10	20	10	[100,200]	[5,10]	[606,3037]	0.044	0.009	-613.9	-552.6	94.915 %	0.0513
10	20	10	[100,200]	[1,30]	[304,3045]	0.057	0.013	-248.6	-144.3	92.843 %	0.0299
10	20	10	[100,200]	[1,30]	[608,3045]	0.060	0.009	-547.4	-430.3	91.337 %	0.0193
10	20	10	[100,200]	[15,30]	[305,3052]	0.057	0.015	-311.0	-221.2	94.140 %	0.0400
10	20	10	[100,200]	[15,30]	[610,3052]	0.057	0.013	-553.7	-501.5	96.164 %	0.0348
10	20	10	[133,200]	[1,10]	[335,3358]	0.049	0.010	-372.1	-314.0	95.960 %	0.0538
10	20	10	[133,200]	[1,10]	[670,3358]	0.047	0.009	-609.7	-531.0	94.770 %	0.0465
10	20	10	[133,200]	[5,10]	[336,3360]	0.051	0.021	-330.7	-268.4	96.352 %	0.0357
10	20	10	[133,200]	[5,10]	[672,3360]	0.049	0.013	-618.2	-541.8	94.815 %	0.0451
10	20	10	[133,200]	[1,30]	[336,3368]	0.057	0.012	-284.2	-173.6	93.176 %	0.0469
10	20	10	[133,200]	[1,30]	[672,3368]	0.061	0.010	-665.0	-582.3	94.283 %	0.0402
10	20	10	[133,200]	[15,30]	[337,3375]	0.054	0.011	-256.1	-173.4	95.378 %	0.0398
10	20	10	[133,200]	[15,30]	[674,3375]	0.055	0.009	-651.8	-564.1	93.808 %	0.0426
10	20	10	[166,200]	[1,10]	[370,3701]	0.049	0.011	-296.0	-164.1	92.738 %	0.0391
10	20	10	[166,200]	[1,10]	[740,3701]	0.053	0.009	-667.9	-573.2	93.783 %	0.0510
10	20	10	[166,200]	[5,10]	[370,3703]	0.043	0.012	-363.4	-253.1	94.068 %	0.0329
10	20	10	[166,200]	[5,10]	[740,3703]	0.041	0.010	-666.1	-587.5	95.805 %	0.0439
10	20	10	[166,200]	[1,30]	[371,3711]	0.059	0.010	-412.1	-367.1	97.594 %	0.0306
10	20	10	[166,200]	[1,30]	[742,3711]	0.063	0.012	-621.9	-539.9	95.271 %	0.0433
10	20	10	[166,200]	[15,30]	[371,3718]	0.053	0.011	-270.2	-159.0	94.736 %	0.0367
10	20	10	[166,200]	[15,30]	[742,3718]	0.055	0.011	-689.4	-537.9	91.289 %	0.0324

Tiempo Promedio Total H_2: 0.052 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 94.533 %

Tabla de Experimentos

$n : 30, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	10	[100,200]	[1,10]	[455,4550]	0.086	0.012	-420.1	-260.5	92.636 %	0.0437
10	30	10	[100,200]	[1,10]	[910,4550]	0.099	0.016	-891.4	-741.2	92.619 %	0.0505
10	30	10	[100,200]	[5,10]	[455,4552]	0.078	0.014	-414.3	-292.2	94.642 %	0.0380
10	30	10	[100,200]	[5,10]	[910,4552]	0.077	0.014	-871.0	-718.8	92.214 %	0.0263
10	30	10	[100,200]	[1,30]	[456,4560]	0.101	0.014	-429.7	-241.9	91.895 %	0.0362
10	30	10	[100,200]	[1,30]	[912,4560]	0.111	0.015	-941.6	-782.4	91.860 %	0.0472
10	30	10	[100,200]	[15,30]	[456,4567]	0.121	0.021	-512.0	-316.2	91.283 %	0.0412
10	30	10	[100,200]	[15,30]	[912,4567]	0.091	0.015	-874.3	-690.8	90.752 %	0.0398
10	30	10	[133,200]	[1,10]	[503,5034]	0.087	0.013	-469.5	-273.3	92.304 %	0.0540
10	30	10	[133,200]	[1,10]	[1006,5034]	0.098	0.024	-996.1	-820.5	92.528 %	0.0512
10	30	10	[133,200]	[5,10]	[503,5036]	0.081	0.012	-605.2	-441.8	93.423 %	0.0366
10	30	10	[133,200]	[5,10]	[1006,5036]	0.081	0.011	-993.7	-871.5	94.391 %	0.0388
10	30	10	[133,200]	[1,30]	[504,5044]	0.109	0.013	-470.7	-287.1	92.950 %	0.0380
10	30	10	[133,200]	[1,30]	[1008,5044]	0.110	0.014	-933.1	-760.9	92.554 %	0.0316
10	30	10	[133,200]	[15,30]	[505,5052]	0.101	0.014	-426.9	-211.0	91.277 %	0.0323
10	30	10	[133,200]	[15,30]	[1010,5052]	0.105	0.017	-928.8	-832.1	95.676 %	0.0480
10	30	10	[166,200]	[1,10]	[554,5549]	0.089	0.018	-505.0	-295.3	92.195 %	0.0458
10	30	10	[166,200]	[1,10]	[1108,5549]	0.082	0.018	-1103.1	-924.7	92.685 %	0.0376
10	30	10	[166,200]	[5,10]	[555,5551]	0.091	0.019	-504.3	-416.6	96.680 %	0.0420
10	30	10	[166,200]	[5,10]	[1110,5551]	0.081	0.016	-1023.7	-839.6	92.815 %	0.0487
10	30	10	[166,200]	[1,30]	[556,5560]	0.108	0.021	-601.7	-429.1	93.544 %	0.0396
10	30	10	[166,200]	[1,30]	[1112,5560]	0.110	0.019	-1077.5	-912.1	93.330 %	0.0555
10	30	10	[166,200]	[15,30]	[556,5567]	0.093	0.016	-452.9	-213.0	91.304 %	0.0355
10	30	10	[166,200]	[15,30]	[1112,5567]	0.094	0.016	-1073.2	-840.8	90.578 %	0.0463

Tiempo Promedio Total H_2: 0.095 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 92.756 %

Tabla de Experimentos

$n : 50, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	10	[100,200]	[1,10]	[758,7580]	0.212	0.023	-779.9	-452.5	91.158 %	0.0288
10	50	10	[100,200]	[1,10]	[1516,7580]	0.210	0.024	-1446.9	-1020.0	88.558 %	0.0302
10	50	10	[100,200]	[5,10]	[758,7582]	0.187	0.029	-770.9	-405.4	90.590 %	0.0400
10	50	10	[100,200]	[5,10]	[1516,7582]	0.273	0.027	-1635.9	-1330.4	90.621 %	0.0405
10	50	10	[100,200]	[1,30]	[759,7590]	0.265	0.023	-789.8	-507.7	92.566 %	0.0365
10	50	10	[100,200]	[1,30]	[1518,7590]	0.261	0.025	-1520.8	-1168.1	89.513 %	0.0339
10	50	10	[100,200]	[15,30]	[759,7597]	0.232	0.024	-767.1	-328.3	88.438 %	0.0244
10	50	10	[100,200]	[15,30]	[1518,7597]	0.235	0.023	-1490.3	-1178.9	90.927 %	0.0294
10	50	10	[133,200]	[1,10]	[838,8388]	0.219	0.027	-787.4	-426.9	91.378 %	0.0425
10	50	10	[133,200]	[1,10]	[1676,8388]	0.216	0.023	-1579.7	-1260.0	91.661 %	0.0445
10	50	10	[133,200]	[5,10]	[839,8390]	0.200	0.025	-806.0	-477.2	92.121 %	0.0416
10	50	10	[133,200]	[5,10]	[1678,8390]	0.203	0.025	-1630.8	-1128.0	87.262 %	0.0131
10	50	10	[133,200]	[1,30]	[839,8398]	0.284	0.025	-800.8	-465.5	91.834 %	0.0370
10	50	10	[133,200]	[1,30]	[1678,8398]	0.279	0.028	-1631.8	-1154.7	87.661 %	0.0430
10	50	10	[133,200]	[15,30]	[840,8405]	0.238	0.031	-838.1	-493.9	91.897 %	0.0493
10	50	10	[133,200]	[15,30]	[1680,8405]	0.227	0.022	-1661.8	-1270.7	89.885 %	0.0364
10	50	10	[166,200]	[1,10]	[924,9246]	0.199	0.027	-879.9	-432.6	90.271 %	0.0185
10	50	10	[166,200]	[1,10]	[1848,9246]	0.209	0.028	-1741.6	-1237.1	87.902 %	0.0464
10	50	10	[166,200]	[5,10]	[924,9248]	0.189	0.024	-806.4	-284.9	89.468 %	0.0247
10	50	10	[166,200]	[5,10]	[1848,9248]	0.186	0.023	-1787.3	-1452.6	91.863 %	0.0493
10	50	10	[166,200]	[1,30]	[925,9256]	0.260	0.023	-924.7	-465.3	90.087 %	0.0331
10	50	10	[166,200]	[1,30]	[1850,9256]	0.254	0.023	-1815.3	-1336.4	88.760 %	0.0468
10	50	10	[166,200]	[15,30]	[926,9263]	0.225	0.025	-888.9	-469.1	91.471 %	0.0241
10	50	10	[166,200]	[15,30]	[1852,9263]	0.226	0.026	-1768.1	-1278.8	88.827 %	0.0386

Tiempo Promedio Total H_2: 0.229 seg.

Tiempo Promedio Total H_1: 0.025 seg.

Rendimiento Promedio Total: 90.197 %

Tabla de Experimentos

$n : 100, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	10	[100,200]	[1,10]	[1515,15155]	1.093	0.065	-1456.8	-610.6	89.377 %	0.0364
10	100	10	[100,200]	[1,10]	[3030,15155]	1.058	0.064	-3007.8	-2098.3	86.876 %	0.0370
10	100	10	[100,200]	[5,10]	[1515,15157]	1.002	0.065	-1547.4	-749.3	89.042 %	0.0285
10	100	10	[100,200]	[5,10]	[3030,15157]	1.012	0.066	-3064.3	-2293.9	88.783 %	0.0271
10	100	10	[100,200]	[1,30]	[1516,15165]	1.288	0.062	-1453.1	-730.4	90.721 %	0.0342
10	100	10	[100,200]	[1,30]	[3032,15165]	1.203	0.063	-3007.9	-2051.6	86.542 %	0.0261
10	100	10	[100,200]	[15,30]	[1517,15172]	1.108	0.061	-1484.2	-497.5	87.540 %	0.0250
10	100	10	[100,200]	[15,30]	[3034,15172]	1.107	0.065	-2974.4	-2014.0	86.003 %	0.0188
10	100	10	[133,200]	[1,10]	[1677,16771]	1.033	0.063	-1657.9	-701.3	88.810 %	0.0168
10	100	10	[133,200]	[1,10]	[3354,16771]	1.040	0.064	-3413.3	-2501.6	88.080 %	0.0408
10	100	10	[133,200]	[5,10]	[1677,16773]	1.005	0.063	-1635.8	-757.0	89.637 %	0.0359
10	100	10	[133,200]	[5,10]	[3354,16773]	1.004	0.062	-3277.1	-2356.5	87.670 %	0.0311
10	100	10	[133,200]	[1,30]	[1678,16781]	1.256	0.062	-1636.8	-755.4	89.857 %	0.0364
10	100	10	[133,200]	[1,30]	[3356,16781]	1.222	0.059	-3315.4	-2265.2	86.470 %	0.0249
10	100	10	[133,200]	[15,30]	[1678,16788]	1.079	0.065	-1632.7	-628.3	88.395 %	0.0331
10	100	10	[133,200]	[15,30]	[3356,16788]	1.203	0.073	-3280.0	-2200.9	86.110 %	0.0247
10	100	10	[166,200]	[1,10]	[1848,18488]	1.028	0.066	-1791.7	-707.6	88.620 %	0.0384
10	100	10	[166,200]	[1,10]	[3696,18488]	1.027	0.065	-3765.6	-2623.3	86.831 %	0.0286
10	100	10	[166,200]	[5,10]	[1849,18490]	0.979	0.065	-1768.1	-936.0	90.628 %	0.0437
10	100	10	[166,200]	[5,10]	[3698,18490]	0.971	0.065	-3629.2	-2415.4	85.705 %	0.0238
10	100	10	[166,200]	[1,30]	[1849,18498]	1.216	0.061	-1747.0	-596.2	88.076 %	0.0299
10	100	10	[166,200]	[1,30]	[3698,18498]	1.206	0.062	-3581.2	-2349.1	85.752 %	0.0325
10	100	10	[166,200]	[15,30]	[1850,18505]	1.098	0.063	-1814.1	-609.7	87.653 %	0.0303
10	100	10	[166,200]	[15,30]	[3700,18505]	1.041	0.061	-3677.3	-2676.9	88.521 %	0.0472

Tiempo Promedio Total H_2: 1.095 seg.

Tiempo Promedio Total H_1: 0.064 seg.

Rendimiento Promedio Total: 87.987 %

Tabla de Experimentos

$n : 200, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	10	[100,200]	[1,10]	[3030,30305]	7.022	0.204	-3005.3	-1122.0	87.808 %	0.0206
10	200	10	[100,200]	[1,10]	[6060,30305]	6.904	0.197	-6003.0	-4305.4	87.850 %	0.0247
10	200	10	[100,200]	[5,10]	[3030,30307]	6.767	0.204	-3007.7	-1199.4	87.959 %	0.0247
10	200	10	[100,200]	[5,10]	[6060,30307]	6.857	0.205	-6010.7	-4202.6	87.427 %	0.0269
10	200	10	[100,200]	[1,30]	[3031,30315]	7.566	0.196	-3003.2	-899.2	86.416 %	0.0181
10	200	10	[100,200]	[1,30]	[6062,30315]	7.442	0.195	-6010.5	-3934.6	85.451 %	0.0196
10	200	10	[100,200]	[15,30]	[3032,30322]	7.128	0.197	-3069.9	-950.7	86.602 %	0.0177
10	200	10	[100,200]	[15,30]	[6064,30322]	7.075	0.197	-6009.2	-4091.9	86.527 %	0.0178
10	200	10	[133,200]	[1,10]	[3353,33537]	6.924	0.201	-3430.9	-1198.5	87.112 %	0.0274
10	200	10	[133,200]	[1,10]	[6706,33537]	6.810	0.200	-6700.5	-4451.8	85.398 %	0.0203
10	200	10	[133,200]	[5,10]	[3353,33539]	6.722	0.211	-3271.7	-1216.8	88.058 %	0.0245
10	200	10	[133,200]	[5,10]	[6706,33539]	6.765	0.210	-6626.5	-4372.0	85.594 %	0.0150
10	200	10	[133,200]	[1,30]	[3354,33547]	7.519	0.194	-3282.0	-1209.5	88.009 %	0.0253
10	200	10	[133,200]	[1,30]	[6708,33547]	7.546	0.200	-6690.2	-4365.4	85.295 %	0.0284
10	200	10	[133,200]	[15,30]	[3355,33554]	7.038	0.199	-3361.0	-1074.2	86.852 %	0.0110
10	200	10	[133,200]	[15,30]	[6710,33554]	7.099	0.198	-6705.1	-4277.5	84.587 %	0.0165
10	200	10	[166,200]	[1,10]	[3697,36971]	6.664	0.204	-3660.3	-1091.9	86.722 %	0.0282
10	200	10	[166,200]	[1,10]	[7394,36971]	6.743	0.198	-7373.9	-4869.7	85.224 %	0.0246
10	200	10	[166,200]	[5,10]	[3697,36973]	6.555	0.207	-3623.6	-1191.5	87.171 %	0.0235
10	200	10	[166,200]	[5,10]	[7394,36973]	6.599	0.205	-7316.7	-4616.1	84.921 %	0.0131
10	200	10	[166,200]	[1,30]	[3698,36981]	7.487	0.194	-3671.9	-698.2	84.876 %	0.0160
10	200	10	[166,200]	[1,30]	[7396,36981]	7.410	0.198	-7456.7	-4744.0	84.858 %	0.0247
10	200	10	[166,200]	[15,30]	[3698,36988]	6.857	0.196	-3640.2	-1027.3	86.634 %	0.0241
10	200	10	[166,200]	[15,30]	[7396,36988]	7.094	0.198	-7337.2	-4960.7	86.167 %	0.0260

Tiempo Promedio Total H_2: 7.025 seg.

Tiempo Promedio Total H_1: 0.200 seg.

Rendimiento Promedio Total: 86.397 %

Tabla de Experimentos

$n : 300, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	10	[100,200]	[1,10]	[4545,45455]	22.350	0.455	-4510.2	-1451.0	86.805 %	0.0151
10	300	10	[100,200]	[1,10]	[9090,45455]	21.978	0.448	-8996.2	-6132.6	86.368 %	0.0184
10	300	10	[100,200]	[5,10]	[4545,45457]	21.939	0.456	-4562.1	-1553.8	87.352 %	0.0159
10	300	10	[100,200]	[5,10]	[9090,45457]	21.960	0.468	-9085.3	-6108.9	85.971 %	0.0117
10	300	10	[100,200]	[1,30]	[4546,45465]	23.448	0.437	-4537.7	-1696.4	87.940 %	0.0118
10	300	10	[100,200]	[1,30]	[9092,45465]	23.558	0.447	-9101.2	-5735.1	84.347 %	0.0150
10	300	10	[100,200]	[15,30]	[4547,45472]	22.566	0.446	-4500.1	-1271.5	86.158 %	0.0179
10	300	10	[100,200]	[15,30]	[9094,45472]	22.560	0.445	-9079.6	-5942.6	85.415 %	0.0151
10	300	10	[133,200]	[1,10]	[5030,50303]	22.379	0.452	-4989.5	-1545.9	86.995 %	0.0166
10	300	10	[133,200]	[1,10]	[10060,50303]	22.248	0.450	-10108.9	-6255.8	83.930 %	0.0110
10	300	10	[133,200]	[5,10]	[5030,50305]	21.548	0.462	-4976.3	-1662.8	87.275 %	0.0130
10	300	10	[133,200]	[5,10]	[10060,50305]	21.855	0.462	-9987.2	-6628.7	85.768 %	0.0124
10	300	10	[133,200]	[1,30]	[5031,50313]	23.348	0.445	-5015.9	-1483.3	86.430 %	0.0302
10	300	10	[133,200]	[1,30]	[10062,50313]	23.700	0.438	-10002.5	-6174.5	84.120 %	0.0154
10	300	10	[133,200]	[15,30]	[5032,50320]	22.745	0.448	-4996.8	-1669.9	87.166 %	0.0253
10	300	10	[133,200]	[15,30]	[10064,50320]	22.806	0.444	-10068.8	-6497.0	84.983 %	0.0225
10	300	10	[166,200]	[1,10]	[5545,55454]	21.511	0.449	-5515.5	-1806.2	87.175 %	0.0223
10	300	10	[166,200]	[1,10]	[11090,55454]	21.595	0.456	-11041.0	-7244.5	85.369 %	0.0223
10	300	10	[166,200]	[5,10]	[5545,55456]	21.447	0.459	-5554.8	-1765.1	86.659 %	0.0181
10	300	10	[166,200]	[5,10]	[11090,55456]	21.330	0.469	-11071.7	-7169.7	85.354 %	0.0169
10	300	10	[166,200]	[1,30]	[5546,55464]	23.569	0.435	-5526.4	-1381.8	85.919 %	0.0205
10	300	10	[166,200]	[1,30]	[11092,55464]	23.402	0.439	-11051.0	-6788.1	83.913 %	0.0119
10	300	10	[166,200]	[15,30]	[5547,55471]	21.975	0.450	-5449.0	-1468.2	86.432 %	0.0283
10	300	10	[166,200]	[15,30]	[11094,55471]	22.268	0.443	-11094.3	-6682.8	83.227 %	0.0111

Tiempo Promedio Total H_2: 22.420 seg.

Tiempo Promedio Total H_1: 0.450 seg.

Rendimiento Promedio Total: 85.878 %

Tabla de Experimentos

$n : 500, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	10	[100,200]	[1,10]	[7575,75755]	104.279	1.153	-7649.6	-2383.7	86.671 %	0.0148
10	500	10	[100,200]	[1,10]	[15150,75755]	103.959	1.158	-15133.3	-10040.5	85.663 %	0.0166
10	500	10	[100,200]	[5,10]	[7575,75757]	101.709	1.176	-7505.1	-2525.6	87.207 %	0.0137
10	500	10	[100,200]	[5,10]	[15150,75757]	102.328	1.189	-15129.3	-9885.7	85.223 %	0.0132
10	500	10	[100,200]	[1,30]	[7576,75765]	107.458	1.131	-7620.1	-1730.6	85.178 %	0.0138
10	500	10	[100,200]	[1,30]	[15152,75765]	107.662	1.127	-15091.6	-9441.5	84.336 %	0.0156
10	500	10	[100,200]	[15,30]	[7577,75772]	104.463	1.146	-7533.9	-2094.2	86.185 %	0.0144
10	500	10	[100,200]	[15,30]	[15154,75772]	104.630	1.141	-15195.5	-9598.9	84.357 %	0.0101
10	500	10	[133,200]	[1,10]	[8383,83835]	104.998	1.161	-8415.5	-1936.7	85.505 %	0.0095
10	500	10	[133,200]	[1,10]	[16766,83835]	102.956	1.152	-16772.7	-10645.2	84.609 %	0.0088
10	500	10	[133,200]	[5,10]	[8383,83837]	103.805	1.187	-8325.6	-2748.4	87.142 %	0.0168
10	500	10	[133,200]	[5,10]	[16766,83837]	103.202	1.186	-16783.9	-10860.3	85.127 %	0.0115
10	500	10	[133,200]	[1,30]	[8384,83845]	107.505	1.126	-8362.3	-1570.3	84.628 %	0.0129
10	500	10	[133,200]	[1,30]	[16768,83845]	108.442	1.129	-16685.0	-10205.7	83.721 %	0.0111
10	500	10	[133,200]	[15,30]	[8385,83852]	104.921	1.139	-8333.8	-2038.1	85.625 %	0.0169
10	500	10	[133,200]	[15,30]	[16770,83852]	105.517	1.146	-16733.0	-10418.1	84.321 %	0.0120
10	500	10	[166,200]	[1,10]	[9242,92420]	103.188	1.154	-9209.1	-2212.9	85.493 %	0.0105
10	500	10	[166,200]	[1,10]	[18484,92420]	103.533	1.147	-18411.3	-11201.1	83.681 %	0.0128
10	500	10	[166,200]	[5,10]	[9242,92422]	100.875	1.196	-9297.5	-2646.5	86.265 %	0.0138
10	500	10	[166,200]	[5,10]	[18484,92422]	101.430	1.181	-18429.9	-11412.4	83.962 %	0.0093
10	500	10	[166,200]	[1,30]	[9243,92430]	107.836	1.118	-9174.0	-1815.2	84.927 %	0.0068
10	500	10	[166,200]	[1,30]	[18486,92430]	107.304	1.135	-18435.6	-11317.1	83.890 %	0.0138
10	500	10	[166,200]	[15,30]	[9243,92437]	103.510	1.140	-9265.8	-1918.3	85.207 %	0.0101
10	500	10	[166,200]	[15,30]	[18486,92437]	104.144	1.145	-18385.1	-11223.7	83.727 %	0.0154

Tiempo Promedio Total H_2: 104.569 seg.

Tiempo Promedio Total H_1: 1.153 seg.

Rendimiento Promedio Total: 85.110 %

Tabla de Experimentos

$n : 750, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	10	[100,200]	[1,10]	[11363,113630]	364.751	2.519	-11381.7	-3196.3	86.366 %	0.0160
10	750	10	[100,200]	[1,10]	[22726,113630]	363.655	2.511	-22700.9	-14702.4	85.086 %	0.0115
10	750	10	[100,200]	[5,10]	[11363,113632]	361.223	2.582	-11417.2	-3402.3	86.428 %	0.0063
10	750	10	[100,200]	[5,10]	[22726,113632]	364.999	2.598	-22737.8	-14691.9	85.035 %	0.0073
10	750	10	[100,200]	[1,30]	[11364,113640]	373.707	2.469	-11323.9	-2783.9	85.685 %	0.0106
10	750	10	[100,200]	[1,30]	[22728,113640]	372.013	2.460	-22638.6	-13714.3	83.630 %	0.0102
10	750	10	[100,200]	[15,30]	[11364,113647]	369.061	2.481	-11403.5	-2788.9	85.586 %	0.0074
10	750	10	[100,200]	[15,30]	[22728,113647]	368.686	2.474	-22679.7	-14038.9	84.134 %	0.0111
10	750	10	[133,200]	[1,10]	[12575,125750]	364.075	2.524	-12625.6	-3023.7	85.507 %	0.0103
10	750	10	[133,200]	[1,10]	[25150,125750]	365.396	2.523	-25147.2	-15643.0	83.992 %	0.0122
10	750	10	[133,200]	[5,10]	[12575,125752]	364.725	2.593	-12504.8	-3472.7	86.360 %	0.0091
10	750	10	[133,200]	[5,10]	[25150,125752]	361.088	2.579	-25141.7	-15950.2	84.548 %	0.0112
10	750	10	[133,200]	[1,30]	[12576,125760]	375.148	2.452	-12540.2	-2010.2	84.249 %	0.0075
10	750	10	[133,200]	[1,30]	[25152,125760]	372.997	2.451	-25126.7	-15004.3	83.273 %	0.0123
10	750	10	[133,200]	[15,30]	[12576,125767]	367.637	2.459	-12505.6	-2243.9	84.689 %	0.0110
10	750	10	[133,200]	[15,30]	[25152,125767]	367.566	2.492	-25068.1	-14795.5	83.026 %	0.0086
10	750	10	[166,200]	[1,10]	[13862,138627]	360.875	2.508	-13802.4	-2466.0	84.543 %	0.0044
10	750	10	[166,200]	[1,10]	[27724,138627]	360.109	2.514	-27764.5	-16476.8	83.111 %	0.0095
10	750	10	[166,200]	[5,10]	[13862,138629]	361.285	2.597	-13830.1	-3321.0	85.410 %	0.0082
10	750	10	[166,200]	[5,10]	[27724,138629]	359.439	2.584	-27739.0	-17308.7	84.117 %	0.0100
10	750	10	[166,200]	[1,30]	[13863,138637]	374.181	2.444	-13867.9	-2314.3	84.189 %	0.0149
10	750	10	[166,200]	[1,30]	[27726,138637]	375.919	2.433	-27767.4	-15824.8	82.143 %	0.0042
10	750	10	[166,200]	[15,30]	[13864,138644]	364.059	2.479	-13815.5	-2125.9	84.287 %	0.0090
10	750	10	[166,200]	[15,30]	[27728,138644]	366.028	2.476	-27621.2	-16233.7	83.033 %	0.0061

Tiempo Promedio Total H_2: 366.609 seg.

Tiempo Promedio Total H_1: 2.508 seg.

Rendimiento Promedio Total: 84.518 %

Tabla de Experimentos

$n : 1000, m : 10, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	10	[100,200]	[1,10]	[15150,151505]	898.202	4.569	-15162.2	-3755.4	85.655 %	0.0074
10	1000	10	[100,200]	[1,10]	[30300,151505]	889.332	4.606	-30269.9	-18881.2	84.189 %	0.0096
10	1000	10	[100,200]	[5,10]	[15150,151507]	893.708	4.673	-15136.5	-4403.6	86.441 %	0.0062
10	1000	10	[100,200]	[5,10]	[30300,151507]	891.198	4.705	-30224.7	-19271.9	84.687 %	0.0045
10	1000	10	[100,200]	[1,30]	[15151,151515]	910.585	4.354	-15108.9	-3218.7	85.131 %	0.0084
10	1000	10	[100,200]	[1,30]	[30302,151515]	918.244	4.472	-30295.6	-18587.4	83.662 %	0.0085
10	1000	10	[100,200]	[15,30]	[15152,151522]	897.991	4.411	-15167.4	-2873.5	84.741 %	0.0066
10	1000	10	[100,200]	[15,30]	[30304,151522]	894.326	4.510	-30299.1	-18562.6	83.796 %	0.0099
10	1000	10	[133,200]	[1,10]	[16766,167665]	897.588	4.505	-16714.7	-3790.1	85.343 %	0.0140
10	1000	10	[133,200]	[1,10]	[33532,167665]	898.420	4.497	-33471.1	-20060.2	83.420 %	0.0060
10	1000	10	[133,200]	[5,10]	[16766,167667]	898.309	4.654	-16816.2	-3986.6	85.425 %	0.0045
10	1000	10	[133,200]	[5,10]	[33532,167667]	890.875	4.665	-33548.8	-21324.3	84.613 %	0.0138
10	1000	10	[133,200]	[1,30]	[16767,167675]	916.342	4.442	-16739.0	-3127.5	84.766 %	0.0113
10	1000	10	[133,200]	[1,30]	[33534,167675]	914.124	4.400	-33485.1	-19669.4	82.820 %	0.0097
10	1000	10	[133,200]	[15,30]	[16768,167682]	902.964	4.510	-16751.4	-2870.6	84.514 %	0.0064
10	1000	10	[133,200]	[15,30]	[33536,167682]	899.482	4.431	-33489.2	-19652.6	82.877 %	0.0105
10	1000	10	[166,200]	[1,10]	[18483,184835]	890.682	4.567	-18444.0	-3917.7	85.017 %	0.0110
10	1000	10	[166,200]	[1,10]	[36966,184835]	892.611	4.497	-36982.8	-21694.0	82.829 %	0.0092
10	1000	10	[166,200]	[5,10]	[18483,184837]	886.599	4.694	-18541.6	-4579.2	85.745 %	0.0143
10	1000	10	[166,200]	[5,10]	[36966,184837]	889.583	4.657	-36982.5	-22574.9	83.618 %	0.0067
10	1000	10	[166,200]	[1,30]	[18484,184845]	915.632	4.406	-18439.4	-2610.0	83.957 %	0.0089
10	1000	10	[166,200]	[1,30]	[36968,184845]	922.113	4.441	-36946.6	-21237.2	82.277 %	0.0111
10	1000	10	[166,200]	[15,30]	[18485,184852]	901.680	4.458	-18397.9	-2911.6	84.316 %	0.0077
10	1000	10	[166,200]	[15,30]	[36970,184852]	903.564	4.447	-36862.4	-21176.1	82.539 %	0.0121

Tiempo Promedio Total H_2: 900.590 seg.

Tiempo Promedio Total H_1: 4.524 seg.

Rendimiento Promedio Total: 84.266 %

Tabla de Experimentos

$n : 10, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	20	[100,200]	[1,10]	[152,1520]	0.023	0.005	-89.1	-89.1	100.000 %	0.0000
10	10	20	[100,200]	[1,10]	[304,1520]	0.032	0.018	-272.6	-272.6	100.000 %	0.0000
10	10	20	[100,200]	[5,10]	[152,1522]	0.020	0.008	-117.6	-117.6	100.000 %	0.0000
10	10	20	[100,200]	[5,10]	[304,1522]	0.021	0.007	-268.7	-268.7	100.000 %	0.0000
10	10	20	[100,200]	[1,30]	[153,1530]	0.023	0.007	-127.6	-127.6	100.000 %	0.0000
10	10	20	[100,200]	[1,30]	[306,1530]	0.023	0.009	-286.4	-286.4	100.000 %	0.0000
10	10	20	[100,200]	[15,30]	[153,1537]	0.024	0.006	-80.5	-80.5	100.000 %	0.0000
10	10	20	[100,200]	[15,30]	[306,1537]	0.023	0.007	-220.2	-220.2	100.000 %	0.0000
10	10	20	[133,200]	[1,10]	[168,1681]	0.020	0.009	-199.9	-199.9	100.000 %	0.0000
10	10	20	[133,200]	[1,10]	[336,1681]	0.022	0.009	-244.6	-244.6	100.000 %	0.0000
10	10	20	[133,200]	[5,10]	[168,1683]	0.018	0.008	-180.5	-180.5	100.000 %	0.0000
10	10	20	[133,200]	[5,10]	[336,1683]	0.021	0.008	-296.0	-296.0	100.000 %	0.0000
10	10	20	[133,200]	[1,30]	[169,1691]	0.028	0.012	-169.0	-169.0	100.000 %	0.0000
10	10	20	[133,200]	[1,30]	[338,1691]	0.027	0.007	-325.4	-325.4	100.000 %	0.0000
10	10	20	[133,200]	[15,30]	[169,1698]	0.024	0.006	-119.9	-119.9	100.000 %	0.0000
10	10	20	[133,200]	[15,30]	[338,1698]	0.021	0.009	-256.4	-256.4	100.000 %	0.0000
10	10	20	[166,200]	[1,10]	[185,1853]	0.024	0.011	-91.5	-91.5	100.000 %	0.0000
10	10	20	[166,200]	[1,10]	[370,1853]	0.022	0.006	-290.2	-290.2	100.000 %	0.0000
10	10	20	[166,200]	[5,10]	[185,1855]	0.028	0.031	-199.6	-199.6	100.000 %	0.0000
10	10	20	[166,200]	[5,10]	[370,1855]	0.026	0.013	-330.8	-330.8	100.000 %	0.0000
10	10	20	[166,200]	[1,30]	[186,1863]	0.030	0.011	-133.6	-133.6	100.000 %	0.0000
10	10	20	[166,200]	[1,30]	[372,1863]	0.024	0.007	-322.2	-322.2	100.000 %	0.0000
10	10	20	[166,200]	[15,30]	[187,1870]	0.023	0.007	-182.1	-182.1	100.000 %	0.0000
10	10	20	[166,200]	[15,30]	[374,1870]	0.024	0.011	-370.9	-370.9	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.024 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 20, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	20	[100,200]	[1,10]	[303,3035]	0.056	0.009	-355.3	-352.5	99.817 %	0.0055
10	20	20	[100,200]	[1,10]	[606,3035]	0.055	0.014	-611.8	-606.7	99.622 %	0.0113
10	20	20	[100,200]	[5,10]	[303,3037]	0.046	0.014	-270.0	-270.0	100.000 %	0.0000
10	20	20	[100,200]	[5,10]	[606,3037]	0.049	0.011	-544.3	-544.3	100.000 %	0.0000
10	20	20	[100,200]	[1,30]	[304,3045]	0.066	0.011	-283.4	-283.2	99.987 %	0.0004
10	20	20	[100,200]	[1,30]	[608,3045]	0.068	0.012	-578.2	-578.2	100.000 %	0.0000
10	20	20	[100,200]	[15,30]	[305,3052]	0.065	0.013	-317.4	-312.1	99.624 %	0.0083
10	20	20	[100,200]	[15,30]	[610,3052]	0.061	0.015	-594.0	-594.0	100.000 %	0.0000
10	20	20	[133,200]	[1,10]	[335,3358]	0.069	0.020	-325.4	-317.3	99.444 %	0.0115
10	20	20	[133,200]	[1,10]	[670,3358]	0.058	0.011	-670.6	-665.5	99.528 %	0.0095
10	20	20	[133,200]	[5,10]	[336,3360]	0.046	0.011	-323.8	-323.8	100.000 %	0.0000
10	20	20	[133,200]	[5,10]	[672,3360]	0.068	0.019	-617.2	-612.6	99.707 %	0.0060
10	20	20	[133,200]	[1,30]	[336,3368]	0.072	0.012	-283.8	-281.7	99.843 %	0.0047
10	20	20	[133,200]	[1,30]	[672,3368]	0.072	0.013	-590.1	-589.9	99.988 %	0.0004
10	20	20	[133,200]	[15,30]	[337,3375]	0.060	0.013	-306.9	-304.7	99.842 %	0.0048
10	20	20	[133,200]	[15,30]	[674,3375]	0.060	0.012	-680.0	-680.0	100.000 %	0.0000
10	20	20	[166,200]	[1,10]	[370,3701]	0.051	0.012	-290.7	-289.5	99.936 %	0.0019
10	20	20	[166,200]	[1,10]	[740,3701]	0.058	0.012	-679.6	-679.6	100.000 %	0.0000
10	20	20	[166,200]	[5,10]	[370,3703]	0.045	0.013	-349.7	-349.7	100.000 %	0.0000
10	20	20	[166,200]	[5,10]	[740,3703]	0.052	0.013	-781.6	-781.6	100.000 %	0.0000
10	20	20	[166,200]	[1,30]	[371,3711]	0.063	0.012	-347.3	-347.3	100.000 %	0.0000
10	20	20	[166,200]	[1,30]	[742,3711]	0.088	0.024	-640.5	-639.8	99.953 %	0.0014
10	20	20	[166,200]	[15,30]	[371,3718]	0.058	0.011	-313.0	-313.0	100.000 %	0.0000
10	20	20	[166,200]	[15,30]	[742,3718]	0.054	0.011	-739.7	-739.7	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.060 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 99.887 %

Tabla de Experimentos

$n : 30, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	20	[100,200]	[1,10]	[455,4550]	0.102	0.016	-447.2	-414.2	98.330 %	0.0219
10	30	20	[100,200]	[1,10]	[910,4550]	0.102	0.015	-869.1	-817.9	97.415 %	0.0256
10	30	20	[100,200]	[5,10]	[455,4552]	0.092	0.013	-451.8	-439.5	99.374 %	0.0188
10	30	20	[100,200]	[5,10]	[910,4552]	0.092	0.015	-820.4	-782.5	98.035 %	0.0262
10	30	20	[100,200]	[1,30]	[456,4560]	0.126	0.015	-472.6	-420.5	97.400 %	0.0216
10	30	20	[100,200]	[1,30]	[912,4560]	0.195	0.019	-814.8	-773.1	98.029 %	0.0228
10	30	20	[100,200]	[15,30]	[456,4567]	0.119	0.019	-475.9	-417.0	96.884 %	0.0259
10	30	20	[100,200]	[15,30]	[912,4567]	0.120	0.018	-824.1	-784.6	97.931 %	0.0224
10	30	20	[133,200]	[1,10]	[503,5034]	0.096	0.016	-516.8	-455.0	97.247 %	0.0287
10	30	20	[133,200]	[1,10]	[1006,5034]	0.099	0.016	-962.6	-867.2	95.622 %	0.0251
10	30	20	[133,200]	[5,10]	[503,5036]	0.100	0.014	-504.7	-460.9	98.173 %	0.0192
10	30	20	[133,200]	[5,10]	[1006,5036]	0.086	0.017	-938.4	-867.9	96.558 %	0.0321
10	30	20	[133,200]	[1,30]	[504,5044]	0.126	0.018	-553.5	-510.4	98.102 %	0.0240
10	30	20	[133,200]	[1,30]	[1008,5044]	0.133	0.015	-958.6	-887.1	96.746 %	0.0291
10	30	20	[133,200]	[15,30]	[505,5052]	0.111	0.016	-435.0	-364.2	97.261 %	0.0255
10	30	20	[133,200]	[15,30]	[1010,5052]	0.113	0.014	-955.6	-897.7	97.544 %	0.0288
10	30	20	[166,200]	[1,10]	[554,5549]	0.099	0.017	-496.0	-415.7	97.115 %	0.0273
10	30	20	[166,200]	[1,10]	[1108,5549]	0.094	0.011	-1122.3	-1051.2	96.972 %	0.0296
10	30	20	[166,200]	[5,10]	[555,5551]	0.080	0.014	-469.1	-454.4	99.409 %	0.0117
10	30	20	[166,200]	[5,10]	[1110,5551]	0.086	0.017	-991.5	-925.3	97.261 %	0.0338
10	30	20	[166,200]	[1,30]	[556,5560]	0.124	0.017	-480.5	-368.1	95.729 %	0.0236
10	30	20	[166,200]	[1,30]	[1112,5560]	0.129	0.017	-1120.3	-1075.3	98.051 %	0.0255
10	30	20	[166,200]	[15,30]	[556,5567]	0.132	0.018	-472.3	-425.2	98.384 %	0.0245
10	30	20	[166,200]	[15,30]	[1112,5567]	0.110	0.015	-1118.5	-1054.6	97.382 %	0.0281

Tiempo Promedio Total H_2: 0.111 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 97.540 %

Tabla de Experimentos

$n : 50, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	20	[100,200]	[1,10]	[758,7580]	0.243	0.025	-739.0	-623.1	96.910 %	0.0232
10	50	20	[100,200]	[1,10]	[1516,7580]	0.266	0.024	-1464.1	-1319.4	95.385 %	0.0174
10	50	20	[100,200]	[5,10]	[758,7582]	0.248	0.027	-720.3	-554.6	95.378 %	0.0122
10	50	20	[100,200]	[5,10]	[1516,7582]	0.236	0.028	-1481.6	-1388.3	97.174 %	0.0240
10	50	20	[100,200]	[1,30]	[759,7590]	0.310	0.025	-843.8	-701.7	95.965 %	0.0211
10	50	20	[100,200]	[1,30]	[1518,7590]	0.310	0.025	-1452.5	-1310.0	95.608 %	0.0246
10	50	20	[100,200]	[15,30]	[759,7597]	0.271	0.028	-783.3	-649.8	96.265 %	0.0212
10	50	20	[100,200]	[15,30]	[1518,7597]	0.270	0.027	-1496.5	-1405.2	97.216 %	0.0211
10	50	20	[133,200]	[1,10]	[838,8388]	0.256	0.025	-776.1	-645.9	96.781 %	0.0233
10	50	20	[133,200]	[1,10]	[1676,8388]	0.239	0.023	-1624.2	-1548.6	97.940 %	0.0269
10	50	20	[133,200]	[5,10]	[839,8390]	0.233	0.033	-835.5	-724.7	97.270 %	0.0148
10	50	20	[133,200]	[5,10]	[1678,8390]	0.226	0.027	-1624.1	-1453.4	95.476 %	0.0169
10	50	20	[133,200]	[1,30]	[839,8398]	0.300	0.026	-842.8	-734.1	97.070 %	0.0236
10	50	20	[133,200]	[1,30]	[1678,8398]	0.327	0.029	-1602.8	-1448.7	95.940 %	0.0217
10	50	20	[133,200]	[15,30]	[840,8405]	0.264	0.027	-787.5	-625.6	96.039 %	0.0215
10	50	20	[133,200]	[15,30]	[1680,8405]	0.262	0.026	-1625.1	-1544.3	97.762 %	0.0251
10	50	20	[166,200]	[1,10]	[924,9246]	0.223	0.024	-1015.7	-876.4	96.899 %	0.0267
10	50	20	[166,200]	[1,10]	[1848,9246]	0.214	0.028	-1816.9	-1646.4	95.396 %	0.0206
10	50	20	[166,200]	[5,10]	[924,9248]	0.199	0.026	-909.0	-800.1	97.482 %	0.0188
10	50	20	[166,200]	[5,10]	[1848,9248]	0.194	0.026	-1838.1	-1683.4	95.906 %	0.0283
10	50	20	[166,200]	[1,30]	[925,9256]	0.297	0.026	-932.2	-686.4	94.515 %	0.0212
10	50	20	[166,200]	[1,30]	[1850,9256]	0.321	0.028	-1779.3	-1682.6	97.595 %	0.0266
10	50	20	[166,200]	[15,30]	[926,9263]	0.250	0.025	-911.1	-782.0	96.998 %	0.0235
10	50	20	[166,200]	[15,30]	[1852,9263]	0.258	0.028	-1821.1	-1689.7	96.539 %	0.0205

Tiempo Promedio Total H_2: 0.259 seg.

Tiempo Promedio Total H_1: 0.026 seg.

Rendimiento Promedio Total: 96.480 %

Tabla de Experimentos

$n : 100, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	20	[100,200]	[1,10]	[1515,15155]	1.131	0.063	-1493.9	-1204.2	95.932 %	0.0153
10	100	20	[100,200]	[1,10]	[3030,15155]	1.100	0.069	-3100.6	-2733.6	93.998 %	0.0204
10	100	20	[100,200]	[5,10]	[1515,15157]	1.069	0.067	-1531.5	-1201.1	95.472 %	0.0167
10	100	20	[100,200]	[5,10]	[3030,15157]	1.052	0.068	-2994.9	-2723.9	95.761 %	0.0234
10	100	20	[100,200]	[1,30]	[1516,15165]	1.359	0.067	-1502.9	-1177.8	95.670 %	0.0203
10	100	20	[100,200]	[1,30]	[3032,15165]	1.308	0.070	-2948.1	-2544.5	93.981 %	0.0186
10	100	20	[100,200]	[15,30]	[1517,15172]	1.159	0.071	-1458.2	-1185.9	96.274 %	0.0261
10	100	20	[100,200]	[15,30]	[3034,15172]	1.200	0.069	-3014.1	-2697.6	95.095 %	0.0162
10	100	20	[133,200]	[1,10]	[1677,16771]	1.059	0.067	-1694.9	-1358.9	95.660 %	0.0198
10	100	20	[133,200]	[1,10]	[3354,16771]	1.041	0.073	-3341.3	-3070.4	96.129 %	0.0229
10	100	20	[133,200]	[5,10]	[1677,16773]	1.052	0.070	-1653.1	-1257.4	95.003 %	0.0135
10	100	20	[133,200]	[5,10]	[3354,16773]	1.003	0.068	-3318.0	-2949.7	94.922 %	0.0268
10	100	20	[133,200]	[1,30]	[1678,16781]	1.304	0.067	-1665.3	-1256.4	94.809 %	0.0207
10	100	20	[133,200]	[1,30]	[3356,16781]	1.287	0.068	-3329.0	-2897.3	94.116 %	0.0147
10	100	20	[133,200]	[15,30]	[1678,16788]	1.165	0.067	-1712.8	-1255.6	94.232 %	0.0167
10	100	20	[133,200]	[15,30]	[3356,16788]	1.155	0.068	-3263.6	-2897.8	95.034 %	0.0203
10	100	20	[166,200]	[1,10]	[1848,18488]	0.978	0.065	-1816.2	-1328.7	94.208 %	0.0208
10	100	20	[166,200]	[1,10]	[3696,18488]	1.027	0.070	-3617.0	-3310.0	96.073 %	0.0209
10	100	20	[166,200]	[5,10]	[1849,18490]	0.955	0.070	-1778.1	-1337.8	95.028 %	0.0202
10	100	20	[166,200]	[5,10]	[3698,18490]	0.937	0.072	-3733.6	-3323.3	94.794 %	0.0224
10	100	20	[166,200]	[1,30]	[1849,18498]	1.276	0.067	-1835.2	-1398.4	95.217 %	0.0225
10	100	20	[166,200]	[1,30]	[3698,18498]	1.249	0.068	-3657.5	-3203.5	94.378 %	0.0196
10	100	20	[166,200]	[15,30]	[1850,18505]	1.098	0.067	-1808.1	-1441.4	95.655 %	0.0248
10	100	20	[166,200]	[15,30]	[3700,18505]	1.082	0.069	-3641.4	-3209.4	94.543 %	0.0279

Tiempo Promedio Total H_2: 1.127 seg.

Tiempo Promedio Total H_1: 0.068 seg.

Rendimiento Promedio Total: 95.083 %

Tabla de Experimentos

$n : 200, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	20	[100,200]	[1,10]	[3030,30305]	7.038	0.215	-2985.2	-2313.2	95.388 %	0.0102
10	200	20	[100,200]	[1,10]	[6060,30305]	6.969	0.214	-6048.2	-5234.1	93.742 %	0.0156
10	200	20	[100,200]	[5,10]	[3030,30307]	6.837	0.220	-3027.6	-2177.8	94.120 %	0.0103
10	200	20	[100,200]	[5,10]	[6060,30307]	6.754	0.218	-5993.5	-5272.8	94.408 %	0.0113
10	200	20	[100,200]	[1,30]	[3031,30315]	7.526	0.206	-2996.8	-2133.4	94.093 %	0.0154
10	200	20	[100,200]	[1,30]	[6062,30315]	7.751	0.207	-5989.8	-5089.5	93.044 %	0.0139
10	200	20	[100,200]	[15,30]	[3032,30322]	7.092	0.210	-3006.2	-2276.8	94.899 %	0.0143
10	200	20	[100,200]	[15,30]	[6064,30322]	7.082	0.210	-6041.1	-5140.2	93.139 %	0.0253
10	200	20	[133,200]	[1,10]	[3353,33537]	6.763	0.209	-3386.1	-2541.3	94.648 %	0.0138
10	200	20	[133,200]	[1,10]	[6706,33537]	6.683	0.211	-6695.8	-5746.8	93.364 %	0.0192
10	200	20	[133,200]	[5,10]	[3353,33539]	6.637	0.215	-3413.0	-2550.4	94.603 %	0.0169
10	200	20	[133,200]	[5,10]	[6706,33539]	6.585	0.218	-6632.8	-5834.8	94.381 %	0.0257
10	200	20	[133,200]	[1,30]	[3354,33547]	7.468	0.202	-3329.8	-2261.9	93.441 %	0.0195
10	200	20	[133,200]	[1,30]	[6708,33547]	7.585	0.206	-6606.7	-5502.4	92.346 %	0.0166
10	200	20	[133,200]	[15,30]	[3355,33554]	7.010	0.210	-3260.2	-2232.7	93.714 %	0.0152
10	200	20	[133,200]	[15,30]	[6710,33554]	7.050	0.209	-6626.7	-5650.5	93.300 %	0.0196
10	200	20	[166,200]	[1,10]	[3697,36971]	6.219	0.215	-3651.4	-2656.3	94.406 %	0.0144
10	200	20	[166,200]	[1,10]	[7394,36971]	6.130	0.212	-7409.0	-6123.9	92.111 %	0.0101
10	200	20	[166,200]	[5,10]	[3697,36973]	6.189	0.218	-3605.6	-2503.3	93.855 %	0.0119
10	200	20	[166,200]	[5,10]	[7394,36973]	6.164	0.216	-7360.0	-6333.1	93.519 %	0.0151
10	200	20	[166,200]	[1,30]	[3698,36981]	7.119	0.204	-3654.4	-2600.8	94.098 %	0.0195
10	200	20	[166,200]	[1,30]	[7396,36981]	7.234	0.206	-7435.8	-6249.5	92.509 %	0.0142
10	200	20	[166,200]	[15,30]	[3698,36988]	6.428	0.207	-3701.6	-2657.8	94.264 %	0.0234
10	200	20	[166,200]	[15,30]	[7396,36988]	6.625	0.210	-7353.3	-6374.6	94.001 %	0.0205

Tiempo Promedio Total H_2: 6.872 seg.

Tiempo Promedio Total H_1: 0.211 seg.

Rendimiento Promedio Total: 93.808 %

Tabla de Experimentos

$n : 300, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	20	[100,200]	[1,10]	[4545,45455]	22.210	0.447	-4578.2	-3156.5	93.451 %	0.0116
10	300	20	[100,200]	[1,10]	[9090,45455]	21.937	0.442	-9052.9	-7782.2	93.527 %	0.0155
10	300	20	[100,200]	[5,10]	[4545,45457]	21.572	0.455	-4527.4	-3178.2	93.744 %	0.0131
10	300	20	[100,200]	[5,10]	[9090,45457]	21.405	0.452	-9008.3	-7837.5	94.015 %	0.0174
10	300	20	[100,200]	[1,30]	[4546,45465]	23.541	0.432	-4586.7	-3265.4	93.819 %	0.0096
10	300	20	[100,200]	[1,30]	[9092,45465]	23.464	0.432	-9112.7	-7703.4	92.910 %	0.0118
10	300	20	[100,200]	[15,30]	[4547,45472]	22.037	0.443	-4589.9	-3303.7	93.964 %	0.0156
10	300	20	[100,200]	[15,30]	[9094,45472]	22.382	0.438	-9030.4	-7665.2	93.068 %	0.0134
10	300	20	[133,200]	[1,10]	[5030,50303]	21.206	0.444	-4984.5	-3429.0	93.498 %	0.0113
10	300	20	[133,200]	[1,10]	[10060,50303]	21.375	0.446	-10035.2	-8378.7	92.402 %	0.0124
10	300	20	[133,200]	[5,10]	[5030,50305]	21.157	0.451	-5066.9	-3364.8	93.073 %	0.0074
10	300	20	[133,200]	[5,10]	[10060,50305]	21.360	0.457	-10010.0	-8438.4	92.829 %	0.0152
10	300	20	[133,200]	[1,30]	[5031,50313]	23.212	0.433	-5063.4	-3247.4	92.510 %	0.0055
10	300	20	[133,200]	[1,30]	[10062,50313]	22.820	0.432	-10069.8	-8349.1	92.031 %	0.0135
10	300	20	[133,200]	[15,30]	[5032,50320]	21.555	0.436	-5031.1	-3474.6	93.518 %	0.0197
10	300	20	[133,200]	[15,30]	[10064,50320]	22.076	0.435	-10090.1	-8374.7	92.205 %	0.0116
10	300	20	[166,200]	[1,10]	[5545,55454]	20.094	0.443	-5481.8	-3573.7	92.885 %	0.0113
10	300	20	[166,200]	[1,10]	[11090,55454]	20.148	0.448	-11026.6	-9273.7	92.787 %	0.0169
10	300	20	[166,200]	[5,10]	[5545,55456]	19.657	0.461	-5592.5	-3988.1	93.964 %	0.0139
10	300	20	[166,200]	[5,10]	[11090,55456]	19.778	0.454	-11027.8	-9276.3	92.692 %	0.0136
10	300	20	[166,200]	[1,30]	[5546,55464]	22.669	0.443	-5528.6	-3770.0	93.456 %	0.0130
10	300	20	[166,200]	[1,30]	[11092,55464]	21.932	0.438	-11065.0	-9199.8	92.246 %	0.0175
10	300	20	[166,200]	[15,30]	[5547,55471]	20.800	0.438	-5613.3	-3943.3	93.835 %	0.0248
10	300	20	[166,200]	[15,30]	[11094,55471]	21.084	0.443	-11003.8	-9100.1	92.192 %	0.0089

Tiempo Promedio Total H_2: 21.645 seg.

Tiempo Promedio Total H_1: 0.443 seg.

Rendimiento Promedio Total: 93.109 %

Tabla de Experimentos

$n : 500, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	20	[100,200]	[1,10]	[7575,75755]	100.114	1.154	-7552.0	-4976.9	93.001 %	0.0115
10	500	20	[100,200]	[1,10]	[15150,75755]	99.678	1.166	-15137.7	-12784.3	92.855 %	0.0123
10	500	20	[100,200]	[5,10]	[7575,75757]	98.917	1.202	-7530.9	-5275.5	93.792 %	0.0066
10	500	20	[100,200]	[5,10]	[15150,75757]	100.178	1.198	-15132.4	-12909.9	93.153 %	0.0119
10	500	20	[100,200]	[1,30]	[7576,75765]	105.184	1.145	-7571.9	-5183.2	93.351 %	0.0083
10	500	20	[100,200]	[1,30]	[15152,75765]	104.341	1.140	-15101.0	-12752.7	92.845 %	0.0096
10	500	20	[100,200]	[15,30]	[7577,75772]	101.567	1.150	-7647.3	-5134.3	93.164 %	0.0105
10	500	20	[100,200]	[15,30]	[15154,75772]	101.822	1.154	-15139.3	-12513.0	91.989 %	0.0060
10	500	20	[133,200]	[1,10]	[8383,83835]	99.647	1.180	-8398.3	-5505.7	92.943 %	0.0125
10	500	20	[133,200]	[1,10]	[16766,83835]	100.296	1.166	-16672.6	-14090.3	92.844 %	0.0120
10	500	20	[133,200]	[5,10]	[8383,83837]	100.450	1.199	-8328.6	-5625.0	93.253 %	0.0081
10	500	20	[133,200]	[5,10]	[16766,83837]	99.040	1.190	-16720.3	-14013.0	92.625 %	0.0143
10	500	20	[133,200]	[1,30]	[8384,83845]	106.119	1.137	-8389.3	-5643.8	93.294 %	0.0116
10	500	20	[133,200]	[1,30]	[16768,83845]	103.807	1.133	-16697.8	-13854.3	92.163 %	0.0127
10	500	20	[133,200]	[15,30]	[8385,83852]	101.150	1.139	-8384.5	-5853.0	93.726 %	0.0157
10	500	20	[133,200]	[15,30]	[16770,83852]	100.869	1.146	-16827.3	-13974.4	92.160 %	0.0103
10	500	20	[166,200]	[1,10]	[9242,92420]	95.818	1.173	-9120.3	-5754.2	92.596 %	0.0091
10	500	20	[166,200]	[1,10]	[18484,92420]	96.080	1.156	-18453.5	-15348.1	92.326 %	0.0106
10	500	20	[166,200]	[5,10]	[9242,92422]	94.030	1.197	-9232.1	-6342.5	93.520 %	0.0098
10	500	20	[166,200]	[5,10]	[18484,92422]	93.020	1.202	-18444.2	-15353.7	92.230 %	0.0151
10	500	20	[166,200]	[1,30]	[9243,92430]	101.426	1.138	-9144.3	-6120.1	93.180 %	0.0110
10	500	20	[166,200]	[1,30]	[18486,92430]	102.323	1.133	-18360.9	-14786.8	91.266 %	0.0103
10	500	20	[166,200]	[15,30]	[9243,92437]	97.326	1.153	-9129.7	-5877.6	92.645 %	0.0090
10	500	20	[166,200]	[15,30]	[18486,92437]	97.683	1.155	-18434.8	-15227.7	92.129 %	0.0179

Tiempo Promedio Total H_2: 100.037 seg.

Tiempo Promedio Total H_1: 1.163 seg.

Rendimiento Promedio Total: 92.794 %

Tabla de Experimentos

$n : 750, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	20	[100,200]	[1,10]	[11363,113630]	352.965	2.555	-11305.8	-7601.2	93.321 %	0.0079
10	750	20	[100,200]	[1,10]	[22726,113630]	351.336	2.570	-22694.6	-18879.1	92.210 %	0.0121
10	750	20	[100,200]	[5,10]	[11363,113632]	352.246	2.626	-11441.0	-7706.9	93.217 %	0.0068
10	750	20	[100,200]	[5,10]	[22726,113632]	350.502	2.631	-22679.1	-19043.7	92.595 %	0.0090
10	750	20	[100,200]	[1,30]	[11364,113640]	361.893	2.530	-11355.7	-7365.1	92.816 %	0.0069
10	750	20	[100,200]	[1,30]	[22728,113640]	360.018	2.507	-22685.2	-18335.9	91.272 %	0.0099
10	750	20	[100,200]	[15,30]	[11364,113647]	357.918	2.522	-11350.0	-7589.3	93.217 %	0.0089
10	750	20	[100,200]	[15,30]	[22728,113647]	357.521	2.511	-22620.0	-18549.2	91.767 %	0.0078
10	750	20	[133,200]	[1,10]	[12575,125750]	351.189	2.560	-12538.4	-8084.7	92.690 %	0.0093
10	750	20	[133,200]	[1,10]	[25150,125750]	350.699	2.557	-25140.4	-20362.5	91.292 %	0.0067
10	750	20	[133,200]	[5,10]	[12575,125752]	351.160	2.643	-12492.4	-8145.0	92.830 %	0.0051
10	750	20	[133,200]	[5,10]	[25150,125752]	350.450	2.609	-25095.5	-20869.4	92.233 %	0.0074
10	750	20	[133,200]	[1,30]	[12576,125760]	365.999	2.486	-12628.5	-8275.9	92.797 %	0.0060
10	750	20	[133,200]	[1,30]	[25152,125760]	363.197	2.532	-25138.5	-20210.0	91.039 %	0.0090
10	750	20	[133,200]	[15,30]	[12576,125767]	353.440	2.503	-12525.3	-7909.3	92.481 %	0.0076
10	750	20	[133,200]	[15,30]	[25152,125767]	353.412	2.528	-25084.1	-20058.9	90.815 %	0.0058
10	750	20	[166,200]	[1,10]	[13862,138627]	333.883	2.549	-14032.6	-9014.8	92.530 %	0.0123
10	750	20	[166,200]	[1,10]	[27724,138627]	338.616	2.572	-27640.8	-22485.8	91.487 %	0.0082
10	750	20	[166,200]	[5,10]	[13862,138629]	336.035	2.638	-13860.7	-9029.1	92.836 %	0.0083
10	750	20	[166,200]	[5,10]	[27724,138629]	332.037	2.623	-27640.9	-22811.6	91.967 %	0.0090
10	750	20	[166,200]	[1,30]	[13863,138637]	356.812	2.500	-13812.0	-8837.5	92.687 %	0.0088
10	750	20	[166,200]	[1,30]	[27726,138637]	353.140	2.496	-27654.0	-21994.1	90.760 %	0.0070
10	750	20	[166,200]	[15,30]	[13864,138644]	344.033	2.524	-13856.9	-8567.3	92.293 %	0.0098
10	750	20	[166,200]	[15,30]	[27728,138644]	339.348	2.514	-27695.9	-22638.1	91.610 %	0.0088

Tiempo Promedio Total H_2: 350.744 seg.

Tiempo Promedio Total H_1: 2.554 seg.

Rendimiento Promedio Total: 92.198 %

Tabla de Experimentos

$n : 1000, m : 20, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	20	[100,200]	[1,10]	[15150,151505]	870.346	4.660	-15214.2	-9789.8	92.611 %	0.0092
10	1000	20	[100,200]	[1,10]	[30300,151505]	849.894	4.631	-30260.8	-24912.9	91.904 %	0.0067
10	1000	20	[100,200]	[5,10]	[15150,151507]	860.411	4.791	-15138.1	-10093.0	93.108 %	0.0058
10	1000	20	[100,200]	[5,10]	[30300,151507]	856.678	4.776	-30326.7	-25262.0	92.262 %	0.0068
10	1000	20	[100,200]	[1,30]	[15151,151515]	881.650	4.487	-15158.7	-9711.8	92.568 %	0.0044
10	1000	20	[100,200]	[1,30]	[30302,151515]	882.093	4.456	-30255.3	-24909.1	91.947 %	0.0082
10	1000	20	[100,200]	[15,30]	[15152,151522]	865.322	4.556	-15059.1	-9739.7	92.825 %	0.0083
10	1000	20	[100,200]	[15,30]	[30304,151522]	857.275	4.530	-30237.8	-25000.2	92.125 %	0.0079
10	1000	20	[133,200]	[1,10]	[16766,167665]	859.522	4.651	-16831.8	-10621.4	92.372 %	0.0074
10	1000	20	[133,200]	[1,10]	[33532,167665]	861.709	4.599	-33446.9	-27509.0	91.832 %	0.0065
10	1000	20	[133,200]	[5,10]	[16766,167667]	859.024	4.741	-16781.6	-10884.2	92.775 %	0.0056
10	1000	20	[133,200]	[5,10]	[33532,167667]	853.968	4.712	-33546.3	-27452.8	91.619 %	0.0043
10	1000	20	[133,200]	[1,30]	[16767,167675]	883.379	4.484	-16740.5	-10435.3	92.287 %	0.0093
10	1000	20	[133,200]	[1,30]	[33534,167675]	885.169	4.501	-33541.4	-26849.9	90.951 %	0.0081
10	1000	20	[133,200]	[15,30]	[16768,167682]	868.007	4.520	-16666.5	-9980.8	91.897 %	0.0084
10	1000	20	[133,200]	[15,30]	[33536,167682]	869.894	4.615	-33504.9	-27453.1	91.734 %	0.0116
10	1000	20	[166,200]	[1,10]	[18483,184835]	821.208	4.558	-18488.7	-10986.8	91.762 %	0.0062
10	1000	20	[166,200]	[1,10]	[36966,184835]	832.471	4.585	-36994.0	-29724.2	91.139 %	0.0052
10	1000	20	[166,200]	[5,10]	[18483,184837]	827.209	4.781	-18447.7	-11767.8	92.566 %	0.0067
10	1000	20	[166,200]	[5,10]	[36966,184837]	825.311	4.698	-36916.0	-30064.5	91.490 %	0.0104
10	1000	20	[166,200]	[1,30]	[18484,184845]	866.590	4.442	-18454.9	-10768.6	91.530 %	0.0063
10	1000	20	[166,200]	[1,30]	[36968,184845]	866.925	4.482	-36981.3	-29517.3	90.822 %	0.0080
10	1000	20	[166,200]	[15,30]	[18485,184852]	835.945	4.563	-18401.6	-11042.1	91.918 %	0.0055
10	1000	20	[166,200]	[15,30]	[36970,184852]	848.625	4.519	-36918.6	-29237.6	90.580 %	0.0056

Tiempo Promedio Total H_2: 857.860 seg.

Tiempo Promedio Total H_1: 4.597 seg.

Rendimiento Promedio Total: 91.943 %

Tabla de Experimentos

$n : 10, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	50	[100,200]	[1,10]	[152,1520]	0.037	0.015	-187.0	-187.0	100.000 %	0.0000
10	10	50	[100,200]	[1,10]	[304,1520]	0.023	0.008	-274.6	-274.6	100.000 %	0.0000
10	10	50	[100,200]	[5,10]	[152,1522]	0.025	0.010	-71.0	-71.0	100.000 %	0.0000
10	10	50	[100,200]	[5,10]	[304,1522]	0.022	0.011	-287.2	-287.2	100.000 %	0.0000
10	10	50	[100,200]	[1,30]	[153,1530]	0.025	0.008	-152.8	-152.8	100.000 %	0.0000
10	10	50	[100,200]	[1,30]	[306,1530]	0.026	0.008	-287.9	-287.9	100.000 %	0.0000
10	10	50	[100,200]	[15,30]	[153,1537]	0.025	0.009	-75.4	-75.4	100.000 %	0.0000
10	10	50	[100,200]	[15,30]	[306,1537]	0.025	0.010	-259.5	-259.5	100.000 %	0.0000
10	10	50	[133,200]	[1,10]	[168,1681]	0.025	0.010	-214.4	-214.4	100.000 %	0.0000
10	10	50	[133,200]	[1,10]	[336,1681]	0.025	0.011	-314.3	-314.3	100.000 %	0.0000
10	10	50	[133,200]	[5,10]	[168,1683]	0.024	0.012	-114.7	-114.7	100.000 %	0.0000
10	10	50	[133,200]	[5,10]	[336,1683]	0.023	0.009	-241.2	-241.2	100.000 %	0.0000
10	10	50	[133,200]	[1,30]	[169,1691]	0.027	0.011	-71.9	-71.9	100.000 %	0.0000
10	10	50	[133,200]	[1,30]	[338,1691]	0.027	0.008	-320.2	-320.2	100.000 %	0.0000
10	10	50	[133,200]	[15,30]	[169,1698]	0.035	0.017	-75.0	-75.0	100.000 %	0.0000
10	10	50	[133,200]	[15,30]	[338,1698]	0.025	0.011	-315.0	-315.0	100.000 %	0.0000
10	10	50	[166,200]	[1,10]	[185,1853]	0.023	0.010	-203.9	-94.2	89.683 %	0.3095
10	10	50	[166,200]	[1,10]	[370,1853]	0.022	0.009	-324.8	-324.8	100.000 %	0.0000
10	10	50	[166,200]	[5,10]	[185,1855]	0.022	0.012	-167.3	-167.3	100.000 %	0.0000
10	10	50	[166,200]	[5,10]	[370,1855]	0.023	0.012	-336.2	-336.2	100.000 %	0.0000
10	10	50	[166,200]	[1,30]	[186,1863]	0.026	0.011	-192.4	-192.4	100.000 %	0.0000
10	10	50	[166,200]	[1,30]	[372,1863]	0.047	0.019	-234.6	-234.6	100.000 %	0.0000
10	10	50	[166,200]	[15,30]	[187,1870]	0.025	0.011	-92.1	-92.1	100.000 %	0.0000
10	10	50	[166,200]	[15,30]	[374,1870]	0.024	0.008	-300.8	-300.8	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.026 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 99.570 %

Tabla de Experimentos

$n : 20, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	50	[100,200]	[1,10]	[303,3035]	0.052	0.015	-305.7	-305.7	100.000 %	0.0000
10	20	50	[100,200]	[1,10]	[606,3035]	0.105	0.016	-637.2	-637.2	100.000 %	0.0000
10	20	50	[100,200]	[5,10]	[303,3037]	0.065	0.018	-257.8	-257.8	100.000 %	0.0000
10	20	50	[100,200]	[5,10]	[606,3037]	0.053	0.014	-562.4	-562.4	100.000 %	0.0000
10	20	50	[100,200]	[1,30]	[304,3045]	0.068	0.014	-292.9	-292.9	100.000 %	0.0000
10	20	50	[100,200]	[1,30]	[608,3045]	0.072	0.015	-611.0	-611.0	100.000 %	0.0000
10	20	50	[100,200]	[15,30]	[305,3052]	0.074	0.022	-302.1	-302.1	100.000 %	0.0000
10	20	50	[100,200]	[15,30]	[610,3052]	0.069	0.018	-587.0	-587.0	100.000 %	0.0000
10	20	50	[133,200]	[1,10]	[335,3358]	0.056	0.014	-358.0	-358.0	100.000 %	0.0000
10	20	50	[133,200]	[1,10]	[670,3358]	0.061	0.019	-688.0	-688.0	100.000 %	0.0000
10	20	50	[133,200]	[5,10]	[336,3360]	0.048	0.015	-294.8	-294.8	100.000 %	0.0000
10	20	50	[133,200]	[5,10]	[672,3360]	0.054	0.021	-606.0	-606.0	100.000 %	0.0000
10	20	50	[133,200]	[1,30]	[336,3368]	0.074	0.012	-314.8	-314.8	100.000 %	0.0000
10	20	50	[133,200]	[1,30]	[672,3368]	0.070	0.018	-597.9	-597.9	100.000 %	0.0000
10	20	50	[133,200]	[15,30]	[337,3375]	0.063	0.015	-288.7	-288.7	100.000 %	0.0000
10	20	50	[133,200]	[15,30]	[674,3375]	0.063	0.014	-655.6	-655.6	100.000 %	0.0000
10	20	50	[166,200]	[1,10]	[370,3701]	0.052	0.017	-289.8	-289.8	100.000 %	0.0000
10	20	50	[166,200]	[1,10]	[740,3701]	0.049	0.015	-793.1	-793.1	100.000 %	0.0000
10	20	50	[166,200]	[5,10]	[370,3703]	0.045	0.016	-347.2	-347.2	100.000 %	0.0000
10	20	50	[166,200]	[5,10]	[740,3703]	0.048	0.016	-683.5	-683.5	100.000 %	0.0000
10	20	50	[166,200]	[1,30]	[371,3711]	0.071	0.013	-320.0	-320.0	100.000 %	0.0000
10	20	50	[166,200]	[1,30]	[742,3711]	0.067	0.013	-652.0	-652.0	100.000 %	0.0000
10	20	50	[166,200]	[15,30]	[371,3718]	0.058	0.014	-266.8	-266.8	100.000 %	0.0000
10	20	50	[166,200]	[15,30]	[742,3718]	0.058	0.014	-746.6	-746.6	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.062 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 30, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	50	[100,200]	[1,10]	[455,4550]	0.120	0.021	-433.3	-433.3	100.000 %	0.0000
10	30	50	[100,200]	[1,10]	[910,4550]	0.111	0.021	-854.2	-854.2	100.000 %	0.0000
10	30	50	[100,200]	[5,10]	[455,4552]	0.097	0.019	-418.5	-418.5	100.000 %	0.0000
10	30	50	[100,200]	[5,10]	[910,4552]	0.097	0.019	-865.7	-865.7	100.000 %	0.0000
10	30	50	[100,200]	[1,30]	[456,4560]	0.192	0.021	-448.1	-448.1	100.000 %	0.0000
10	30	50	[100,200]	[1,30]	[912,4560]	0.156	0.021	-819.0	-819.0	100.000 %	0.0000
10	30	50	[100,200]	[15,30]	[456,4567]	0.126	0.019	-468.1	-468.1	100.000 %	0.0000
10	30	50	[100,200]	[15,30]	[912,4567]	0.117	0.019	-842.7	-842.7	100.000 %	0.0000
10	30	50	[133,200]	[1,10]	[503,5034]	0.124	0.023	-442.0	-442.0	100.000 %	0.0000
10	30	50	[133,200]	[1,10]	[1006,5034]	0.098	0.019	-927.4	-927.4	100.000 %	0.0000
10	30	50	[133,200]	[5,10]	[503,5036]	0.090	0.021	-515.2	-515.2	100.000 %	0.0000
10	30	50	[133,200]	[5,10]	[1006,5036]	0.091	0.019	-944.1	-944.1	100.000 %	0.0000
10	30	50	[133,200]	[1,30]	[504,5044]	0.129	0.017	-423.5	-423.5	100.000 %	0.0000
10	30	50	[133,200]	[1,30]	[1008,5044]	0.138	0.019	-935.4	-935.4	100.000 %	0.0000
10	30	50	[133,200]	[15,30]	[505,5052]	0.117	0.019	-517.9	-517.9	100.000 %	0.0000
10	30	50	[133,200]	[15,30]	[1010,5052]	0.120	0.021	-957.2	-957.2	100.000 %	0.0000
10	30	50	[166,200]	[1,10]	[554,5549]	0.092	0.017	-549.6	-549.6	100.000 %	0.0000
10	30	50	[166,200]	[1,10]	[1108,5549]	0.096	0.020	-1060.0	-1060.0	100.000 %	0.0000
10	30	50	[166,200]	[5,10]	[555,5551]	0.077	0.019	-454.5	-454.5	100.000 %	0.0000
10	30	50	[166,200]	[5,10]	[1110,5551]	0.078	0.018	-1043.3	-1043.3	100.000 %	0.0000
10	30	50	[166,200]	[1,30]	[556,5560]	0.136	0.020	-571.4	-571.4	100.000 %	0.0000
10	30	50	[166,200]	[1,30]	[1112,5560]	0.125	0.020	-1150.9	-1150.9	100.000 %	0.0000
10	30	50	[166,200]	[15,30]	[556,5567]	0.111	0.021	-571.6	-571.6	100.000 %	0.0000
10	30	50	[166,200]	[15,30]	[1112,5567]	0.105	0.020	-1078.3	-1078.3	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.114 seg.

Tiempo Promedio Total H_1: 0.020 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 50, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	50	[100,200]	[1,10]	[758,7580]	0.259	0.031	-747.6	-747.6	100.000 %	0.0000
10	50	50	[100,200]	[1,10]	[1516,7580]	0.282	0.033	-1496.4	-1492.7	99.880 %	0.0036
10	50	50	[100,200]	[5,10]	[758,7582]	0.322	0.042	-750.2	-748.7	99.956 %	0.0013
10	50	50	[100,200]	[5,10]	[1516,7582]	0.250	0.034	-1545.3	-1545.3	100.000 %	0.0000
10	50	50	[100,200]	[1,30]	[759,7590]	0.356	0.034	-744.4	-738.1	99.804 %	0.0059
10	50	50	[100,200]	[1,30]	[1518,7590]	0.386	0.031	-1596.7	-1596.7	100.000 %	0.0000
10	50	50	[100,200]	[15,30]	[759,7597]	0.320	0.036	-714.1	-714.1	100.000 %	0.0000
10	50	50	[100,200]	[15,30]	[1518,7597]	0.292	0.031	-1484.1	-1484.1	100.000 %	0.0000
10	50	50	[133,200]	[1,10]	[838,8388]	0.234	0.031	-824.3	-823.3	99.973 %	0.0005
10	50	50	[133,200]	[1,10]	[1676,8388]	0.268	0.031	-1715.7	-1715.7	100.000 %	0.0000
10	50	50	[133,200]	[5,10]	[839,8390]	0.228	0.036	-860.7	-860.7	100.000 %	0.0000
10	50	50	[133,200]	[5,10]	[1678,8390]	0.222	0.035	-1647.3	-1647.3	100.000 %	0.0000
10	50	50	[133,200]	[1,30]	[839,8398]	0.362	0.035	-810.8	-810.8	100.000 %	0.0000
10	50	50	[133,200]	[1,30]	[1678,8398]	0.355	0.033	-1692.1	-1692.1	100.000 %	0.0000
10	50	50	[133,200]	[15,30]	[840,8405]	0.314	0.032	-781.7	-779.5	99.942 %	0.0017
10	50	50	[133,200]	[15,30]	[1680,8405]	0.280	0.031	-1639.4	-1639.4	100.000 %	0.0000
10	50	50	[166,200]	[1,10]	[924,9246]	0.212	0.034	-903.9	-903.9	100.000 %	0.0000
10	50	50	[166,200]	[1,10]	[1848,9246]	0.205	0.031	-1785.7	-1785.7	100.000 %	0.0000
10	50	50	[166,200]	[5,10]	[924,9248]	0.172	0.031	-908.9	-908.9	100.000 %	0.0000
10	50	50	[166,200]	[5,10]	[1848,9248]	0.165	0.032	-1850.3	-1848.9	99.963 %	0.0011
10	50	50	[166,200]	[1,30]	[925,9256]	0.344	0.039	-895.3	-895.3	100.000 %	0.0000
10	50	50	[166,200]	[1,30]	[1850,9256]	0.338	0.032	-1789.2	-1788.6	99.985 %	0.0005
10	50	50	[166,200]	[15,30]	[926,9263]	0.240	0.032	-902.5	-902.5	100.000 %	0.0000
10	50	50	[166,200]	[15,30]	[1852,9263]	0.248	0.034	-1789.0	-1789.0	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.277 seg.

Tiempo Promedio Total H_1: 0.033 seg.

Rendimiento Promedio Total: 99.979 %

Tabla de Experimentos

$n : 100, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	50	[100,200]	[1,10]	[1515,15155]	1.153	0.079	-1535.6	-1447.9	98.714 %	0.0086
10	100	50	[100,200]	[1,10]	[3030,15155]	1.234	0.083	-2974.0	-2893.4	98.682 %	0.0102
10	100	50	[100,200]	[5,10]	[1515,15157]	1.142	0.079	-1510.8	-1449.5	99.111 %	0.0088
10	100	50	[100,200]	[5,10]	[3030,15157]	1.117	0.087	-2948.1	-2837.6	98.220 %	0.0072
10	100	50	[100,200]	[1,30]	[1516,15165]	1.513	0.075	-1523.1	-1481.8	99.381 %	0.0071
10	100	50	[100,200]	[1,30]	[3032,15165]	1.518	0.077	-3092.6	-2987.1	98.299 %	0.0077
10	100	50	[100,200]	[15,30]	[1517,15172]	1.276	0.080	-1435.8	-1367.8	99.009 %	0.0085
10	100	50	[100,200]	[15,30]	[3034,15172]	1.212	0.079	-3029.2	-2976.5	99.143 %	0.0086
10	100	50	[133,200]	[1,10]	[1677,16771]	1.065	0.076	-1582.3	-1499.0	98.918 %	0.0088
10	100	50	[133,200]	[1,10]	[3354,16771]	1.105	0.081	-3297.9	-3214.7	98.792 %	0.0088
10	100	50	[133,200]	[5,10]	[1677,16773]	0.977	0.079	-1643.5	-1533.2	98.566 %	0.0072
10	100	50	[133,200]	[5,10]	[3354,16773]	1.040	0.080	-3311.9	-3218.2	98.606 %	0.0087
10	100	50	[133,200]	[1,30]	[1678,16781]	1.405	0.077	-1660.5	-1557.8	98.611 %	0.0095
10	100	50	[133,200]	[1,30]	[3356,16781]	1.398	0.079	-3347.0	-3257.5	98.703 %	0.0086
10	100	50	[133,200]	[15,30]	[1678,16788]	1.206	0.076	-1632.1	-1530.3	98.699 %	0.0087
10	100	50	[133,200]	[15,30]	[3356,16788]	1.200	0.076	-3312.7	-3241.5	98.989 %	0.0093
10	100	50	[166,200]	[1,10]	[1848,18488]	0.861	0.079	-1880.5	-1764.5	98.624 %	0.0091
10	100	50	[166,200]	[1,10]	[3696,18488]	0.945	0.077	-3628.7	-3545.6	98.851 %	0.0116
10	100	50	[166,200]	[5,10]	[1849,18490]	0.760	0.080	-1862.2	-1765.0	98.827 %	0.0099
10	100	50	[166,200]	[5,10]	[3698,18490]	0.829	0.080	-3651.3	-3531.0	98.432 %	0.0103
10	100	50	[166,200]	[1,30]	[1849,18498]	1.271	0.078	-1829.6	-1708.6	98.549 %	0.0081
10	100	50	[166,200]	[1,30]	[3698,18498]	1.253	0.080	-3641.9	-3589.0	99.293 %	0.0088
10	100	50	[166,200]	[15,30]	[1850,18505]	1.046	0.083	-1803.4	-1720.8	99.007 %	0.0099
10	100	50	[166,200]	[15,30]	[3700,18505]	0.982	0.084	-3647.5	-3546.8	98.656 %	0.0081

Tiempo Promedio Total H_2: 1.146 seg.

Tiempo Promedio Total H_1: 0.079 seg.

Rendimiento Promedio Total: 98.778 %

Tabla de Experimentos

$n : 200, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	50	[100,200]	[1,10]	[3030,30305]	6.888	0.235	-2962.7	-2726.2	98.307 %	0.0078
10	200	50	[100,200]	[1,10]	[6060,30305]	6.681	0.237	-6083.1	-5795.7	97.752 %	0.0093
10	200	50	[100,200]	[5,10]	[3030,30307]	6.609	0.240	-2960.9	-2728.4	98.317 %	0.0082
10	200	50	[100,200]	[5,10]	[6060,30307]	6.514	0.242	-6014.0	-5830.6	98.515 %	0.0076
10	200	50	[100,200]	[1,30]	[3031,30315]	7.461	0.230	-3068.5	-2811.9	98.163 %	0.0096
10	200	50	[100,200]	[1,30]	[6062,30315]	7.453	0.233	-6014.6	-5763.8	97.979 %	0.0069
10	200	50	[100,200]	[15,30]	[3032,30322]	6.768	0.233	-3033.4	-2796.5	98.279 %	0.0092
10	200	50	[100,200]	[15,30]	[6064,30322]	6.907	0.232	-6003.4	-5782.5	98.209 %	0.0105
10	200	50	[133,200]	[1,10]	[3353,33537]	6.173	0.236	-3381.9	-3057.3	97.873 %	0.0080
10	200	50	[133,200]	[1,10]	[6706,33537]	6.102	0.248	-6633.1	-6265.5	97.341 %	0.0083
10	200	50	[133,200]	[5,10]	[3353,33539]	5.799	0.240	-3409.7	-3192.9	98.630 %	0.0116
10	200	50	[133,200]	[5,10]	[6706,33539]	5.789	0.238	-6710.9	-6419.0	97.850 %	0.0115
10	200	50	[133,200]	[1,30]	[3354,33547]	7.269	0.230	-3315.9	-2946.3	97.625 %	0.0059
10	200	50	[133,200]	[1,30]	[6708,33547]	7.020	0.231	-6655.0	-6290.4	97.347 %	0.0055
10	200	50	[133,200]	[15,30]	[3355,33554]	6.412	0.239	-3299.2	-3028.9	98.262 %	0.0093
10	200	50	[133,200]	[15,30]	[6710,33554]	6.406	0.232	-6599.9	-6293.9	97.785 %	0.0098
10	200	50	[166,200]	[1,10]	[3697,36971]	4.904	0.235	-3657.1	-3292.0	97.838 %	0.0066
10	200	50	[166,200]	[1,10]	[7394,36971]	4.931	0.236	-7371.5	-6999.1	97.533 %	0.0091
10	200	50	[166,200]	[5,10]	[3697,36973]	4.743	0.236	-3704.9	-3303.6	97.630 %	0.0070
10	200	50	[166,200]	[5,10]	[7394,36973]	4.752	0.234	-7354.4	-7010.4	97.715 %	0.0084
10	200	50	[166,200]	[1,30]	[3698,36981]	6.486	0.233	-3646.6	-3237.8	97.572 %	0.0052
10	200	50	[166,200]	[1,30]	[7396,36981]	6.462	0.230	-7305.9	-7010.5	98.051 %	0.0115
10	200	50	[166,200]	[15,30]	[3698,36988]	5.434	0.233	-3671.7	-3337.1	98.021 %	0.0102
10	200	50	[166,200]	[15,30]	[7396,36988]	5.418	0.232	-7426.5	-7076.1	97.662 %	0.0120

Tiempo Promedio Total H_2: 6.224 seg.

Tiempo Promedio Total H_1: 0.235 seg.

Rendimiento Promedio Total: 97.927 %

Tabla de Experimentos

$n : 300, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	50	[100,200]	[1,10]	[4545,45455]	19.852	0.480	-4495.5	-4119.8	98.206 %	0.0078
10	300	50	[100,200]	[1,10]	[9090,45455]	19.819	0.481	-9040.0	-8711.3	98.239 %	0.0099
10	300	50	[100,200]	[5,10]	[4545,45457]	19.540	0.489	-4603.4	-4167.0	97.938 %	0.0084
10	300	50	[100,200]	[5,10]	[9090,45457]	19.240	0.494	-9031.8	-8637.9	97.877 %	0.0087
10	300	50	[100,200]	[1,30]	[4546,45465]	21.433	0.471	-4552.7	-4194.0	98.253 %	0.0079
10	300	50	[100,200]	[1,30]	[9092,45465]	21.758	0.466	-9095.6	-8629.0	97.494 %	0.0058
10	300	50	[100,200]	[15,30]	[4547,45472]	19.948	0.470	-4582.1	-4142.5	97.893 %	0.0067
10	300	50	[100,200]	[15,30]	[9094,45472]	20.186	0.475	-8992.9	-8515.9	97.441 %	0.0093
10	300	50	[133,200]	[1,10]	[5030,50303]	18.733	0.479	-5054.3	-4538.7	97.782 %	0.0077
10	300	50	[133,200]	[1,10]	[10060,50303]	18.528	0.476	-9984.4	-9500.3	97.663 %	0.0090
10	300	50	[133,200]	[5,10]	[5030,50305]	18.172	0.492	-4993.6	-4546.0	98.086 %	0.0097
10	300	50	[133,200]	[5,10]	[10060,50305]	17.860	0.491	-10043.8	-9556.3	97.617 %	0.0075
10	300	50	[133,200]	[1,30]	[5031,50313]	21.116	0.475	-4915.6	-4462.0	97.991 %	0.0077
10	300	50	[133,200]	[1,30]	[10062,50313]	20.625	0.477	-9983.6	-9441.1	97.410 %	0.0096
10	300	50	[133,200]	[15,30]	[5032,50320]	19.366	0.472	-4981.4	-4586.3	98.294 %	0.0085
10	300	50	[133,200]	[15,30]	[10064,50320]	18.899	0.480	-10085.0	-9514.2	97.249 %	0.0086
10	300	50	[166,200]	[1,10]	[5545,55454]	15.654	0.476	-5543.0	-4965.7	97.797 %	0.0101
10	300	50	[166,200]	[1,10]	[11090,55454]	15.439	0.476	-11057.0	-10438.1	97.307 %	0.0096
10	300	50	[166,200]	[5,10]	[5545,55456]	14.839	0.488	-5645.8	-5093.9	97.791 %	0.0080
10	300	50	[166,200]	[5,10]	[11090,55456]	14.620	0.494	-11056.4	-10471.2	97.437 %	0.0062
10	300	50	[166,200]	[1,30]	[5546,55464]	18.980	0.471	-5533.0	-4856.8	97.371 %	0.0055
10	300	50	[166,200]	[1,30]	[11092,55464]	18.719	0.466	-11066.4	-10498.3	97.535 %	0.0106
10	300	50	[166,200]	[15,30]	[5547,55471]	16.147	0.466	-5479.9	-4894.3	97.718 %	0.0073
10	300	50	[166,200]	[15,30]	[11094,55471]	16.041	0.478	-10972.0	-10355.4	97.310 %	0.0096

Tiempo Promedio Total H_2: 18.563 seg.

Tiempo Promedio Total H_1: 0.478 seg.

Rendimiento Promedio Total: 97.738 %

Tabla de Experimentos

$n : 500, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	50	[100,200]	[1,10]	[7575,75755]	89.605	1.223	-7629.5	-6902.9	97.944 %	0.0092
10	500	50	[100,200]	[1,10]	[15150,75755]	89.731	1.221	-15155.2	-14313.9	97.302 %	0.0040
10	500	50	[100,200]	[5,10]	[7575,75757]	88.176	1.266	-7545.8	-6759.4	97.754 %	0.0068
10	500	50	[100,200]	[5,10]	[15150,75757]	88.863	1.248	-15038.8	-14298.5	97.621 %	0.0055
10	500	50	[100,200]	[1,30]	[7576,75765]	95.666	1.178	-7541.1	-6543.8	97.158 %	0.0053
10	500	50	[100,200]	[1,30]	[15152,75765]	94.049	1.192	-15154.3	-14240.3	97.112 %	0.0055
10	500	50	[100,200]	[15,30]	[7577,75772]	91.748	1.209	-7566.8	-6809.5	97.854 %	0.0080
10	500	50	[100,200]	[15,30]	[15154,75772]	91.024	1.206	-15101.9	-14154.4	96.931 %	0.0043
10	500	50	[133,200]	[1,10]	[8383,83835]	84.580	1.209	-8365.4	-7578.6	97.975 %	0.0082
10	500	50	[133,200]	[1,10]	[16766,83835]	85.878	1.215	-16724.1	-15745.2	97.164 %	0.0064
10	500	50	[133,200]	[5,10]	[8383,83837]	85.377	1.243	-8328.5	-7371.4	97.551 %	0.0081
10	500	50	[133,200]	[5,10]	[16766,83837]	84.393	1.260	-16706.3	-15874.7	97.585 %	0.0059
10	500	50	[133,200]	[1,30]	[8384,83845]	92.306	1.178	-8320.5	-7346.8	97.475 %	0.0060
10	500	50	[133,200]	[1,30]	[16768,83845]	91.386	1.188	-16758.5	-15658.9	96.824 %	0.0067
10	500	50	[133,200]	[15,30]	[8385,83852]	89.339	1.199	-8411.8	-7427.7	97.485 %	0.0052
10	500	50	[133,200]	[15,30]	[16770,83852]	86.879	1.191	-16764.8	-15874.0	97.411 %	0.0082
10	500	50	[166,200]	[1,10]	[9242,92420]	72.192	1.229	-9320.4	-8127.9	97.203 %	0.0043
10	500	50	[166,200]	[1,10]	[18484,92420]	72.346	1.240	-18474.0	-17345.2	97.046 %	0.0097
10	500	50	[166,200]	[5,10]	[9242,92422]	70.227	1.251	-9281.0	-8440.2	98.010 %	0.0073
10	500	50	[166,200]	[5,10]	[18484,92422]	71.229	1.251	-18390.2	-17227.2	96.937 %	0.0073
10	500	50	[166,200]	[1,30]	[9243,92430]	84.806	1.184	-9319.5	-8333.0	97.695 %	0.0066
10	500	50	[166,200]	[1,30]	[18486,92430]	83.162	1.182	-18490.6	-17356.2	97.045 %	0.0073
10	500	50	[166,200]	[15,30]	[9243,92437]	75.186	1.211	-9144.6	-8139.8	97.638 %	0.0081
10	500	50	[166,200]	[15,30]	[18486,92437]	75.533	1.220	-18462.2	-17330.1	97.017 %	0.0058

Tiempo Promedio Total H_2: 84.737 seg.

Tiempo Promedio Total H_1: 1.216 seg.

Rendimiento Promedio Total: 97.406 %

Tabla de Experimentos

$n : 750, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	50	[100,200]	[1,10]	[11363,113630]	318.350	2.631	-11261.3	-9834.2	97.274 %	0.0047
10	750	50	[100,200]	[1,10]	[22726,113630]	313.035	2.635	-22675.4	-21428.4	97.332 %	0.0067
10	750	50	[100,200]	[5,10]	[11363,113632]	309.877	2.695	-11361.6	-10276.9	97.921 %	0.0062
10	750	50	[100,200]	[5,10]	[22726,113632]	311.394	2.723	-22831.6	-21664.4	97.536 %	0.0100
10	750	50	[100,200]	[1,30]	[11364,113640]	328.638	2.577	-11375.0	-10154.9	97.671 %	0.0044
10	750	50	[100,200]	[1,30]	[22728,113640]	326.744	2.564	-22683.6	-21351.7	97.150 %	0.0055
10	750	50	[100,200]	[15,30]	[11364,113647]	316.485	2.632	-11358.3	-10062.9	97.539 %	0.0049
10	750	50	[100,200]	[15,30]	[22728,113647]	321.309	2.598	-22686.9	-21409.6	97.297 %	0.0057
10	750	50	[133,200]	[1,10]	[12575,125750]	303.065	2.644	-12535.5	-11088.7	97.488 %	0.0057
10	750	50	[133,200]	[1,10]	[25150,125750]	308.065	2.634	-25159.9	-23576.4	96.953 %	0.0047
10	750	50	[133,200]	[5,10]	[12575,125752]	300.226	2.683	-12526.0	-11139.4	97.599 %	0.0043
10	750	50	[133,200]	[5,10]	[25150,125752]	317.230	2.863	-25147.3	-23818.5	97.432 %	0.0055
10	750	50	[133,200]	[1,30]	[12576,125760]	336.686	2.707	-12504.1	-10815.1	97.074 %	0.0056
10	750	50	[133,200]	[1,30]	[25152,125760]	319.383	2.573	-25166.0	-23669.2	97.107 %	0.0040
10	750	50	[133,200]	[15,30]	[12576,125767]	308.886	2.630	-12453.0	-10995.1	97.484 %	0.0049
10	750	50	[133,200]	[15,30]	[25152,125767]	305.819	2.594	-25081.1	-23489.0	96.907 %	0.0082
10	750	50	[166,200]	[1,10]	[13862,138627]	258.075	2.619	-13784.2	-11994.8	97.238 %	0.0062
10	750	50	[166,200]	[1,10]	[27724,138627]	263.144	2.626	-27723.6	-25866.4	96.790 %	0.0038
10	750	50	[166,200]	[5,10]	[13862,138629]	253.346	2.683	-13765.2	-12096.9	97.389 %	0.0055
10	750	50	[166,200]	[5,10]	[27724,138629]	256.110	2.695	-27635.3	-25890.7	96.938 %	0.0053
10	750	50	[166,200]	[1,30]	[13863,138637]	282.776	2.572	-13837.0	-11907.7	97.011 %	0.0073
10	750	50	[166,200]	[1,30]	[27726,138637]	292.670	2.570	-27783.6	-26022.7	96.903 %	0.0055
10	750	50	[166,200]	[15,30]	[13864,138644]	271.915	2.575	-13768.6	-12166.1	97.486 %	0.0082
10	750	50	[166,200]	[15,30]	[27728,138644]	269.061	2.578	-27740.7	-25790.4	96.621 %	0.0055

Tiempo Promedio Total H_2: 299.679 seg.

Tiempo Promedio Total H_1: 2.638 seg.

Rendimiento Promedio Total: 97.256 %

Tabla de Experimentos

$n : 1000, m : 50, p_{max} : 200$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	50	[100,200]	[1,10]	[15150,151505]	794.804	4.901	-15155.0	-13576.7	97.733 %	0.0073
10	1000	50	[100,200]	[1,10]	[30300,151505]	809.722	4.668	-30269.1	-28324.1	96.901 %	0.0054
10	1000	50	[100,200]	[5,10]	[15150,151507]	773.733	4.776	-15155.3	-13364.6	97.436 %	0.0048
10	1000	50	[100,200]	[5,10]	[30300,151507]	768.729	4.787	-30244.9	-28459.2	97.145 %	0.0047
10	1000	50	[100,200]	[1,30]	[15151,151515]	785.702	4.493	-15102.9	-13133.2	97.208 %	0.0045
10	1000	50	[100,200]	[1,30]	[30302,151515]	798.186	4.532	-30201.3	-28213.0	96.854 %	0.0038
10	1000	50	[100,200]	[15,30]	[15152,151522]	774.086	4.618	-15129.5	-13197.8	97.203 %	0.0044
10	1000	50	[100,200]	[15,30]	[30304,151522]	781.901	4.618	-30288.5	-28487.6	97.131 %	0.0080
10	1000	50	[133,200]	[1,10]	[16766,167665]	759.139	4.649	-16784.3	-14545.5	97.116 %	0.0035
10	1000	50	[133,200]	[1,10]	[33532,167665]	762.797	4.707	-33515.2	-31605.0	97.256 %	0.0080
10	1000	50	[133,200]	[5,10]	[16766,167667]	745.647	4.771	-16691.8	-14775.8	97.518 %	0.0037
10	1000	50	[133,200]	[5,10]	[33532,167667]	753.426	4.794	-33442.7	-31276.7	96.883 %	0.0039
10	1000	50	[133,200]	[1,30]	[16767,167675]	795.304	4.628	-16690.5	-14410.0	97.071 %	0.0050
10	1000	50	[133,200]	[1,30]	[33534,167675]	784.426	4.559	-33491.4	-31097.5	96.534 %	0.0055
10	1000	50	[133,200]	[15,30]	[16768,167682]	768.941	4.579	-16732.7	-14382.6	96.995 %	0.0029
10	1000	50	[133,200]	[15,30]	[33536,167682]	617.104	3.731	-33493.375	-31417.875	97.024 %	0.0057

Tiempo Promedio Total H_2: 767.103 seg.

Tiempo Promedio Total H_1: 4.613 seg.

Rendimiento Promedio Total: 97.125 %

Tabla de Experimentos

$n : 10, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	2	[1,1000]	[1,10]	[505,5055]	0.019	0.008	-620.8	-82.0	83.278 %	0.1153
10	10	2	[1,1000]	[1,10]	[1010,5055]	0.016	0.008	-1040.3	5.5	68.253 %	0.1024
10	10	2	[1,1000]	[5,10]	[505,5057]	0.014	0.009	-398.8	584.6	71.773 %	0.1156
10	10	2	[1,1000]	[5,10]	[1010,5057]	0.017	0.007	-684.7	188.8	75.210 %	0.1304
10	10	2	[1,1000]	[1,30]	[506,5065]	0.018	0.007	-492.3	330.1	74.044 %	0.1484
10	10	2	[1,1000]	[1,30]	[1012,5065]	0.019	0.008	-744.9	526.9	63.787 %	0.0866
10	10	2	[1,1000]	[15,30]	[507,5072]	0.016	0.009	-644.8	178.2	75.758 %	0.1673
10	10	2	[1,1000]	[15,30]	[1014,5072]	0.015	0.010	-830.7	73.9	71.588 %	0.1019
10	10	2	[333,1000]	[1,10]	[673,6731]	0.018	0.005	-718.9	604.3	70.581 %	0.1255
10	10	2	[333,1000]	[1,10]	[1346,6731]	0.017	0.006	-1139.2	450.4	65.129 %	0.1022
10	10	2	[333,1000]	[5,10]	[673,6733]	0.014	0.008	-418.9	973.4	69.401 %	0.0646
10	10	2	[333,1000]	[5,10]	[1346,6733]	0.015	0.008	-1098.0	463.3	66.625 %	0.1002
10	10	2	[333,1000]	[1,30]	[674,6741]	0.021	0.011	-415.4	1535.0	62.321 %	0.0564
10	10	2	[333,1000]	[1,30]	[1348,6741]	0.022	0.011	-1509.8	124.5	62.750 %	0.0981
10	10	2	[333,1000]	[15,30]	[674,6748]	0.017	0.010	-276.1	1315.1	67.891 %	0.0514
10	10	2	[333,1000]	[15,30]	[1348,6748]	0.017	0.007	-1131.8	660.3	63.051 %	0.0711
10	10	2	[666,1000]	[1,10]	[841,8418]	0.019	0.007	-432.0	1677.5	64.764 %	0.0699
10	10	2	[666,1000]	[1,10]	[1682,8418]	0.019	0.012	-1548.2	-32.2	72.575 %	0.1244
10	10	2	[666,1000]	[5,10]	[842,8420]	0.014	0.011	-775.9	1283.2	66.899 %	0.0933
10	10	2	[666,1000]	[5,10]	[1684,8420]	0.012	0.010	-1311.4	215.4	73.703 %	0.1325
10	10	2	[666,1000]	[1,30]	[842,8428]	0.020	0.009	-624.8	1417.0	67.819 %	0.0818
10	10	2	[666,1000]	[1,30]	[1684,8428]	0.017	0.007	-1359.6	979.9	60.491 %	0.0984
10	10	2	[666,1000]	[15,30]	[843,8435]	0.020	0.007	-1080.4	1020.3	66.181 %	0.1104
10	10	2	[666,1000]	[15,30]	[1686,8435]	0.037	0.017	-1647.7	818.9	61.570 %	0.0536

Tiempo Promedio Total H_2: 0.018 seg.

Tiempo Promedio Total H_1: 0.009 seg.

Rendimiento Promedio Total: 68.560 %

Tabla de Experimentos

$n : 20, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	2	[1,1000]	[1,10]	[1010,10105]	0.034	0.008	-988.0	1194.0	68.044 %	0.0814
10	20	2	[1,1000]	[1,10]	[2020,10105]	0.033	0.010	-1948.6	357.1	66.052 %	0.0735
10	20	2	[1,1000]	[5,10]	[1010,10107]	0.034	0.008	-858.5	1251.2	70.012 %	0.0953
10	20	2	[1,1000]	[5,10]	[2020,10107]	0.032	0.008	-1958.9	76.3	66.689 %	0.0306
10	20	2	[1,1000]	[1,30]	[1011,10115]	0.038	0.008	-1057.5	1379.8	65.321 %	0.0789
10	20	2	[1,1000]	[1,30]	[2022,10115]	0.041	0.011	-2159.0	470.2	61.210 %	0.1228
10	20	2	[1,1000]	[15,30]	[1012,10122]	0.041	0.009	-1119.9	1017.7	68.102 %	0.0872
10	20	2	[1,1000]	[15,30]	[2024,10122]	0.076	0.021	-1773.0	796.1	64.086 %	0.0564
10	20	2	[333,1000]	[1,10]	[1345,13458]	0.041	0.016	-970.5	2737.0	62.766 %	0.0775
10	20	2	[333,1000]	[1,10]	[2690,13458]	0.033	0.011	-2323.7	2188.6	56.827 %	0.0833
10	20	2	[333,1000]	[5,10]	[1346,13460]	0.034	0.011	-990.5	2391.1	64.283 %	0.0701
10	20	2	[333,1000]	[5,10]	[2692,13460]	0.037	0.011	-2718.9	1117.5	59.372 %	0.0590
10	20	2	[333,1000]	[1,30]	[1346,13468]	0.041	0.008	-995.4	2637.0	64.992 %	0.0302
10	20	2	[333,1000]	[1,30]	[2692,13468]	0.038	0.008	-2510.3	1233.1	60.263 %	0.0554
10	20	2	[333,1000]	[15,30]	[1347,13475]	0.038	0.011	-1062.9	3089.9	58.700 %	0.0488
10	20	2	[333,1000]	[15,30]	[2694,13475]	0.036	0.010	-2615.7	1202.9	60.232 %	0.0769
10	20	2	[666,1000]	[1,10]	[1683,16831]	0.037	0.010	-1591.1	3751.4	59.902 %	0.0497
10	20	2	[666,1000]	[1,10]	[3366,16831]	0.035	0.011	-3114.5	2321.2	57.437 %	0.0861
10	20	2	[666,1000]	[5,10]	[1683,16833]	0.030	0.012	-1160.8	3939.4	62.232 %	0.0325
10	20	2	[666,1000]	[5,10]	[3366,16833]	0.030	0.009	-2915.0	1557.9	61.746 %	0.0816
10	20	2	[666,1000]	[1,30]	[1684,16841]	0.043	0.007	-1317.3	4122.6	58.566 %	0.0858
10	20	2	[666,1000]	[1,30]	[3368,16841]	0.047	0.012	-3249.2	2284.6	57.255 %	0.0803
10	20	2	[666,1000]	[15,30]	[1684,16848]	0.038	0.010	-1415.1	3492.0	62.556 %	0.0883
10	20	2	[666,1000]	[15,30]	[3368,16848]	0.034	0.009	-3000.1	2511.6	56.435 %	0.0828

Tiempo Promedio Total H_2: 0.038 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 62.212 %

Tabla de Experimentos

$n : 30, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	2	[1,1000]	[1,10]	[1515,15155]	0.063	0.016	-1451.2	2017.7	66.978 %	0.0822
10	30	2	[1,1000]	[1,10]	[3030,15155]	0.066	0.016	-2985.1	990.8	61.161 %	0.0492
10	30	2	[1,1000]	[5,10]	[1515,15157]	0.059	0.013	-1656.5	1450.9	67.996 %	0.0896
10	30	2	[1,1000]	[5,10]	[3030,15157]	0.059	0.016	-2938.9	821.6	61.073 %	0.0560
10	30	2	[1,1000]	[1,30]	[1516,15165]	0.071	0.014	-1388.4	2581.8	64.246 %	0.0876
10	30	2	[1,1000]	[1,30]	[3032,15165]	0.075	0.011	-3018.0	1493.8	56.045 %	0.0646
10	30	2	[1,1000]	[15,30]	[1517,15172]	0.080	0.016	-1501.5	2472.0	64.595 %	0.0632
10	30	2	[1,1000]	[15,30]	[3034,15172]	0.116	0.024	-2979.1	947.6	61.621 %	0.0980
10	30	2	[333,1000]	[1,10]	[2018,20184]	0.074	0.023	-2102.3	3381.9	61.381 %	0.0373
10	30	2	[333,1000]	[1,10]	[4036,20184]	0.077	0.019	-3798.1	2526.9	56.890 %	0.0455
10	30	2	[333,1000]	[5,10]	[2018,20186]	0.058	0.013	-1762.1	4535.5	59.314 %	0.0454
10	30	2	[333,1000]	[5,10]	[4036,20186]	0.056	0.014	-3920.7	2268.1	56.278 %	0.0447
10	30	2	[333,1000]	[1,30]	[2019,20194]	0.078	0.013	-2025.5	4208.7	59.726 %	0.0562
10	30	2	[333,1000]	[1,30]	[4038,20194]	0.073	0.012	-4172.3	2621.6	55.997 %	0.0785
10	30	2	[333,1000]	[15,30]	[2020,20202]	0.066	0.012	-1954.8	3817.2	60.675 %	0.0525
10	30	2	[333,1000]	[15,30]	[4040,20202]	0.077	0.017	-3799.1	2365.1	58.173 %	0.0704
10	30	2	[666,1000]	[1,10]	[2524,25244]	0.067	0.014	-2279.5	5471.1	59.651 %	0.0796
10	30	2	[666,1000]	[1,10]	[5048,25244]	0.072	0.019	-4654.7	3859.4	54.823 %	0.0583
10	30	2	[666,1000]	[5,10]	[2524,25246]	0.058	0.014	-2534.4	5673.4	58.592 %	0.0795
10	30	2	[666,1000]	[5,10]	[5048,25246]	0.069	0.015	-4411.5	2572.5	60.720 %	0.0364
10	30	2	[666,1000]	[1,30]	[2525,25255]	0.080	0.014	-2199.5	6844.7	55.151 %	0.0423
10	30	2	[666,1000]	[1,30]	[5050,25255]	0.079	0.012	-4867.6	3275.5	56.498 %	0.0445
10	30	2	[666,1000]	[15,30]	[2526,25262]	0.069	0.014	-3080.7	5617.2	55.082 %	0.0461
10	30	2	[666,1000]	[15,30]	[5052,25262]	0.069	0.013	-4736.9	2695.3	59.073 %	0.0844

Tiempo Promedio Total H_2: 0.071 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 59.656 %

Tabla de Experimentos

$n : 50, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	2	[1,1000]	[1,10]	[2525,25255]	0.173	0.023	-2681.8	3956.9	63.451 %	0.0877
10	50	2	[1,1000]	[1,10]	[5050,25255]	0.167	0.020	-5072.9	1356.1	61.899 %	0.0411
10	50	2	[1,1000]	[5,10]	[2525,25257]	0.158	0.022	-2666.8	3360.0	64.978 %	0.0662
10	50	2	[1,1000]	[5,10]	[5050,25257]	0.218	0.024	-5027.0	1524.6	61.598 %	0.0622
10	50	2	[1,1000]	[1,30]	[2526,25265]	0.206	0.021	-2692.3	4012.9	63.254 %	0.0362
10	50	2	[1,1000]	[1,30]	[5052,25265]	0.217	0.024	-4941.9	2099.3	60.696 %	0.0624
10	50	2	[1,1000]	[15,30]	[2527,25272]	0.200	0.021	-2612.1	4318.7	62.459 %	0.0532
10	50	2	[1,1000]	[15,30]	[5054,25272]	0.193	0.022	-4973.4	1601.9	61.542 %	0.0442
10	50	2	[333,1000]	[1,10]	[3363,33638]	0.175	0.025	-3436.2	6703.9	59.321 %	0.0646
10	50	2	[333,1000]	[1,10]	[6726,33638]	0.173	0.024	-6577.5	5062.3	53.669 %	0.0363
10	50	2	[333,1000]	[5,10]	[3364,33640]	0.161	0.023	-3121.1	6686.1	62.114 %	0.0454
10	50	2	[333,1000]	[5,10]	[6728,33640]	0.161	0.023	-6693.1	4754.5	54.860 %	0.0305
10	50	2	[333,1000]	[1,30]	[3364,33648]	0.214	0.022	-3208.0	8568.4	56.046 %	0.0451
10	50	2	[333,1000]	[1,30]	[6728,33648]	0.214	0.022	-6548.0	5332.2	52.907 %	0.0281
10	50	2	[333,1000]	[15,30]	[3365,33655]	0.188	0.024	-3443.8	7384.4	58.402 %	0.0542
10	50	2	[333,1000]	[15,30]	[6730,33655]	0.189	0.021	-6617.9	5115.6	55.144 %	0.0674
10	50	2	[666,1000]	[1,10]	[4207,42071]	0.177	0.021	-3982.7	11646.5	55.418 %	0.0443
10	50	2	[666,1000]	[1,10]	[8414,42071]	0.171	0.024	-8141.9	6343.9	54.180 %	0.0269
10	50	2	[666,1000]	[5,10]	[4207,42073]	0.167	0.021	-4384.3	10048.3	58.029 %	0.0335
10	50	2	[666,1000]	[5,10]	[8414,42073]	0.159	0.021	-8405.7	4809.4	55.668 %	0.0453
10	50	2	[666,1000]	[1,30]	[4208,42081]	0.211	0.021	-3947.6	9639.3	58.285 %	0.0603
10	50	2	[666,1000]	[1,30]	[8416,42081]	0.214	0.022	-8320.0	6695.6	54.210 %	0.0392
10	50	2	[666,1000]	[15,30]	[4208,42088]	0.185	0.021	-3596.9	11624.6	55.746 %	0.0538
10	50	2	[666,1000]	[15,30]	[8416,42088]	0.195	0.026	-8806.6	6560.8	52.324 %	0.0293

Tiempo Promedio Total H_2: 0.187 seg.

Tiempo Promedio Total H_1: 0.022 seg.

Rendimiento Promedio Total: 58.175 %

Tabla de Experimentos

$n : 100, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	2	[1,1000]	[1,10]	[5050,50505]	1.056	0.062	-4820.4	10055.3	60.879 %	0.0326
10	100	2	[1,1000]	[1,10]	[10100,50505]	0.969	0.063	-9917.1	4800.0	58.482 %	0.0442
10	100	2	[1,1000]	[5,10]	[5050,50507]	0.955	0.062	-4953.9	9590.5	60.318 %	0.0304
10	100	2	[1,1000]	[5,10]	[10100,50507]	0.944	0.065	-10014.6	4142.1	58.110 %	0.0267
10	100	2	[1,1000]	[1,30]	[5051,50515]	1.145	0.060	-5415.7	11125.7	58.001 %	0.0243
10	100	2	[1,1000]	[1,30]	[10102,50515]	1.135	0.059	-10050.3	4738.9	57.963 %	0.0340
10	100	2	[1,1000]	[15,30]	[5052,50522]	1.031	0.057	-4932.4	10508.0	59.651 %	0.0200
10	100	2	[1,1000]	[15,30]	[10104,50522]	1.033	0.061	-10072.5	4468.8	58.187 %	0.0259
10	100	2	[333,1000]	[1,10]	[6727,67271]	0.983	0.059	-6447.5	18133.6	55.149 %	0.0321
10	100	2	[333,1000]	[1,10]	[13454,67271]	0.982	0.061	-13304.8	9157.7	55.226 %	0.0427
10	100	2	[333,1000]	[5,10]	[6727,67273]	0.934	0.062	-6749.0	16503.5	56.412 %	0.0208
10	100	2	[333,1000]	[5,10]	[13454,67273]	0.956	0.063	-13184.1	10684.9	53.219 %	0.0300
10	100	2	[333,1000]	[1,30]	[6728,67281]	1.134	0.059	-7014.4	16059.8	57.083 %	0.0336
10	100	2	[333,1000]	[1,30]	[13456,67281]	1.142	0.056	-13333.3	12860.8	51.335 %	0.0222
10	100	2	[333,1000]	[15,30]	[6728,67288]	1.040	0.059	-6601.2	17488.0	55.906 %	0.0342
10	100	2	[333,1000]	[15,30]	[13456,67288]	1.024	0.059	-13014.0	11849.4	52.214 %	0.0230
10	100	2	[666,1000]	[1,10]	[8413,84138]	0.981	0.058	-8273.9	23522.0	53.827 %	0.0259
10	100	2	[666,1000]	[1,10]	[16826,84138]	0.983	0.062	-16517.7	17200.0	51.159 %	0.0260
10	100	2	[666,1000]	[5,10]	[8414,84140]	0.952	0.063	-8280.8	23019.4	54.799 %	0.0318
10	100	2	[666,1000]	[5,10]	[16828,84140]	0.938	0.061	-16649.8	13161.0	53.587 %	0.0250
10	100	2	[666,1000]	[1,30]	[8414,84148]	1.171	0.060	-8666.4	25506.6	52.788 %	0.0273
10	100	2	[666,1000]	[1,30]	[16828,84148]	1.169	0.060	-16467.7	17789.3	49.581 %	0.0345
10	100	2	[666,1000]	[15,30]	[8415,84155]	1.039	0.058	-8040.0	26128.0	53.062 %	0.0295
10	100	2	[666,1000]	[15,30]	[16830,84155]	1.026	0.062	-16291.4	16842.9	50.878 %	0.0385

Tiempo Promedio Total H_2: 1.030 seg.

Tiempo Promedio Total H_1: 0.060 seg.

Rendimiento Promedio Total: 55.326 %

Tabla de Experimentos

$n : 200, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	2	[1,1000]	[1,10]	[10100,101005]	7.206	0.202	-9936.6	20497.6	59.969 %	0.0320
10	200	2	[1,1000]	[1,10]	[20200,101005]	7.131	0.201	-20094.0	12491.4	56.059 %	0.0242
10	200	2	[1,1000]	[5,10]	[10100,101007]	6.785	0.201	-10326.6	17297.1	62.250 %	0.0322
10	200	2	[1,1000]	[5,10]	[20200,101007]	6.823	0.203	-20305.1	9424.6	58.062 %	0.0356
10	200	2	[1,1000]	[1,30]	[10101,101015]	7.607	0.196	-10059.2	24054.8	57.711 %	0.0296
10	200	2	[1,1000]	[1,30]	[20202,101015]	7.561	0.196	-20226.2	12582.0	55.226 %	0.0286
10	200	2	[1,1000]	[15,30]	[10102,101022]	7.174	0.198	-10037.9	23332.2	57.513 %	0.0223
10	200	2	[1,1000]	[15,30]	[20204,101022]	7.182	0.202	-20460.8	11330.9	55.696 %	0.0267
10	200	2	[333,1000]	[1,10]	[13453,134537]	6.947	0.196	-13160.0	36518.5	55.056 %	0.0203
10	200	2	[333,1000]	[1,10]	[26906,134537]	6.967	0.198	-26471.4	25340.9	51.203 %	0.0209
10	200	2	[333,1000]	[5,10]	[13453,134539]	6.811	0.204	-13670.0	34909.2	55.410 %	0.0186
10	200	2	[333,1000]	[5,10]	[26906,134539]	6.892	0.201	-26598.8	20273.6	53.037 %	0.0196
10	200	2	[333,1000]	[1,30]	[13454,134547]	7.682	0.195	-13520.8	39793.2	52.750 %	0.0161
10	200	2	[333,1000]	[1,30]	[26908,134547]	7.562	0.199	-26536.0	27984.2	49.849 %	0.0172
10	200	2	[333,1000]	[15,30]	[13455,134554]	7.151	0.192	-13460.8	37123.9	54.173 %	0.0299
10	200	2	[333,1000]	[15,30]	[26910,134554]	7.181	0.202	-26809.8	26429.3	50.334 %	0.0149
10	200	2	[666,1000]	[1,10]	[16827,168271]	7.004	0.196	-16959.7	50478.5	53.130 %	0.0184
10	200	2	[666,1000]	[1,10]	[33654,168271]	6.919	0.199	-33356.1	35120.2	49.531 %	0.0217
10	200	2	[666,1000]	[5,10]	[16827,168273]	6.937	0.204	-16714.4	49380.9	54.216 %	0.0181
10	200	2	[666,1000]	[5,10]	[33654,168273]	6.809	0.213	-33650.1	33928.2	49.809 %	0.0115
10	200	2	[666,1000]	[1,30]	[16828,168281]	7.592	0.193	-16751.5	54346.0	51.860 %	0.0253
10	200	2	[666,1000]	[1,30]	[33656,168281]	7.608	0.192	-33718.8	35563.1	49.222 %	0.0255
10	200	2	[666,1000]	[15,30]	[16828,168288]	7.157	0.196	-16573.1	53215.1	52.503 %	0.0185
10	200	2	[666,1000]	[15,30]	[33656,168288]	7.108	0.203	-33219.9	37266.7	49.266 %	0.0087

Tiempo Promedio Total H_2: 7.158 seg.

Tiempo Promedio Total H_1: 0.199 seg.

Rendimiento Promedio Total: 53.910 %

Tabla de Experimentos

$n : 300, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	2	[1,1000]	[1,10]	[15150,151505]	22.969	0.434	-14959.7	32016.8	59.061 %	0.0198
10	300	2	[1,1000]	[1,10]	[30300,151505]	22.667	0.424	-30328.4	15761.3	56.610 %	0.0347
10	300	2	[1,1000]	[5,10]	[15150,151507]	22.436	0.440	-14857.8	29824.4	60.667 %	0.0183
10	300	2	[1,1000]	[5,10]	[30300,151507]	22.452	0.435	-30130.6	16727.9	56.482 %	0.0191
10	300	2	[1,1000]	[1,30]	[15151,151515]	24.137	0.409	-15436.5	35842.2	56.968 %	0.0185
10	300	2	[1,1000]	[1,30]	[30302,151515]	23.957	0.414	-30391.6	22297.3	53.663 %	0.0093
10	300	2	[1,1000]	[15,30]	[15152,151522]	22.961	0.419	-15276.5	32414.3	58.952 %	0.0175
10	300	2	[1,1000]	[15,30]	[30304,151522]	23.074	0.422	-30476.9	16990.9	56.144 %	0.0161
10	300	2	[333,1000]	[1,10]	[20180,201803]	22.776	0.424	-19983.4	58666.3	53.528 %	0.0172
10	300	2	[333,1000]	[1,10]	[40360,201803]	23.018	0.439	-39977.6	38622.3	50.310 %	0.0179
10	300	2	[333,1000]	[5,10]	[20180,201805]	22.593	0.442	-20159.7	52412.2	55.723 %	0.0168
10	300	2	[333,1000]	[5,10]	[40360,201805]	22.276	0.434	-40325.8	34541.2	51.572 %	0.0155
10	300	2	[333,1000]	[1,30]	[20181,201813]	24.043	0.414	-20084.6	58088.4	53.349 %	0.0239
10	300	2	[333,1000]	[1,30]	[40362,201813]	24.074	0.418	-39884.8	40326.5	50.191 %	0.0177
10	300	2	[333,1000]	[15,30]	[20182,201820]	23.027	0.417	-19890.8	62114.8	52.645 %	0.0140
10	300	2	[333,1000]	[15,30]	[40364,201820]	22.898	0.425	-40422.0	37911.2	50.648 %	0.0196
10	300	2	[666,1000]	[1,10]	[25240,252404]	22.637	0.423	-25430.6	78318.8	52.720 %	0.0175
10	300	2	[666,1000]	[1,10]	[50480,252404]	22.855	0.429	-50345.8	54956.5	49.389 %	0.0188
10	300	2	[666,1000]	[5,10]	[25240,252406]	22.268	0.433	-25147.4	75641.2	53.073 %	0.0118
10	300	2	[666,1000]	[5,10]	[50480,252406]	22.252	0.436	-49979.0	49787.7	50.021 %	0.0110
10	300	2	[666,1000]	[1,30]	[25241,252414]	24.091	0.424	-25489.7	83423.5	50.905 %	0.0159
10	300	2	[666,1000]	[1,30]	[50482,252414]	23.937	0.413	-50464.7	56029.5	48.399 %	0.0176
10	300	2	[666,1000]	[15,30]	[25242,252421]	23.301	0.415	-24667.1	84276.8	51.241 %	0.0106
10	300	2	[666,1000]	[15,30]	[50484,252421]	23.064	0.418	-50724.9	55329.7	48.806 %	0.0170

Tiempo Promedio Total H_2: 23.074 seg.

Tiempo Promedio Total H_1: 0.425 seg.

Rendimiento Promedio Total: 53.378 %

Tabla de Experimentos

$n : 500, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	2	[1,1000]	[1,10]	[25250,252505]	105.187	1.129	-25678.9	54899.9	58.721 %	0.0125
10	500	2	[1,1000]	[1,10]	[50500,252505]	106.309	1.151	-50432.1	31325.5	55.259 %	0.0125
10	500	2	[1,1000]	[5,10]	[25250,252507]	107.153	1.167	-25343.6	52455.8	59.181 %	0.0132
10	500	2	[1,1000]	[5,10]	[50500,252507]	106.303	1.175	-50644.4	26603.7	56.161 %	0.0187
10	500	2	[1,1000]	[1,30]	[25251,252515]	110.206	1.104	-25393.1	59899.6	57.035 %	0.0151
10	500	2	[1,1000]	[1,30]	[50502,252515]	111.462	1.127	-50537.2	35378.2	54.029 %	0.0221
10	500	2	[1,1000]	[15,30]	[25252,252522]	107.890	1.109	-25490.9	57453.6	57.415 %	0.0185
10	500	2	[1,1000]	[15,30]	[50504,252522]	107.497	1.130	-50594.6	34333.0	54.410 %	0.0168
10	500	2	[333,1000]	[1,10]	[33633,336335]	106.503	1.129	-33597.6	98981.5	53.120 %	0.0118
10	500	2	[333,1000]	[1,10]	[67266,336335]	106.852	1.218	-66987.6	65217.5	50.398 %	0.0056
10	500	2	[333,1000]	[5,10]	[33633,336337]	105.674	1.154	-33376.8	91108.8	54.968 %	0.0144
10	500	2	[333,1000]	[5,10]	[67266,336337]	105.489	1.180	-67358.1	57311.7	52.045 %	0.0110
10	500	2	[333,1000]	[1,30]	[33634,336345]	110.902	1.113	-33689.0	104276.4	52.533 %	0.0232
10	500	2	[333,1000]	[1,30]	[67268,336345]	110.621	1.123	-67096.0	71727.3	49.397 %	0.0076
10	500	2	[333,1000]	[15,30]	[33635,336352]	108.331	1.113	-33384.9	101618.4	52.799 %	0.0126
10	500	2	[333,1000]	[15,30]	[67270,336352]	108.171	1.125	-66808.3	68915.1	49.909 %	0.0117
10	500	2	[666,1000]	[1,10]	[42067,420670]	106.304	1.128	-41820.3	134914.6	52.135 %	0.0131
10	500	2	[666,1000]	[1,10]	[84134,420670]	106.839	1.132	-83847.8	98572.1	48.041 %	0.0108
10	500	2	[666,1000]	[5,10]	[42067,420672]	105.556	1.165	-41810.7	125959.3	52.929 %	0.0080
10	500	2	[666,1000]	[5,10]	[84134,420672]	105.689	1.164	-83548.8	83189.3	50.304 %	0.0098
10	500	2	[666,1000]	[1,30]	[42068,420680]	111.542	1.102	-42291.8	145097.1	49.939 %	0.0113
10	500	2	[666,1000]	[1,30]	[84136,420680]	111.512	1.105	-83626.0	103153.7	47.647 %	0.0129
10	500	2	[666,1000]	[15,30]	[42068,420687]	108.083	1.113	-41593.0	135474.6	51.616 %	0.0107
10	500	2	[666,1000]	[15,30]	[84136,420687]	107.496	1.124	-83851.2	100020.4	48.012 %	0.0124

Tiempo Promedio Total H_2: 107.815 seg.

Tiempo Promedio Total H_1: 1.137 seg.

Rendimiento Promedio Total: 52.833 %

Tabla de Experimentos

$n : 750, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	2	[1,1000]	[1,10]	[37875,378755]	374.076	2.510	-37982.1	85521.6	58.183 %	0.0170
10	750	2	[1,1000]	[1,10]	[75750,378755]	375.751	2.514	-75952.5	49892.2	54.661 %	0.0094
10	750	2	[1,1000]	[5,10]	[37875,378757]	377.894	2.567	-38092.2	79186.5	59.270 %	0.0111
10	750	2	[1,1000]	[5,10]	[75750,378757]	374.091	2.572	-75541.5	39683.6	56.955 %	0.0087
10	750	2	[1,1000]	[1,30]	[37876,378765]	384.140	2.428	-37924.1	88298.6	57.502 %	0.0127
10	750	2	[1,1000]	[1,30]	[75752,378765]	384.602	2.413	-75964.4	52904.0	54.225 %	0.0131
10	750	2	[1,1000]	[15,30]	[37877,378772]	376.750	2.465	-37671.7	87488.8	58.040 %	0.0107
10	750	2	[1,1000]	[15,30]	[75754,378772]	378.621	2.462	-75600.3	53878.2	53.655 %	0.0109
10	750	2	[333,1000]	[1,10]	[50450,504500]	375.973	2.512	-50365.3	153924.0	52.765 %	0.0086
10	750	2	[333,1000]	[1,10]	[100900,504500]	375.031	2.514	-100676.7	99493.4	50.145 %	0.0084
10	750	2	[333,1000]	[5,10]	[50450,504502]	371.537	2.569	-50417.2	135434.1	54.818 %	0.0095
10	750	2	[333,1000]	[5,10]	[100900,504502]	373.611	2.567	-100693.7	90249.3	51.380 %	0.0091
10	750	2	[333,1000]	[1,30]	[50451,504510]	386.142	2.443	-50166.4	160338.3	51.828 %	0.0133
10	750	2	[333,1000]	[1,30]	[100902,504510]	385.071	2.436	-100661.8	114078.4	48.657 %	0.0090
10	750	2	[333,1000]	[15,30]	[50451,504517]	376.662	2.462	-50639.9	156177.4	52.426 %	0.0110
10	750	2	[333,1000]	[15,30]	[100902,504517]	378.844	2.454	-100564.0	108901.5	49.081 %	0.0097
10	750	2	[666,1000]	[1,10]	[63100,631002]	375.432	2.512	-62965.2	206775.6	51.019 %	0.0063
10	750	2	[666,1000]	[1,10]	[126200,631002]	376.327	2.518	-125466.2	144321.3	48.340 %	0.0056
10	750	2	[666,1000]	[5,10]	[63100,631004]	374.136	2.628	-63085.7	188288.1	53.082 %	0.0053
10	750	2	[666,1000]	[5,10]	[126200,631004]	373.186	2.570	-125612.4	128800.3	49.818 %	0.0068
10	750	2	[666,1000]	[1,30]	[63101,631012]	388.578	2.439	-62587.8	221944.8	50.474 %	0.0114
10	750	2	[666,1000]	[1,30]	[126202,631012]	385.919	2.446	-126163.8	160883.2	46.674 %	0.0067
10	750	2	[666,1000]	[15,30]	[63101,631019]	379.789	2.455	-62706.1	220443.1	49.962 %	0.0070
10	750	2	[666,1000]	[15,30]	[126202,631019]	377.174	2.469	-126131.1	149852.5	47.780 %	0.0078

Tiempo Promedio Total H_2: 378.306 seg.

Tiempo Promedio Total H_1: 2.497 seg.

Rendimiento Promedio Total: 52.531 %

Tabla de Experimentos

$n : 1000, m : 2, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	2	[1,1000]	[1,10]	[50500,505005]	918.113	4.925	-50400.0	116233.0	57.383 %	0.0087
10	1000	2	[1,1000]	[1,10]	[101000,505005]	923.274	4.666	-101014.7	64644.0	55.061 %	0.0120
10	1000	2	[1,1000]	[5,10]	[50500,505007]	916.028	4.764	-50618.5	104616.8	59.359 %	0.0106
10	1000	2	[1,1000]	[5,10]	[101000,505007]	919.369	4.763	-100953.9	55414.5	56.192 %	0.0097
10	1000	2	[1,1000]	[1,30]	[50501,505015]	939.096	4.490	-50248.0	124058.9	56.665 %	0.0083
10	1000	2	[1,1000]	[1,30]	[101002,505015]	939.096	4.505	-101169.8	76080.3	53.362 %	0.0089
10	1000	2	[1,1000]	[15,30]	[50502,505022]	926.955	4.730	-50359.9	122581.2	56.760 %	0.0077
10	1000	2	[1,1000]	[15,30]	[101004,505022]	925.108	4.573	-100961.3	72595.2	53.699 %	0.0100
10	1000	2	[333,1000]	[1,10]	[67266,672665]	927.394	4.745	-67049.0	202238.7	52.991 %	0.0047
10	1000	2	[333,1000]	[1,10]	[134532,672665]	934.426	4.657	-134310.3	131124.0	50.439 %	0.0061
10	1000	2	[333,1000]	[5,10]	[67266,672667]	934.345	4.820	-67355.7	182330.9	54.629 %	0.0092
10	1000	2	[333,1000]	[5,10]	[134532,672667]	942.860	4.928	-134320.6	117752.1	51.688 %	0.0043
10	1000	2	[333,1000]	[1,30]	[67267,672675]	969.147	4.902	-67445.9	221297.1	50.947 %	0.0055
10	1000	2	[333,1000]	[1,30]	[134534,672675]	973.784	4.617	-134348.1	150460.9	48.538 %	0.0080
10	1000	2	[333,1000]	[15,30]	[67268,672682]	955.559	4.635	-67296.5	208410.1	52.474 %	0.0101
10	1000	2	[333,1000]	[15,30]	[134536,672682]	959.236	4.627	-134184.9	146187.8	48.839 %	0.0085
10	1000	2	[666,1000]	[1,10]	[84133,841335]	957.942	4.738	-84174.5	278478.6	51.056 %	0.0066
10	1000	2	[666,1000]	[1,10]	[168266,841335]	957.625	4.773	-167730.8	189458.3	48.774 %	0.0089
10	1000	2	[666,1000]	[5,10]	[84133,841337]	951.389	4.954	-83920.2	250733.2	53.085 %	0.0070
10	1000	2	[666,1000]	[5,10]	[168266,841337]	963.819	4.898	-167513.1	172455.5	49.786 %	0.0076
10	1000	2	[666,1000]	[1,30]	[84134,841345]	983.215	4.755	-84227.9	300165.5	49.417 %	0.0076
10	1000	2	[666,1000]	[1,30]	[168268,841345]	981.866	4.713	-167745.1	216131.2	46.675 %	0.0088
10	1000	2	[666,1000]	[15,30]	[84135,841352]	970.591	4.691	-83873.2	285686.5	50.732 %	0.0089
10	1000	2	[666,1000]	[15,30]	[168270,841352]	979.632	4.725	-168005.6	203619.1	47.312 %	0.0093

Tiempo Promedio Total H_2: 947.911 seg.

Tiempo Promedio Total H_1: 4.733 seg.

Rendimiento Promedio Total: 52.328 %

Tabla de Experimentos

$n : 10, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	4	[1,1000]	[1,10]	[505,5055]	0.023	0.009	-373.6	-97.8	90.022 %	0.0994
10	10	4	[1,1000]	[1,10]	[1010,5055]	0.021	0.008	-1097.9	-793.2	88.885 %	0.1112
10	10	4	[1,1000]	[5,10]	[505,5057]	0.018	0.009	-412.8	-223.2	92.179 %	0.0806
10	10	4	[1,1000]	[5,10]	[1010,5057]	0.018	0.009	-1037.2	-917.2	94.692 %	0.0826
10	10	4	[1,1000]	[1,30]	[506,5065]	0.024	0.009	-435.0	-190.2	90.841 %	0.0592
10	10	4	[1,1000]	[1,30]	[1012,5065]	0.021	0.012	-1298.8	-943.9	84.469 %	0.0889
10	10	4	[1,1000]	[15,30]	[507,5072]	0.020	0.010	-543.0	-265.4	89.309 %	0.0587
10	10	4	[1,1000]	[15,30]	[1014,5072]	0.022	0.010	-1008.2	-651.4	85.005 %	0.0919
10	10	4	[333,1000]	[1,10]	[673,6731]	0.021	0.010	-933.9	-472.6	87.007 %	0.0694
10	10	4	[333,1000]	[1,10]	[1346,6731]	0.021	0.010	-1228.8	-893.8	89.296 %	0.1074
10	10	4	[333,1000]	[5,10]	[673,6733]	0.021	0.010	-493.4	248.7	79.772 %	0.0364
10	10	4	[333,1000]	[5,10]	[1346,6733]	0.021	0.008	-1487.3	-1046.8	86.457 %	0.1004
10	10	4	[333,1000]	[1,30]	[674,6741]	0.028	0.011	-744.2	-111.6	82.376 %	0.1124
10	10	4	[333,1000]	[1,30]	[1348,6741]	0.025	0.009	-1272.3	-750.3	84.728 %	0.0715
10	10	4	[333,1000]	[15,30]	[674,6748]	0.025	0.011	-465.4	52.8	86.236 %	0.0726
10	10	4	[333,1000]	[15,30]	[1348,6748]	0.023	0.010	-1141.0	-696.5	88.336 %	0.1107
10	10	4	[666,1000]	[1,10]	[841,8418]	0.021	0.009	-765.4	-200.3	88.125 %	0.0949
10	10	4	[666,1000]	[1,10]	[1682,8418]	0.030	0.011	-1798.7	-943.0	82.448 %	0.1035
10	10	4	[666,1000]	[5,10]	[842,8420]	0.023	0.010	-478.6	61.4	88.551 %	0.0834
10	10	4	[666,1000]	[5,10]	[1684,8420]	0.020	0.009	-1410.6	-538.1	81.411 %	0.0829
10	10	4	[666,1000]	[1,30]	[842,8428]	0.025	0.008	-799.2	-90.2	85.931 %	0.0896
10	10	4	[666,1000]	[1,30]	[1684,8428]	0.023	0.011	-1336.7	-598.7	84.175 %	0.1204
10	10	4	[666,1000]	[15,30]	[843,8435]	0.031	0.015	-1271.0	-425.3	82.232 %	0.1300
10	10	4	[666,1000]	[15,30]	[1686,8435]	0.022	0.009	-1465.4	-369.6	76.357 %	0.0985

Tiempo Promedio Total H_2: 0.023 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 86.202 %

Tabla de Experimentos

$n : 20, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	4	[1,1000]	[1,10]	[1010,10105]	0.037	0.010	-952.4	-223.5	86.583 %	0.0879
10	20	4	[1,1000]	[1,10]	[2020,10105]	0.041	0.010	-2136.0	-1395.3	84.678 %	0.1003
10	20	4	[1,1000]	[5,10]	[1010,10107]	0.036	0.011	-983.4	-340.0	87.367 %	0.0871
10	20	4	[1,1000]	[5,10]	[2020,10107]	0.037	0.010	-2062.4	-1265.7	83.768 %	0.0507
10	20	4	[1,1000]	[1,30]	[1011,10115]	0.042	0.010	-1229.3	-592.1	88.337 %	0.0876
10	20	4	[1,1000]	[1,30]	[2022,10115]	0.050	0.013	-1787.4	-1069.2	85.362 %	0.0482
10	20	4	[1,1000]	[15,30]	[1012,10122]	0.053	0.018	-707.5	356.4	82.539 %	0.0672
10	20	4	[1,1000]	[15,30]	[2024,10122]	0.062	0.014	-2006.9	-1033.0	82.008 %	0.0660
10	20	4	[333,1000]	[1,10]	[1345,13458]	0.046	0.013	-1317.7	699.7	74.613 %	0.0335
10	20	4	[333,1000]	[1,10]	[2690,13458]	0.039	0.010	-2678.9	-1322.2	80.696 %	0.0599
10	20	4	[333,1000]	[5,10]	[1346,13460]	0.042	0.014	-1359.7	-22.7	81.858 %	0.0523
10	20	4	[333,1000]	[5,10]	[2692,13460]	0.044	0.015	-2531.2	-880.2	77.937 %	0.1043
10	20	4	[333,1000]	[1,30]	[1346,13468]	0.049	0.012	-1402.8	-30.8	81.375 %	0.0752
10	20	4	[333,1000]	[1,30]	[2692,13468]	0.043	0.009	-2923.2	-1372.2	77.606 %	0.0646
10	20	4	[333,1000]	[15,30]	[1347,13475]	0.041	0.009	-1023.9	451.4	79.782 %	0.0484
10	20	4	[333,1000]	[15,30]	[2694,13475]	0.045	0.010	-2652.1	-1021.2	77.974 %	0.0639
10	20	4	[666,1000]	[1,10]	[1683,16831]	0.040	0.010	-1538.5	925.8	74.609 %	0.0608
10	20	4	[666,1000]	[1,10]	[3366,16831]	0.038	0.010	-3519.2	-1133.8	71.633 %	0.0794
10	20	4	[666,1000]	[5,10]	[1683,16833]	0.036	0.011	-1522.1	366.3	80.929 %	0.0963
10	20	4	[666,1000]	[5,10]	[3366,16833]	0.041	0.009	-3012.2	-1271.1	81.621 %	0.0778
10	20	4	[666,1000]	[1,30]	[1684,16841]	0.052	0.012	-1478.0	236.5	82.890 %	0.0993
10	20	4	[666,1000]	[1,30]	[3368,16841]	0.043	0.010	-3210.3	-970.6	76.061 %	0.0765
10	20	4	[666,1000]	[15,30]	[1684,16848]	0.050	0.011	-1364.8	1196.9	75.562 %	0.0568
10	20	4	[666,1000]	[15,30]	[3368,16848]	0.069	0.017	-2986.1	-1188.4	79.969 %	0.0552

Tiempo Promedio Total H_2: 0.045 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 80.656 %

Tabla de Experimentos

$n : 30, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	4	[1,1000]	[1,10]	[1515,15155]	0.068	0.016	-1459.0	-234.8	84.468 %	0.0550
10	30	4	[1,1000]	[1,10]	[3030,15155]	0.074	0.020	-3030.2	-1617.5	80.935 %	0.0465
10	30	4	[1,1000]	[5,10]	[1515,15157]	0.062	0.013	-1921.3	-734.1	85.352 %	0.0734
10	30	4	[1,1000]	[5,10]	[3030,15157]	0.061	0.012	-2931.3	-1365.7	80.648 %	0.0584
10	30	4	[1,1000]	[1,30]	[1516,15165]	0.083	0.013	-1629.7	63.3	79.666 %	0.0636
10	30	4	[1,1000]	[1,30]	[3032,15165]	0.081	0.011	-3039.1	-1615.4	80.556 %	0.0728
10	30	4	[1,1000]	[15,30]	[1517,15172]	0.076	0.035	-1598.3	-195.6	83.004 %	0.0832
10	30	4	[1,1000]	[15,30]	[3034,15172]	0.083	0.012	-2880.2	-1565.9	81.858 %	0.0706
10	30	4	[333,1000]	[1,10]	[2018,20184]	0.068	0.014	-1827.8	965.1	77.672 %	0.0590
10	30	4	[333,1000]	[1,10]	[4036,20184]	0.068	0.012	-3830.1	-1468.6	76.580 %	0.0842
10	30	4	[333,1000]	[5,10]	[2018,20186]	0.083	0.016	-2216.8	-331.4	82.957 %	0.0606
10	30	4	[333,1000]	[5,10]	[4036,20186]	0.067	0.014	-4539.7	-2762.0	81.668 %	0.0412
10	30	4	[333,1000]	[1,30]	[2019,20194]	0.084	0.012	-1832.2	486.7	80.410 %	0.0818
10	30	4	[333,1000]	[1,30]	[4038,20194]	0.088	0.014	-3756.9	-943.4	73.982 %	0.0585
10	30	4	[333,1000]	[15,30]	[2020,20202]	0.076	0.014	-1951.4	1072.2	76.166 %	0.0472
10	30	4	[333,1000]	[15,30]	[4040,20202]	0.075	0.013	-4200.8	-1567.2	76.577 %	0.0681
10	30	4	[666,1000]	[1,10]	[2524,25244]	0.068	0.014	-2491.0	1426.3	73.964 %	0.0668
10	30	4	[666,1000]	[1,10]	[5048,25244]	0.080	0.013	-5219.9	-1930.3	75.866 %	0.0722
10	30	4	[666,1000]	[5,10]	[2524,25246]	0.065	0.015	-2771.2	767.1	75.244 %	0.0504
10	30	4	[666,1000]	[5,10]	[5048,25246]	0.063	0.012	-5549.4	-2228.1	74.040 %	0.0667
10	30	4	[666,1000]	[1,30]	[2525,25255]	0.086	0.015	-1939.1	2091.9	74.976 %	0.0537
10	30	4	[666,1000]	[1,30]	[5050,25255]	0.091	0.012	-4993.0	-1210.9	73.608 %	0.0732
10	30	4	[666,1000]	[15,30]	[2526,25262]	0.075	0.011	-2684.4	1044.2	74.638 %	0.0726
10	30	4	[666,1000]	[15,30]	[5052,25262]	0.080	0.013	-4773.7	-1304.3	73.942 %	0.0576

Tiempo Promedio Total H_2: 0.075 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 78.282 %

Tabla de Experimentos

$n : 50, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	4	[1,1000]	[1,10]	[2525,25255]	0.178	0.024	-2451.1	418.7	80.325 %	0.0371
10	50	4	[1,1000]	[1,10]	[5050,25255]	0.182	0.023	-5089.9	-2833.3	81.626 %	0.0392
10	50	4	[1,1000]	[5,10]	[2525,25257]	0.170	0.020	-2446.4	218.0	81.585 %	0.0265
10	50	4	[1,1000]	[5,10]	[5050,25257]	0.233	0.027	-4972.4	-2042.0	77.230 %	0.0381
10	50	4	[1,1000]	[1,30]	[2526,25265]	0.222	0.022	-2626.5	529.5	77.993 %	0.0609
10	50	4	[1,1000]	[1,30]	[5052,25265]	0.217	0.021	-5150.9	-2116.1	76.692 %	0.0512
10	50	4	[1,1000]	[15,30]	[2527,25272]	0.216	0.025	-2466.8	645.6	78.759 %	0.0372
10	50	4	[1,1000]	[15,30]	[5054,25272]	0.193	0.020	-5170.6	-2367.8	78.030 %	0.0607
10	50	4	[333,1000]	[1,10]	[3363,33638]	0.209	0.025	-3247.3	1682.6	75.271 %	0.0624
10	50	4	[333,1000]	[1,10]	[6726,33638]	0.178	0.024	-6558.1	-1979.3	75.019 %	0.0377
10	50	4	[333,1000]	[5,10]	[3364,33640]	0.171	0.024	-3222.5	1527.8	76.131 %	0.0378
10	50	4	[333,1000]	[5,10]	[6728,33640]	0.167	0.024	-6695.3	-2682.0	77.940 %	0.0864
10	50	4	[333,1000]	[1,30]	[3364,33648]	0.234	0.022	-3163.0	2044.2	74.791 %	0.0403
10	50	4	[333,1000]	[1,30]	[6728,33648]	0.234	0.024	-6769.6	-1218.6	71.402 %	0.0562
10	50	4	[333,1000]	[15,30]	[3365,33655]	0.198	0.023	-3380.7	1490.8	75.973 %	0.0540
10	50	4	[333,1000]	[15,30]	[6730,33655]	0.210	0.025	-6461.5	-1662.7	73.877 %	0.0476
10	50	4	[666,1000]	[1,10]	[4207,42071]	0.183	0.023	-4175.9	2018.0	76.832 %	0.0685
10	50	4	[666,1000]	[1,10]	[8414,42071]	0.181	0.023	-7807.5	-809.0	71.371 %	0.0388
10	50	4	[666,1000]	[5,10]	[4207,42073]	0.173	0.026	-4083.6	1983.8	76.230 %	0.0351
10	50	4	[666,1000]	[5,10]	[8414,42073]	0.171	0.024	-8228.0	-2213.4	73.877 %	0.0609
10	50	4	[666,1000]	[1,30]	[4208,42081]	0.223	0.022	-3869.9	3526.8	71.562 %	0.0259
10	50	4	[666,1000]	[1,30]	[8416,42081]	0.228	0.023	-8718.5	-1990.5	71.779 %	0.0478
10	50	4	[666,1000]	[15,30]	[4208,42088]	0.203	0.022	-4171.5	2520.7	74.975 %	0.0418
10	50	4	[666,1000]	[15,30]	[8416,42088]	0.199	0.023	-8256.6	-1208.3	71.089 %	0.0307

Tiempo Promedio Total H_2: 0.199 seg.

Tiempo Promedio Total H_1: 0.023 seg.

Rendimiento Promedio Total: 75.848 %

Tabla de Experimentos

$n : 100, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	4	[1,1000]	[1,10]	[5050,50505]	1.052	0.061	-5309.2	861.9	78.908 %	0.0256
10	100	4	[1,1000]	[1,10]	[10100,50505]	1.006	0.063	-10033.3	-3824.4	76.678 %	0.0331
10	100	4	[1,1000]	[5,10]	[5050,50507]	0.972	0.061	-5087.3	1013.1	79.698 %	0.0426
10	100	4	[1,1000]	[5,10]	[10100,50507]	0.966	0.061	-10069.7	-4357.4	78.382 %	0.0325
10	100	4	[1,1000]	[1,30]	[5051,50515]	1.159	0.056	-4956.8	2213.3	76.224 %	0.0318
10	100	4	[1,1000]	[1,30]	[10102,50515]	1.185	0.063	-10004.7	-3224.4	74.777 %	0.0437
10	100	4	[1,1000]	[15,30]	[5052,50522]	1.069	0.062	-4983.1	1887.4	76.800 %	0.0214
10	100	4	[1,1000]	[15,30]	[10104,50522]	1.078	0.070	-9947.7	-4118.3	78.411 %	0.0558
10	100	4	[333,1000]	[1,10]	[6727,67271]	1.019	0.062	-6906.8	3941.0	73.491 %	0.0338
10	100	4	[333,1000]	[1,10]	[13454,67271]	1.001	0.060	-13552.9	-2704.3	71.600 %	0.0349
10	100	4	[333,1000]	[5,10]	[6727,67273]	0.970	0.063	-6831.4	2906.6	76.611 %	0.0547
10	100	4	[333,1000]	[5,10]	[13454,67273]	1.018	0.063	-13427.2	-3726.4	73.642 %	0.0361
10	100	4	[333,1000]	[1,30]	[6728,67281]	1.193	0.060	-6775.4	4756.7	72.429 %	0.0382
10	100	4	[333,1000]	[1,30]	[13456,67281]	1.170	0.059	-13437.0	-2209.6	70.276 %	0.0475
10	100	4	[333,1000]	[15,30]	[6728,67288]	1.099	0.059	-6507.6	3325.1	75.822 %	0.0467
10	100	4	[333,1000]	[15,30]	[13456,67288]	1.076	0.060	-13693.8	-2834.1	71.203 %	0.0427
10	100	4	[666,1000]	[1,10]	[8413,84138]	1.040	0.061	-8324.5	6760.9	71.321 %	0.0343
10	100	4	[666,1000]	[1,10]	[16826,84138]	1.025	0.062	-16510.2	-1247.5	69.400 %	0.0415
10	100	4	[666,1000]	[5,10]	[8414,84140]	0.973	0.062	-8088.1	5499.1	74.383 %	0.0368
10	100	4	[666,1000]	[5,10]	[16828,84140]	0.977	0.062	-16628.3	-1482.0	68.775 %	0.0257
10	100	4	[666,1000]	[1,30]	[8414,84148]	1.271	0.063	-8004.4	7348.7	70.664 %	0.0321
10	100	4	[666,1000]	[1,30]	[16828,84148]	1.209	0.063	-16592.8	-927.3	68.140 %	0.0311
10	100	4	[666,1000]	[15,30]	[8415,84155]	1.073	0.066	-8888.8	3948.0	75.125 %	0.0413
10	100	4	[666,1000]	[15,30]	[16830,84155]	1.163	0.068	-16443.8	-731.1	68.158 %	0.0253

Tiempo Promedio Total H_2: 1.073 seg.

Tiempo Promedio Total H_1: 0.062 seg.

Rendimiento Promedio Total: 73.788 %

Tabla de Experimentos

$n : 200, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	4	[1,1000]	[1,10]	[10100,101005]	7.222	0.205	-10176.2	3519.7	76.725 %	0.0316
10	200	4	[1,1000]	[1,10]	[20200,101005]	7.149	0.206	-20350.8	-7415.9	75.801 %	0.0271
10	200	4	[1,1000]	[5,10]	[10100,101007]	7.849	0.241	-10223.3	1916.9	79.142 %	0.0463
10	200	4	[1,1000]	[5,10]	[20200,101007]	7.014	0.209	-20213.4	-7016.5	74.874 %	0.0191
10	200	4	[1,1000]	[1,30]	[10101,101015]	7.936	0.203	-10286.6	2783.9	77.515 %	0.0200
10	200	4	[1,1000]	[1,30]	[20202,101015]	8.003	0.202	-20114.6	-5970.9	73.670 %	0.0409
10	200	4	[1,1000]	[15,30]	[10102,101022]	7.402	0.211	-9929.4	4329.5	75.693 %	0.0255
10	200	4	[1,1000]	[15,30]	[20204,101022]	7.628	0.203	-20364.3	-5094.6	72.462 %	0.0280
10	200	4	[333,1000]	[1,10]	[13453,134537]	7.318	0.211	-13493.3	9114.9	72.793 %	0.0376
10	200	4	[333,1000]	[1,10]	[26906,134537]	7.622	0.224	-26772.5	-1880.6	68.261 %	0.0227
10	200	4	[333,1000]	[5,10]	[13453,134539]	7.099	0.208	-13577.4	9089.8	72.770 %	0.0261
10	200	4	[333,1000]	[5,10]	[26906,134539]	7.189	0.210	-26587.0	-4415.1	71.257 %	0.0227
10	200	4	[333,1000]	[1,30]	[13454,134547]	7.945	0.198	-13731.4	9580.8	72.356 %	0.0128
10	200	4	[333,1000]	[1,30]	[26908,134547]	8.255	0.230	-26879.1	-4600.6	70.945 %	0.0496
10	200	4	[333,1000]	[15,30]	[13455,134554]	7.544	0.209	-13811.1	8577.0	72.649 %	0.0169
10	200	4	[333,1000]	[15,30]	[26910,134554]	7.557	0.199	-26441.1	-3706.2	70.621 %	0.0197
10	200	4	[666,1000]	[1,10]	[16827,168271]	8.209	0.209	-16468.2	18171.7	68.302 %	0.0186
10	200	4	[666,1000]	[1,10]	[33654,168271]	7.329	0.213	-33651.5	-1593.3	67.909 %	0.0235
10	200	4	[666,1000]	[5,10]	[16827,168273]	7.401	0.205	-16958.7	14128.2	70.926 %	0.0236
10	200	4	[666,1000]	[5,10]	[33654,168273]	7.358	0.211	-33518.9	-3245.1	69.011 %	0.0191
10	200	4	[666,1000]	[1,30]	[16828,168281]	7.839	0.203	-16808.6	17727.1	68.834 %	0.0235
10	200	4	[666,1000]	[1,30]	[33656,168281]	7.938	0.197	-33657.6	-787.0	67.613 %	0.0255
10	200	4	[666,1000]	[15,30]	[16828,168288]	7.735	0.197	-16506.5	17005.0	69.267 %	0.0169
10	200	4	[666,1000]	[15,30]	[33656,168288]	7.627	0.201	-33545.5	211.5	67.338 %	0.0208

Tiempo Promedio Total H_2: 7.590 seg.

Tiempo Promedio Total H_1: 0.209 seg.

Rendimiento Promedio Total: 71.947 %

Tabla de Experimentos

$n : 300, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	4	[1,1000]	[1,10]	[15150,151505]	24.006	0.444	-15219.9	5763.2	76.566 %	0.0275
10	300	4	[1,1000]	[1,10]	[30300,151505]	24.234	0.460	-30367.7	-9089.3	74.163 %	0.0154
10	300	4	[1,1000]	[5,10]	[15150,151507]	23.557	0.439	-15237.1	4889.6	76.956 %	0.0215
10	300	4	[1,1000]	[5,10]	[30300,151507]	24.060	0.514	-30239.5	-9221.1	74.152 %	0.0155
10	300	4	[1,1000]	[1,30]	[15151,151515]	25.255	0.440	-15287.1	7267.5	75.091 %	0.0128
10	300	4	[1,1000]	[1,30]	[30302,151515]	24.672	0.426	-30217.7	-7775.7	72.885 %	0.0269
10	300	4	[1,1000]	[15,30]	[15152,151522]	24.662	0.433	-15190.0	7179.2	75.358 %	0.0149
10	300	4	[1,1000]	[15,30]	[30304,151522]	24.629	0.456	-30284.2	-9161.2	74.677 %	0.0221
10	300	4	[333,1000]	[1,10]	[20180,201803]	24.111	0.507	-19965.1	15151.2	72.416 %	0.0227
10	300	4	[333,1000]	[1,10]	[40360,201803]	23.845	0.431	-40239.1	-3424.2	68.889 %	0.0124
10	300	4	[333,1000]	[5,10]	[20180,201805]	23.433	0.452	-20047.2	13457.7	73.005 %	0.0281
10	300	4	[333,1000]	[5,10]	[40360,201805]	23.327	0.458	-40240.2	-5377.7	69.445 %	0.0149
10	300	4	[333,1000]	[1,30]	[20181,201813]	25.463	0.480	-20215.1	17055.1	71.167 %	0.0182
10	300	4	[333,1000]	[1,30]	[40362,201813]	25.150	0.435	-40424.8	-3394.0	68.341 %	0.0191
10	300	4	[333,1000]	[15,30]	[20182,201820]	24.480	0.442	-20045.1	17548.8	71.047 %	0.0208
10	300	4	[333,1000]	[15,30]	[40364,201820]	24.348	0.432	-40157.8	-2526.1	68.416 %	0.0184
10	300	4	[666,1000]	[1,10]	[25240,252404]	23.955	0.459	-25046.4	25711.4	69.340 %	0.0153
10	300	4	[666,1000]	[1,10]	[50480,252404]	23.386	0.432	-50384.8	-2224.0	67.948 %	0.0215
10	300	4	[666,1000]	[5,10]	[25240,252406]	24.321	0.491	-24923.9	21628.7	70.868 %	0.0189
10	300	4	[666,1000]	[5,10]	[50480,252406]	23.872	0.448	-50331.7	-1142.4	67.195 %	0.0141
10	300	4	[666,1000]	[1,30]	[25241,252414]	24.985	0.429	-25035.2	25904.5	69.377 %	0.0185
10	300	4	[666,1000]	[1,30]	[50482,252414]	25.266	0.434	-50614.8	1079.0	66.437 %	0.0233
10	300	4	[666,1000]	[15,30]	[25242,252421]	24.029	0.436	-24961.2	28164.1	67.890 %	0.0144
10	300	4	[666,1000]	[15,30]	[50484,252421]	24.232	0.451	-50397.2	231.8	66.593 %	0.0184

Tiempo Promedio Total H_2: 24.303 seg.

Tiempo Promedio Total H_1: 0.451 seg.

Rendimiento Promedio Total: 71.176 %

Tabla de Experimentos

$n : 500, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	4	[1,1000]	[1,10]	[25250,252505]	112.429	1.177	-25249.3	11794.6	75.342 %	0.0129
10	500	4	[1,1000]	[1,10]	[50500,252505]	112.292	1.161	-50356.4	-14632.5	73.875 %	0.0172
10	500	4	[1,1000]	[5,10]	[25250,252507]	113.310	1.377	-25155.0	10586.6	75.857 %	0.0144
10	500	4	[1,1000]	[5,10]	[50500,252507]	111.619	1.184	-50495.3	-14694.0	73.553 %	0.0136
10	500	4	[1,1000]	[1,30]	[25251,252515]	116.111	1.292	-25503.6	12999.8	74.487 %	0.0093
10	500	4	[1,1000]	[1,30]	[50502,252515]	116.584	1.134	-50664.2	-10991.0	71.722 %	0.0105
10	500	4	[1,1000]	[15,30]	[25252,252522]	113.945	1.222	-24922.2	14069.7	74.578 %	0.0131
10	500	4	[1,1000]	[15,30]	[50504,252522]	112.971	1.163	-50546.6	-11809.1	72.208 %	0.0168
10	500	4	[333,1000]	[1,10]	[33633,336335]	111.846	1.157	-33826.6	26932.3	71.398 %	0.0150
10	500	4	[333,1000]	[1,10]	[67266,336335]	111.940	1.146	-67183.7	-4267.1	68.133 %	0.0154
10	500	4	[333,1000]	[5,10]	[33633,336337]	112.805	1.247	-33856.4	22944.9	72.672 %	0.0124
10	500	4	[333,1000]	[5,10]	[67266,336337]	110.785	1.185	-67237.6	-9553.1	70.097 %	0.0104
10	500	4	[333,1000]	[1,30]	[33634,336345]	117.289	1.136	-33606.1	29760.4	70.329 %	0.0168
10	500	4	[333,1000]	[1,30]	[67268,336345]	116.265	1.338	-67309.3	-1575.0	67.130 %	0.0101
10	500	4	[333,1000]	[15,30]	[33635,336352]	112.898	1.207	-33591.5	28956.0	70.774 %	0.0098
10	500	4	[333,1000]	[15,30]	[67270,336352]	113.572	1.165	-67463.2	-3503.3	67.598 %	0.0151
10	500	4	[666,1000]	[1,10]	[42067,420670]	112.433	1.156	-41746.6	42407.2	69.627 %	0.0135
10	500	4	[666,1000]	[1,10]	[84134,420670]	111.753	1.170	-84004.5	2245.5	66.245 %	0.0133
10	500	4	[666,1000]	[5,10]	[42067,420672]	112.866	1.176	-42171.1	39354.3	69.776 %	0.0135
10	500	4	[666,1000]	[5,10]	[84134,420672]	111.691	1.188	-83966.4	-4697.4	68.029 %	0.0145
10	500	4	[666,1000]	[1,30]	[42068,420680]	115.600	1.160	-41869.0	43274.1	69.115 %	0.0136
10	500	4	[666,1000]	[1,30]	[84136,420680]	117.315	1.138	-84237.0	1677.3	66.371 %	0.0124
10	500	4	[666,1000]	[15,30]	[42068,420687]	113.128	1.240	-42262.3	43838.4	68.763 %	0.0180
10	500	4	[666,1000]	[15,30]	[84136,420687]	113.452	1.132	-83950.9	4474.5	65.669 %	0.0164

Tiempo Promedio Total H_2: 113.537 seg.

Tiempo Promedio Total H_1: 1.194 seg.

Rendimiento Promedio Total: 70.556 %

Tabla de Experimentos

$n : 750, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	4	[1,1000]	[1,10]	[37875,378755]	397.517	2.547	-38272.2	17785.5	75.376 %	0.0121
10	750	4	[1,1000]	[1,10]	[75750,378755]	396.210	2.572	-75808.1	-18061.1	72.469 %	0.0113
10	750	4	[1,1000]	[5,10]	[37875,378757]	392.986	2.682	-38088.3	15297.1	76.251 %	0.0128
10	750	4	[1,1000]	[5,10]	[75750,378757]	393.783	2.635	-75713.2	-22127.5	73.717 %	0.0101
10	750	4	[1,1000]	[1,30]	[37876,378765]	409.151	2.710	-37835.9	21861.9	74.195 %	0.0118
10	750	4	[1,1000]	[1,30]	[75752,378765]	405.427	2.827	-75594.2	-15008.9	71.427 %	0.0120
10	750	4	[1,1000]	[15,30]	[37877,378772]	398.775	2.607	-37881.0	21134.8	74.271 %	0.0116
10	750	4	[1,1000]	[15,30]	[75754,378772]	399.409	2.573	-75908.1	-15139.1	71.319 %	0.0104
10	750	4	[333,1000]	[1,10]	[50450,504500]	392.357	2.893	-50069.5	44327.0	70.734 %	0.0101
10	750	4	[333,1000]	[1,10]	[100900,504500]	395.186	2.549	-101001.8	-5614.2	67.678 %	0.0093
10	750	4	[333,1000]	[5,10]	[50450,504502]	387.108	2.610	-50309.0	37479.1	72.196 %	0.0064
10	750	4	[333,1000]	[5,10]	[100900,504502]	390.834	3.183	-101142.3	-9747.9	68.608 %	0.0059
10	750	4	[333,1000]	[1,30]	[50451,504510]	401.314	2.498	-50829.9	46367.4	69.949 %	0.0108
10	750	4	[333,1000]	[1,30]	[100902,504510]	396.393	2.489	-100788.1	1559.5	66.313 %	0.0089
10	750	4	[333,1000]	[15,30]	[50451,504517]	391.606	2.503	-50414.3	45549.9	70.477 %	0.0115
10	750	4	[333,1000]	[15,30]	[100902,504517]	394.318	2.686	-100792.3	-4399.4	67.638 %	0.0112
10	750	4	[666,1000]	[1,10]	[63100,631002]	388.001	2.598	-63061.1	67370.9	68.859 %	0.0098
10	750	4	[666,1000]	[1,10]	[126200,631002]	386.406	2.538	-126414.3	3436.3	66.272 %	0.0116
10	750	4	[666,1000]	[5,10]	[63100,631004]	383.723	2.589	-63165.1	60749.5	69.691 %	0.0078
10	750	4	[666,1000]	[5,10]	[126200,631004]	383.825	2.972	-126086.1	-4116.6	67.402 %	0.0118
10	750	4	[666,1000]	[1,30]	[63101,631012]	397.469	2.512	-63363.5	76074.8	66.976 %	0.0129
10	750	4	[666,1000]	[1,30]	[126202,631012]	396.495	2.732	-126507.5	8843.3	65.274 %	0.0113
10	750	4	[666,1000]	[15,30]	[63101,631019]	388.834	2.712	-63355.6	72560.4	67.762 %	0.0093
10	750	4	[666,1000]	[15,30]	[126202,631019]	389.891	2.467	-126107.6	10495.9	65.024 %	0.0071

Tiempo Promedio Total H_2: 394.042 seg.

Tiempo Promedio Total H_1: 2.654 seg.

Rendimiento Promedio Total: 69.995 %

Tabla de Experimentos

$n : 1000, m : 4, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	4	[1,1000]	[1,10]	[50500,505005]	938.404	4.622	-50824.9	24351.7	75.235 %	0.0117
10	1000	4	[1,1000]	[1,10]	[101000,505005]	939.348	4.723	-100846.7	-22483.0	72.220 %	0.0100
10	1000	4	[1,1000]	[5,10]	[50500,505007]	933.241	4.744	-50579.2	18492.5	76.791 %	0.0124
10	1000	4	[1,1000]	[5,10]	[101000,505007]	926.400	4.760	-101337.7	-27983.9	73.389 %	0.0083
10	1000	4	[1,1000]	[1,30]	[50501,505015]	946.015	4.530	-50522.8	31603.8	73.483 %	0.0072
10	1000	4	[1,1000]	[1,30]	[101002,505015]	949.317	4.599	-101102.8	-19891.4	71.367 %	0.0090
10	1000	4	[1,1000]	[15,30]	[50502,505022]	932.825	4.548	-50624.0	29034.9	73.907 %	0.0119
10	1000	4	[1,1000]	[15,30]	[101004,505022]	927.333	4.565	-100799.4	-18399.1	70.980 %	0.0065
10	1000	4	[333,1000]	[1,10]	[67266,672665]	928.082	4.578	-67498.7	60520.6	70.260 %	0.0078
10	1000	4	[333,1000]	[1,10]	[134532,672665]	922.576	4.686	-134301.1	-6648.0	67.962 %	0.0094
10	1000	4	[333,1000]	[5,10]	[67266,672667]	919.344	4.734	-67315.8	54868.9	71.324 %	0.0087
10	1000	4	[333,1000]	[5,10]	[134532,672667]	932.502	4.732	-134330.4	-14994.9	69.220 %	0.0053
10	1000	4	[333,1000]	[1,30]	[67267,672675]	954.539	4.533	-67319.1	67525.4	69.079 %	0.0150
10	1000	4	[333,1000]	[1,30]	[134534,672675]	953.704	4.528	-134412.9	1366.2	66.287 %	0.0098
10	1000	4	[333,1000]	[15,30]	[67268,672682]	933.929	4.532	-67672.7	61690.9	70.218 %	0.0117
10	1000	4	[333,1000]	[15,30]	[134536,672682]	930.948	4.564	-134448.7	-1911.6	66.942 %	0.0084
10	1000	4	[666,1000]	[1,10]	[84133,841335]	925.837	4.645	-84197.1	93675.6	67.976 %	0.0058
10	1000	4	[666,1000]	[1,10]	[168266,841335]	927.524	4.910	-168244.1	8989.7	65.593 %	0.0097
10	1000	4	[666,1000]	[5,10]	[84133,841337]	924.453	4.823	-84268.6	80312.9	69.622 %	0.0095
10	1000	4	[666,1000]	[5,10]	[168266,841337]	924.234	4.743	-168348.2	-1333.6	66.890 %	0.0019
10	1000	4	[666,1000]	[1,30]	[84134,841345]	943.051	4.499	-84058.4	101813.1	66.879 %	0.0077
10	1000	4	[666,1000]	[1,30]	[168268,841345]	940.956	4.525	-167980.1	20840.6	64.157 %	0.0060
10	1000	4	[666,1000]	[15,30]	[84135,841352]	923.133	4.591	-84435.8	98891.8	67.323 %	0.0065
10	1000	4	[666,1000]	[15,30]	[168270,841352]	923.565	4.517	-168254.6	10534.2	65.306 %	0.0102

Tiempo Promedio Total H_2: 933.386 seg.

Tiempo Promedio Total H_1: 4.635 seg.

Rendimiento Promedio Total: 69.684 %

Tabla de Experimentos

$n : 10, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	6	[1,1000]	[1,10]	[505,5055]	0.032	0.015	-527.7	-416.0	94.852 %	0.0653
10	10	6	[1,1000]	[1,10]	[1010,5055]	0.022	0.006	-1112.6	-1054.1	96.800 %	0.0597
10	10	6	[1,1000]	[5,10]	[505,5057]	0.022	0.009	-529.0	-425.1	95.960 %	0.0503
10	10	6	[1,1000]	[5,10]	[1010,5057]	0.023	0.008	-881.5	-762.7	95.141 %	0.0690
10	10	6	[1,1000]	[1,30]	[506,5065]	0.025	0.008	-662.5	-551.4	94.835 %	0.0605
10	10	6	[1,1000]	[1,30]	[1012,5065]	0.024	0.008	-1005.6	-954.1	97.825 %	0.0435
10	10	6	[1,1000]	[15,30]	[507,5072]	0.029	0.011	-352.3	-275.6	96.757 %	0.0344
10	10	6	[1,1000]	[15,30]	[1014,5072]	0.023	0.009	-1001.2	-937.6	97.486 %	0.0344
10	10	6	[333,1000]	[1,10]	[673,6731]	0.023	0.006	-667.0	-552.8	96.806 %	0.0442
10	10	6	[333,1000]	[1,10]	[1346,6731]	0.026	0.009	-1055.2	-770.4	90.431 %	0.0887
10	10	6	[333,1000]	[5,10]	[673,6733]	0.021	0.009	-960.6	-802.7	94.568 %	0.0725
10	10	6	[333,1000]	[5,10]	[1346,6733]	0.021	0.008	-1298.4	-1130.1	94.792 %	0.0691
10	10	6	[333,1000]	[1,30]	[674,6741]	0.023	0.008	-378.1	-213.5	95.542 %	0.0599
10	10	6	[333,1000]	[1,30]	[1348,6741]	0.025	0.010	-1310.7	-1108.1	94.071 %	0.0667
10	10	6	[333,1000]	[15,30]	[674,6748]	0.029	0.010	-734.5	-470.5	92.575 %	0.0750
10	10	6	[333,1000]	[15,30]	[1348,6748]	0.022	0.008	-1118.2	-730.7	88.887 %	0.0686
10	10	6	[666,1000]	[1,10]	[841,8418]	0.021	0.008	-575.2	-73.3	89.347 %	0.0741
10	10	6	[666,1000]	[1,10]	[1682,8418]	0.022	0.007	-1458.4	-1070.3	91.190 %	0.0826
10	10	6	[666,1000]	[5,10]	[842,8420]	0.055	0.046	-787.7	-518.8	94.872 %	0.0616
10	10	6	[666,1000]	[5,10]	[1684,8420]	0.030	0.015	-1320.6	-919.1	90.874 %	0.0762
10	10	6	[666,1000]	[1,30]	[842,8428]	0.030	0.011	-1225.2	-753.5	88.220 %	0.0812
10	10	6	[666,1000]	[1,30]	[1684,8428]	0.029	0.014	-1728.6	-1293.5	89.593 %	0.0695
10	10	6	[666,1000]	[15,30]	[843,8435]	0.032	0.012	-536.8	-98.0	90.366 %	0.0798
10	10	6	[666,1000]	[15,30]	[1686,8435]	0.029	0.013	-1671.6	-1303.5	90.890 %	0.0853

Tiempo Promedio Total H_2: 0.027 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 93.445 %

Tabla de Experimentos

$n : 20, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	6	[1,1000]	[1,10]	[1010,10105]	0.044	0.007	-1187.7	-865.0	93.271 %	0.0598
10	20	6	[1,1000]	[1,10]	[2020,10105]	0.041	0.023	-1972.1	-1558.5	90.770 %	0.0639
10	20	6	[1,1000]	[5,10]	[1010,10107]	0.036	0.010	-1170.6	-775.2	91.949 %	0.0536
10	20	6	[1,1000]	[5,10]	[2020,10107]	0.036	0.012	-1814.0	-1391.7	91.166 %	0.0366
10	20	6	[1,1000]	[1,30]	[1011,10115]	0.049	0.011	-1034.2	-693.4	93.681 %	0.0562
10	20	6	[1,1000]	[1,30]	[2022,10115]	0.047	0.009	-1868.6	-1451.4	90.532 %	0.0703
10	20	6	[1,1000]	[15,30]	[1012,10122]	0.049	0.011	-984.5	-506.2	90.513 %	0.0643
10	20	6	[1,1000]	[15,30]	[2024,10122]	0.072	0.030	-2075.5	-1669.8	91.114 %	0.0496
10	20	6	[333,1000]	[1,10]	[1345,13458]	0.049	0.011	-1525.0	-944.4	91.393 %	0.0550
10	20	6	[333,1000]	[1,10]	[2690,13458]	0.044	0.009	-2630.0	-1914.1	88.542 %	0.0517
10	20	6	[333,1000]	[5,10]	[1346,13460]	0.080	0.027	-1338.4	-686.2	90.528 %	0.0729
10	20	6	[333,1000]	[5,10]	[2692,13460]	0.038	0.010	-2428.3	-1852.5	90.545 %	0.0828
10	20	6	[333,1000]	[1,30]	[1346,13468]	0.050	0.010	-1286.7	-402.6	87.722 %	0.0682
10	20	6	[333,1000]	[1,30]	[2692,13468]	0.052	0.013	-2657.7	-1885.8	87.476 %	0.0736
10	20	6	[333,1000]	[15,30]	[1347,13475]	0.049	0.008	-1117.1	-379.9	89.703 %	0.0493
10	20	6	[333,1000]	[15,30]	[2694,13475]	0.046	0.009	-2639.0	-1622.6	84.560 %	0.0553
10	20	6	[666,1000]	[1,10]	[1683,16831]	0.043	0.012	-1797.2	-683.5	87.011 %	0.0635
10	20	6	[666,1000]	[1,10]	[3366,16831]	0.043	0.010	-3785.2	-2747.5	86.642 %	0.0957
10	20	6	[666,1000]	[5,10]	[1683,16833]	0.045	0.010	-1692.8	-583.1	87.368 %	0.0731
10	20	6	[666,1000]	[5,10]	[3366,16833]	0.041	0.009	-3185.8	-2015.5	86.509 %	0.0615
10	20	6	[666,1000]	[1,30]	[1684,16841]	0.066	0.017	-1546.5	-32.9	83.251 %	0.0690
10	20	6	[666,1000]	[1,30]	[3368,16841]	0.060	0.013	-3350.4	-2224.6	85.557 %	0.0994
10	20	6	[666,1000]	[15,30]	[1684,16848]	0.053	0.015	-1717.4	-314.5	84.301 %	0.0635
10	20	6	[666,1000]	[15,30]	[3368,16848]	0.052	0.011	-2870.8	-1375.2	81.922 %	0.0808

Tiempo Promedio Total H_2: 0.049 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 88.584 %

Tabla de Experimentos

$n : 30, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	6	[1,1000]	[1,10]	[1515,15155]	0.076	0.011	-1620.1	-644.8	87.081 %	0.0392
10	30	6	[1,1000]	[1,10]	[3030,15155]	0.075	0.011	-3097.8	-2262.4	87.911 %	0.0504
10	30	6	[1,1000]	[5,10]	[1515,15157]	0.073	0.017	-1492.7	-657.6	89.049 %	0.0359
10	30	6	[1,1000]	[5,10]	[3030,15157]	0.068	0.014	-3005.5	-2476.7	92.168 %	0.0605
10	30	6	[1,1000]	[1,30]	[1516,15165]	0.094	0.012	-1609.6	-809.9	89.879 %	0.0576
10	30	6	[1,1000]	[1,30]	[3032,15165]	0.090	0.015	-2938.7	-2040.6	87.516 %	0.0618
10	30	6	[1,1000]	[15,30]	[1517,15172]	0.084	0.015	-1547.0	-645.4	87.981 %	0.0240
10	30	6	[1,1000]	[15,30]	[3034,15172]	0.091	0.018	-2783.3	-2006.9	89.360 %	0.0450
10	30	6	[333,1000]	[1,10]	[2018,20184]	0.078	0.015	-2035.5	-1040.6	90.597 %	0.0640
10	30	6	[333,1000]	[1,10]	[4036,20184]	0.076	0.015	-4104.9	-2630.4	85.003 %	0.0533
10	30	6	[333,1000]	[5,10]	[2018,20186]	0.092	0.021	-1909.6	-370.3	85.337 %	0.0725
10	30	6	[333,1000]	[5,10]	[4036,20186]	0.076	0.016	-4205.0	-2784.8	85.865 %	0.0601
10	30	6	[333,1000]	[1,30]	[2019,20194]	0.094	0.013	-1890.4	-195.2	83.829 %	0.0449
10	30	6	[333,1000]	[1,30]	[4038,20194]	0.098	0.015	-4128.0	-2408.7	82.786 %	0.0437
10	30	6	[333,1000]	[15,30]	[2020,20202]	0.082	0.014	-1849.9	-272.4	85.588 %	0.0508
10	30	6	[333,1000]	[15,30]	[4040,20202]	0.082	0.012	-4005.9	-2754.2	87.176 %	0.0465
10	30	6	[666,1000]	[1,10]	[2524,25244]	0.078	0.010	-2531.2	-567.5	86.019 %	0.0701
10	30	6	[666,1000]	[1,10]	[5048,25244]	0.081	0.015	-4837.4	-2989.6	85.109 %	0.0815
10	30	6	[666,1000]	[5,10]	[2524,25246]	0.071	0.011	-2512.5	-415.0	84.763 %	0.0598
10	30	6	[666,1000]	[5,10]	[5048,25246]	0.070	0.013	-4858.0	-2784.1	83.079 %	0.0729
10	30	6	[666,1000]	[1,30]	[2525,25255]	0.096	0.015	-2279.4	-73.1	85.023 %	0.0578
10	30	6	[666,1000]	[1,30]	[5050,25255]	0.096	0.014	-4768.7	-2460.4	81.199 %	0.0430
10	30	6	[666,1000]	[15,30]	[2526,25262]	0.082	0.014	-2248.8	210.4	82.590 %	0.0452
10	30	6	[666,1000]	[15,30]	[5052,25262]	0.085	0.014	-4797.5	-2654.2	82.808 %	0.0481

Tiempo Promedio Total H_2: 0.083 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 86.155 %

Tabla de Experimentos

$n : 50, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	6	[1,1000]	[1,10]	[2525,25255]	0.186	0.021	-2526.2	-812.3	86.756 %	0.0528
10	50	6	[1,1000]	[1,10]	[5050,25255]	0.195	0.022	-5072.1	-3237.6	84.147 %	0.0477
10	50	6	[1,1000]	[5,10]	[2525,25257]	0.177	0.024	-2719.7	-1366.6	89.210 %	0.0383
10	50	6	[1,1000]	[5,10]	[5050,25257]	0.186	0.024	-4915.8	-3502.4	87.603 %	0.0311
10	50	6	[1,1000]	[1,30]	[2526,25265]	0.238	0.026	-2450.2	-494.2	85.505 %	0.0410
10	50	6	[1,1000]	[1,30]	[5052,25265]	0.241	0.022	-5031.3	-3361.2	86.112 %	0.0588
10	50	6	[1,1000]	[15,30]	[2527,25272]	0.216	0.025	-2437.9	-660.1	86.201 %	0.0318
10	50	6	[1,1000]	[15,30]	[5054,25272]	0.226	0.026	-4943.7	-3700.8	89.146 %	0.0293
10	50	6	[333,1000]	[1,10]	[3363,33638]	0.199	0.023	-3212.0	-49.3	82.439 %	0.0550
10	50	6	[333,1000]	[1,10]	[6726,33638]	0.199	0.025	-6789.6	-3653.8	80.732 %	0.0311
10	50	6	[333,1000]	[5,10]	[3364,33640]	0.178	0.026	-3211.9	-132.2	82.920 %	0.0279
10	50	6	[333,1000]	[5,10]	[6728,33640]	0.183	0.025	-6835.8	-4201.9	83.860 %	0.0436
10	50	6	[333,1000]	[1,30]	[3364,33648]	0.251	0.021	-3353.7	-615.5	84.751 %	0.0337
10	50	6	[333,1000]	[1,30]	[6728,33648]	0.248	0.022	-6510.1	-3289.3	81.089 %	0.0493
10	50	6	[333,1000]	[15,30]	[3365,33655]	0.216	0.023	-3338.0	-310.5	83.576 %	0.0538
10	50	6	[333,1000]	[15,30]	[6730,33655]	0.213	0.024	-6807.4	-3752.3	81.940 %	0.0570
10	50	6	[666,1000]	[1,10]	[4207,42071]	0.205	0.027	-4510.3	-273.9	81.829 %	0.0217
10	50	6	[666,1000]	[1,10]	[8414,42071]	0.196	0.025	-8763.2	-4672.0	80.928 %	0.0438
10	50	6	[666,1000]	[5,10]	[4207,42073]	0.181	0.022	-3888.8	224.2	82.303 %	0.0304
10	50	6	[666,1000]	[5,10]	[8414,42073]	0.182	0.025	-8323.3	-4509.1	82.090 %	0.0366
10	50	6	[666,1000]	[1,30]	[4208,42081]	0.244	0.025	-3859.9	629.9	81.080 %	0.0382
10	50	6	[666,1000]	[1,30]	[8416,42081]	0.240	0.023	-8369.8	-4700.5	82.487 %	0.0465
10	50	6	[666,1000]	[15,30]	[4208,42088]	0.212	0.026	-4201.0	-664.1	85.707 %	0.0763
10	50	6	[666,1000]	[15,30]	[8416,42088]	0.215	0.022	-8211.2	-4242.8	81.818 %	0.0332

Tiempo Promedio Total H_2: 0.209 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 83.926 %

Tabla de Experimentos

$n : 100, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	6	[1,1000]	[1,10]	[5050,50505]	1.069	0.069	-5070.1	-1664.8	87.015 %	0.0314
10	100	6	[1,1000]	[1,10]	[10100,50505]	1.035	0.060	-9966.4	-6333.6	85.169 %	0.0337
10	100	6	[1,1000]	[5,10]	[5050,50507]	0.986	0.066	-5186.9	-2135.1	88.404 %	0.0485
10	100	6	[1,1000]	[5,10]	[10100,50507]	1.002	0.065	-10130.0	-6858.9	86.031 %	0.0429
10	100	6	[1,1000]	[1,30]	[5051,50515]	1.193	0.060	-4988.9	-1045.9	85.242 %	0.0312
10	100	6	[1,1000]	[1,30]	[10102,50515]	1.187	0.061	-10261.7	-6165.8	83.055 %	0.0223
10	100	6	[1,1000]	[15,30]	[5052,50522]	1.087	0.059	-4979.6	-1445.4	86.545 %	0.0397
10	100	6	[1,1000]	[15,30]	[10104,50522]	1.115	0.059	-10140.2	-6085.0	83.391 %	0.0315
10	100	6	[333,1000]	[1,10]	[6727,67271]	1.035	0.063	-6791.9	-1067.1	84.405 %	0.0379
10	100	6	[333,1000]	[1,10]	[13454,67271]	1.038	0.059	-13449.0	-6872.3	80.760 %	0.0310
10	100	6	[333,1000]	[5,10]	[6727,67273]	1.005	0.062	-6551.9	302.9	81.698 %	0.0177
10	100	6	[333,1000]	[5,10]	[13454,67273]	1.009	0.058	-13420.5	-7951.2	83.312 %	0.0584
10	100	6	[333,1000]	[1,30]	[6728,67281]	1.230	0.059	-6748.1	-305.5	82.763 %	0.0306
10	100	6	[333,1000]	[1,30]	[13456,67281]	1.201	0.058	-13191.6	-6254.8	80.413 %	0.0349
10	100	6	[333,1000]	[15,30]	[6728,67288]	1.109	0.062	-6604.0	-408.1	82.889 %	0.0234
10	100	6	[333,1000]	[15,30]	[13456,67288]	1.110	0.068	-13259.4	-6615.1	80.750 %	0.0335
10	100	6	[666,1000]	[1,10]	[8413,84138]	1.036	0.064	-8430.7	262.4	81.462 %	0.0433
10	100	6	[666,1000]	[1,10]	[16826,84138]	1.023	0.064	-16893.5	-7398.7	78.026 %	0.0359
10	100	6	[666,1000]	[5,10]	[8414,84140]	1.042	0.070	-8772.7	-412.5	81.851 %	0.0434
10	100	6	[666,1000]	[5,10]	[16828,84140]	1.001	0.063	-16710.8	-8166.1	80.313 %	0.0401
10	100	6	[666,1000]	[1,30]	[8414,84148]	1.249	0.062	-8093.1	2069.0	79.067 %	0.0326
10	100	6	[666,1000]	[1,30]	[16828,84148]	1.249	0.066	-16509.6	-6480.8	77.304 %	0.0345
10	100	6	[666,1000]	[15,30]	[8415,84155]	1.106	0.060	-8430.3	1617.4	79.572 %	0.0421
10	100	6	[666,1000]	[15,30]	[16830,84155]	1.442	0.082	-16918.2	-7551.5	78.311 %	0.0301

Tiempo Promedio Total H_2: 1.107 seg.

Tiempo Promedio Total H_1: 0.063 seg.

Rendimiento Promedio Total: 82.406 %

Tabla de Experimentos

$n : 200, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	6	[1,1000]	[1,10]	[10100,101005]	7.271	0.201	-10182.9	-1344.5	83.742 %	0.0234
10	200	6	[1,1000]	[1,10]	[20200,101005]	7.299	0.213	-20045.3	-11526.1	82.483 %	0.0241
10	200	6	[1,1000]	[5,10]	[10100,101007]	7.080	0.203	-10091.2	-2170.3	85.065 %	0.0163
10	200	6	[1,1000]	[5,10]	[20200,101007]	7.693	0.241	-20157.1	-12010.0	83.134 %	0.0196
10	200	6	[1,1000]	[1,30]	[10101,101015]	7.986	0.261	-9855.5	-1151.6	83.851 %	0.0265
10	200	6	[1,1000]	[1,30]	[20202,101015]	7.877	0.197	-20093.5	-11186.1	81.584 %	0.0255
10	200	6	[1,1000]	[15,30]	[10102,101022]	7.300	0.206	-10042.0	-1011.6	83.705 %	0.0244
10	200	6	[1,1000]	[15,30]	[20204,101022]	7.373	0.202	-20368.2	-11664.1	82.204 %	0.0233
10	200	6	[333,1000]	[1,10]	[13453,134537]	7.290	0.204	-13148.6	2035.8	79.848 %	0.0217
10	200	6	[333,1000]	[1,10]	[26906,134537]	7.225	0.206	-26659.5	-11951.0	78.455 %	0.0238
10	200	6	[333,1000]	[5,10]	[13453,134539]	7.342	0.244	-13656.2	-795.7	82.629 %	0.0236
10	200	6	[333,1000]	[5,10]	[26906,134539]	7.394	0.214	-26781.3	-12232.1	78.656 %	0.0212
10	200	6	[333,1000]	[1,30]	[13454,134547]	8.046	0.199	-13401.7	157.2	82.014 %	0.0316
10	200	6	[333,1000]	[1,30]	[26908,134547]	8.209	0.197	-26807.7	-11234.6	77.099 %	0.0157
10	200	6	[333,1000]	[15,30]	[13455,134554]	7.380	0.204	-13635.4	508.6	80.887 %	0.0267
10	200	6	[333,1000]	[15,30]	[26910,134554]	7.474	0.205	-27015.9	-12116.6	78.377 %	0.0171
10	200	6	[666,1000]	[1,10]	[16827,168271]	7.368	0.201	-16542.8	4333.8	78.599 %	0.0284
10	200	6	[666,1000]	[1,10]	[33654,168271]	7.618	0.231	-33234.9	-11486.4	75.458 %	0.0172
10	200	6	[666,1000]	[5,10]	[16827,168273]	7.254	0.208	-16674.6	948.5	81.067 %	0.0225
10	200	6	[666,1000]	[5,10]	[33654,168273]	7.412	0.204	-33475.4	-15904.4	79.400 %	0.0196
10	200	6	[666,1000]	[1,30]	[16828,168281]	8.091	0.199	-16866.6	5169.5	77.217 %	0.0179
10	200	6	[666,1000]	[1,30]	[33656,168281]	7.960	0.196	-33412.4	-11397.1	75.639 %	0.0239
10	200	6	[666,1000]	[15,30]	[16828,168288]	7.565	0.203	-16432.3	3953.6	78.667 %	0.0260
10	200	6	[666,1000]	[15,30]	[33656,168288]	7.565	0.213	-33490.9	-12206.0	75.680 %	0.0360

Tiempo Promedio Total H_2: 7.545 seg.

Tiempo Promedio Total H_1: 0.210 seg.

Rendimiento Promedio Total: 80.227 %

Tabla de Experimentos

$n : 300, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	6	[1,1000]	[1,10]	[15150,151505]	23.235	0.424	-14902.6	-339.5	82.488 %	0.0133
10	300	6	[1,1000]	[1,10]	[30300,151505]	23.036	0.444	-30381.7	-16221.6	81.257 %	0.0148
10	300	6	[1,1000]	[5,10]	[15150,151507]	23.435	0.424	-15269.9	-2620.6	84.229 %	0.0154
10	300	6	[1,1000]	[5,10]	[30300,151507]	23.077	0.440	-30337.2	-17859.1	82.912 %	0.0295
10	300	6	[1,1000]	[1,30]	[15151,151515]	24.992	0.409	-15304.5	-938.9	82.471 %	0.0245
10	300	6	[1,1000]	[1,30]	[30302,151515]	25.196	0.405	-30437.9	-16367.1	81.509 %	0.0310
10	300	6	[1,1000]	[15,30]	[15152,151522]	23.638	0.444	-15234.0	-2189.8	84.123 %	0.0245
10	300	6	[1,1000]	[15,30]	[30304,151522]	23.879	0.417	-30134.1	-16517.6	81.964 %	0.0220
10	300	6	[333,1000]	[1,10]	[20180,201803]	23.985	0.425	-19991.1	2263.3	80.449 %	0.0141
10	300	6	[333,1000]	[1,10]	[40360,201803]	23.092	0.451	-40243.5	-16302.9	77.397 %	0.0146
10	300	6	[333,1000]	[5,10]	[20180,201805]	23.049	0.441	-20063.3	1493.5	80.887 %	0.0193
10	300	6	[333,1000]	[5,10]	[40360,201805]	23.232	0.442	-40553.6	-19215.4	79.061 %	0.0212
10	300	6	[333,1000]	[1,30]	[20181,201813]	25.131	0.418	-20095.7	4624.8	78.574 %	0.0099
10	300	6	[333,1000]	[1,30]	[40362,201813]	25.617	0.417	-40472.9	-15611.8	76.236 %	0.0227
10	300	6	[333,1000]	[15,30]	[20182,201820]	23.722	0.429	-20039.1	3038.9	79.581 %	0.0244
10	300	6	[333,1000]	[15,30]	[40364,201820]	24.249	0.419	-40358.4	-17402.5	77.915 %	0.0143
10	300	6	[666,1000]	[1,10]	[25240,252404]	23.634	0.501	-25160.7	7471.0	77.671 %	0.0180
10	300	6	[666,1000]	[1,10]	[50480,252404]	23.518	0.480	-50456.1	-19948.5	76.820 %	0.0300
10	300	6	[666,1000]	[5,10]	[25240,252406]	23.412	0.458	-25733.3	2416.4	80.176 %	0.0235
10	300	6	[666,1000]	[5,10]	[50480,252406]	23.362	0.427	-50570.6	-18395.6	75.628 %	0.0147
10	300	6	[666,1000]	[1,30]	[25241,252414]	25.413	0.421	-25348.3	6978.7	78.021 %	0.0167
10	300	6	[666,1000]	[1,30]	[50482,252414]	26.448	0.470	-50423.7	-17532.2	75.534 %	0.0127
10	300	6	[666,1000]	[15,30]	[25242,252421]	24.085	0.408	-25116.9	7915.0	77.889 %	0.0220
10	300	6	[666,1000]	[15,30]	[50484,252421]	24.297	0.418	-50177.2	-16976.9	75.447 %	0.0233

Tiempo Promedio Total H_2: 24.031 seg.

Tiempo Promedio Total H_1: 0.435 seg.

Rendimiento Promedio Total: 79.510 %

Tabla de Experimentos

$n : 500, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	6	[1,1000]	[1,10]	[25250,252505]	108.076	1.221	-25362.3	-2397.9	83.162 %	0.0122
10	500	6	[1,1000]	[1,10]	[50500,252505]	110.065	1.170	-50436.7	-27897.5	81.997 %	0.0169
10	500	6	[1,1000]	[5,10]	[25250,252507]	110.457	1.232	-25362.6	-2898.2	83.310 %	0.0080
10	500	6	[1,1000]	[5,10]	[50500,252507]	110.295	1.222	-50491.2	-29179.2	82.768 %	0.0215
10	500	6	[1,1000]	[1,30]	[25251,252515]	114.938	1.310	-25232.8	-750.6	82.240 %	0.0106
10	500	6	[1,1000]	[1,30]	[50502,252515]	115.422	1.200	-50180.5	-25294.7	80.231 %	0.0173
10	500	6	[1,1000]	[15,30]	[25252,252522]	111.663	1.177	-25300.3	-1328.8	82.597 %	0.0168
10	500	6	[1,1000]	[15,30]	[50504,252522]	113.421	1.273	-50490.9	-26544.6	80.851 %	0.0168
10	500	6	[333,1000]	[1,10]	[33633,336335]	111.021	1.208	-33663.7	6082.2	79.381 %	0.0125
10	500	6	[333,1000]	[1,10]	[67266,336335]	111.307	1.223	-67116.8	-26565.0	76.981 %	0.0100
10	500	6	[333,1000]	[5,10]	[33633,336337]	111.024	1.233	-33927.9	3431.7	80.135 %	0.0118
10	500	6	[333,1000]	[5,10]	[67266,336337]	111.526	1.218	-67032.6	-29507.3	78.321 %	0.0143
10	500	6	[333,1000]	[1,30]	[33634,336345]	117.036	1.168	-33424.0	8934.7	77.943 %	0.0169
10	500	6	[333,1000]	[1,30]	[67268,336345]	118.201	1.166	-67463.0	-25083.1	75.907 %	0.0113
10	500	6	[333,1000]	[15,30]	[33635,336352]	113.109	1.299	-33701.8	6097.9	79.113 %	0.0140
10	500	6	[333,1000]	[15,30]	[67270,336352]	113.801	1.190	-67232.2	-27668.3	77.504 %	0.0161
10	500	6	[666,1000]	[1,10]	[42067,420670]	111.181	1.218	-42302.0	13170.4	77.568 %	0.0088
10	500	6	[666,1000]	[1,10]	[84134,420670]	112.948	1.205	-84415.7	-27997.0	74.753 %	0.0103
10	500	6	[666,1000]	[5,10]	[42067,420672]	111.500	1.423	-42498.6	10148.4	78.311 %	0.0180
10	500	6	[666,1000]	[5,10]	[84134,420672]	109.767	1.245	-84047.0	-32892.9	76.777 %	0.0123
10	500	6	[666,1000]	[1,30]	[42068,420680]	117.597	1.268	-41566.1	16068.1	76.732 %	0.0174
10	500	6	[666,1000]	[1,30]	[84136,420680]	116.216	1.255	-83940.0	-24892.2	74.144 %	0.0145
10	500	6	[666,1000]	[15,30]	[42068,420687]	114.687	1.187	-42362.5	16146.9	76.452 %	0.0147
10	500	6	[666,1000]	[15,30]	[84136,420687]	112.621	1.223	-83868.6	-26882.0	74.656 %	0.0100

Tiempo Promedio Total H_2: 112.828 seg.

Tiempo Promedio Total H_1: 1.231 seg.

Rendimiento Promedio Total: 78.826 %

Tabla de Experimentos

$n : 750, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	6	[1,1000]	[1,10]	[37875,378755]	380.504	2.531	-37857.1	-2749.7	82.966 %	0.0133
10	750	6	[1,1000]	[1,10]	[75750,378755]	384.507	2.533	-75792.6	-38952.2	80.496 %	0.0096
10	750	6	[1,1000]	[5,10]	[37875,378757]	388.937	2.652	-38102.5	-4695.2	83.490 %	0.0151
10	750	6	[1,1000]	[5,10]	[75750,378757]	385.763	2.751	-75823.1	-41438.3	81.414 %	0.0124
10	750	6	[1,1000]	[1,30]	[37876,378765]	398.771	2.493	-38089.9	417.0	81.525 %	0.0104
10	750	6	[1,1000]	[1,30]	[75752,378765]	397.431	2.496	-75782.0	-36727.3	79.313 %	0.0157
10	750	6	[1,1000]	[15,30]	[37877,378772]	389.290	2.906	-37972.6	-1962.9	82.339 %	0.0090
10	750	6	[1,1000]	[15,30]	[75754,378772]	389.703	2.530	-75702.0	-37459.6	79.940 %	0.0113
10	750	6	[333,1000]	[1,10]	[50450,504500]	388.536	2.563	-50223.3	10585.9	78.894 %	0.0094
10	750	6	[333,1000]	[1,10]	[100900,504500]	388.704	2.703	-100971.4	-38650.4	76.329 %	0.0093
10	750	6	[333,1000]	[5,10]	[50450,504502]	384.097	2.641	-50559.4	7456.2	79.519 %	0.0067
10	750	6	[333,1000]	[5,10]	[100900,504502]	385.870	2.614	-100906.6	-43086.5	77.765 %	0.0091
10	750	6	[333,1000]	[1,30]	[50451,504510]	397.654	2.545	-50725.0	14469.9	77.674 %	0.0106
10	750	6	[333,1000]	[1,30]	[100902,504510]	392.819	2.492	-100633.5	-34278.9	75.186 %	0.0071
10	750	6	[333,1000]	[15,30]	[50451,504517]	389.781	2.527	-50340.5	13609.9	77.905 %	0.0138
10	750	6	[333,1000]	[15,30]	[100902,504517]	387.198	2.494	-100673.9	-38113.6	76.638 %	0.0169
10	750	6	[666,1000]	[1,10]	[63100,631002]	383.746	2.521	-62869.5	18065.4	77.813 %	0.0151
10	750	6	[666,1000]	[1,10]	[126200,631002]	385.574	2.548	-126158.8	-41001.4	74.713 %	0.0122
10	750	6	[666,1000]	[5,10]	[63100,631004]	380.405	2.610	-63117.3	19749.2	77.537 %	0.0048
10	750	6	[666,1000]	[5,10]	[126200,631004]	379.874	2.631	-126197.3	-44504.1	75.477 %	0.0132
10	750	6	[666,1000]	[1,30]	[63101,631012]	392.002	2.464	-62860.5	25642.8	76.361 %	0.0080
10	750	6	[666,1000]	[1,30]	[126202,631012]	393.139	2.756	-125912.4	-38513.7	74.516 %	0.0128
10	750	6	[666,1000]	[15,30]	[63101,631019]	385.359	2.500	-62935.5	23133.9	76.690 %	0.0109
10	750	6	[666,1000]	[15,30]	[126202,631019]	385.300	2.509	-126091.5	-38499.7	74.622 %	0.0142

Tiempo Promedio Total H_2: 388.124 seg.

Tiempo Promedio Total H_1: 2.584 seg.

Rendimiento Promedio Total: 78.297 %

Tabla de Experimentos

$n : 1000, m : 6, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	6	[1,1000]	[1,10]	[50500,505005]	919.974	4.604	-50653.9	-1515.7	82.194 %	0.0114
10	1000	6	[1,1000]	[1,10]	[101000,505005]	920.575	4.927	-100929.0	-51365.0	80.243 %	0.0106
10	1000	6	[1,1000]	[5,10]	[50500,505007]	920.191	4.677	-50481.3	-4314.6	83.202 %	0.0032
10	1000	6	[1,1000]	[5,10]	[101000,505007]	918.284	4.658	-100969.9	-55399.2	81.638 %	0.0135
10	1000	6	[1,1000]	[1,30]	[50501,505015]	939.767	4.388	-50655.3	-1388.9	82.219 %	0.0152
10	1000	6	[1,1000]	[1,30]	[101002,505015]	942.677	4.400	-101013.0	-48693.8	79.380 %	0.0064
10	1000	6	[1,1000]	[15,30]	[50502,505022]	925.788	4.434	-50602.5	-344.0	81.824 %	0.0091
10	1000	6	[1,1000]	[15,30]	[101004,505022]	927.471	4.446	-100837.3	-50660.4	80.211 %	0.0128
10	1000	6	[333,1000]	[1,10]	[67266,672665]	924.914	4.606	-67405.4	15882.6	78.379 %	0.0101
10	1000	6	[333,1000]	[1,10]	[134532,672665]	925.312	4.547	-134456.5	-52304.8	76.673 %	0.0062
10	1000	6	[333,1000]	[5,10]	[67266,672667]	919.627	4.684	-67230.9	9800.3	79.845 %	0.0056
10	1000	6	[333,1000]	[5,10]	[134532,672667]	916.524	4.661	-134663.8	-56797.4	77.597 %	0.0066
10	1000	6	[333,1000]	[1,30]	[67267,672675]	945.236	4.411	-67164.7	17366.9	78.257 %	0.0093
10	1000	6	[333,1000]	[1,30]	[134534,672675]	942.990	4.422	-134348.3	-49479.2	75.982 %	0.0152
10	1000	6	[333,1000]	[15,30]	[67268,672682]	929.442	4.454	-67638.5	19357.2	77.442 %	0.0094
10	1000	6	[333,1000]	[15,30]	[134536,672682]	935.073	4.452	-134528.1	-47450.8	75.465 %	0.0123
10	1000	6	[666,1000]	[1,10]	[84133,841335]	924.156	4.511	-83878.7	34058.8	76.389 %	0.0067
10	1000	6	[666,1000]	[1,10]	[168266,841335]	922.878	4.530	-168344.1	-53723.3	74.585 %	0.0089
10	1000	6	[666,1000]	[5,10]	[84133,841337]	920.531	4.655	-84281.8	24322.2	77.594 %	0.0068
10	1000	6	[666,1000]	[5,10]	[168266,841337]	922.587	4.654	-168154.9	-57994.7	75.288 %	0.0076
10	1000	6	[666,1000]	[1,30]	[84134,841345]	942.723	4.384	-84409.4	38020.2	75.396 %	0.0089
10	1000	6	[666,1000]	[1,30]	[168268,841345]	945.560	4.362	-168222.1	-47028.1	73.433 %	0.0081
10	1000	6	[666,1000]	[15,30]	[84135,841352]	925.820	4.436	-84143.0	34247.4	75.989 %	0.0097
10	1000	6	[666,1000]	[15,30]	[168270,841352]	932.635	4.483	-168064.9	-49001.4	73.836 %	0.0102

Tiempo Promedio Total H_2: 928.781 seg.

Tiempo Promedio Total H_1: 4.533 seg.

Rendimiento Promedio Total: 78.044 %

Tabla de Experimentos

$n : 10, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	10	[1,1000]	[1,10]	[505,5055]	0.032	0.015	-317.2	-299.5	99.226 %	0.0232
10	10	10	[1,1000]	[1,10]	[1010,5055]	0.020	0.010	-888.0	-885.3	99.897 %	0.0031
10	10	10	[1,1000]	[5,10]	[505,5057]	0.026	0.009	-574.0	-554.1	99.192 %	0.0162
10	10	10	[1,1000]	[5,10]	[1010,5057]	0.035	0.014	-842.3	-833.5	99.717 %	0.0085
10	10	10	[1,1000]	[1,30]	[506,5065]	0.028	0.010	-308.6	-291.1	99.335 %	0.0199
10	10	10	[1,1000]	[1,30]	[1012,5065]	0.024	0.010	-1120.8	-1108.7	99.337 %	0.0167
10	10	10	[1,1000]	[15,30]	[507,5072]	0.024	0.009	-593.7	-590.9	99.830 %	0.0051
10	10	10	[1,1000]	[15,30]	[1014,5072]	0.022	0.008	-1109.3	-1099.1	99.538 %	0.0139
10	10	10	[333,1000]	[1,10]	[673,6731]	0.024	0.007	-792.2	-774.3	99.265 %	0.0220
10	10	10	[333,1000]	[1,10]	[1346,6731]	0.025	0.005	-1056.0	-1032.9	99.111 %	0.0182
10	10	10	[333,1000]	[5,10]	[673,6733]	0.027	0.010	-840.3	-827.6	99.521 %	0.0096
10	10	10	[333,1000]	[5,10]	[1346,6733]	0.033	0.011	-1238.3	-1232.0	99.802 %	0.0059
10	10	10	[333,1000]	[1,30]	[674,6741]	0.040	0.016	-394.8	-364.3	99.181 %	0.0246
10	10	10	[333,1000]	[1,30]	[1348,6741]	0.030	0.010	-1278.3	-1243.4	98.768 %	0.0207
10	10	10	[333,1000]	[15,30]	[674,6748]	0.022	0.007	-724.3	-678.9	98.418 %	0.0468
10	10	10	[333,1000]	[15,30]	[1348,6748]	0.044	0.030	-1249.7	-1245.9	99.812 %	0.0056
10	10	10	[666,1000]	[1,10]	[841,8418]	0.035	0.017	-638.5	-638.5	100.000 %	0.0000
10	10	10	[666,1000]	[1,10]	[1682,8418]	0.024	0.010	-1376.9	-1361.7	99.557 %	0.0133
10	10	10	[666,1000]	[5,10]	[842,8420]	0.023	0.008	-889.5	-879.2	99.719 %	0.0084
10	10	10	[666,1000]	[5,10]	[1684,8420]	0.025	0.011	-1489.2	-1464.0	99.327 %	0.0135
10	10	10	[666,1000]	[1,30]	[842,8428]	0.029	0.012	-656.3	-635.0	99.550 %	0.0116
10	10	10	[666,1000]	[1,30]	[1684,8428]	0.023	0.009	-1408.5	-1408.5	100.000 %	0.0000
10	10	10	[666,1000]	[15,30]	[843,8435]	0.023	0.007	-739.4	-735.1	99.882 %	0.0035
10	10	10	[666,1000]	[15,30]	[1686,8435]	0.023	0.008	-1390.3	-1381.4	99.720 %	0.0084

Tiempo Promedio Total H_2: 0.028 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 99.488 %

Tabla de Experimentos

$n : 20, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	10	[1,1000]	[1,10]	[1010,10105]	0.051	0.013	-904.0	-867.1	99.158 %	0.0175
10	20	10	[1,1000]	[1,10]	[2020,10105]	0.049	0.011	-1942.3	-1816.4	97.136 %	0.0233
10	20	10	[1,1000]	[5,10]	[1010,10107]	0.046	0.011	-1011.3	-891.7	97.397 %	0.0372
10	20	10	[1,1000]	[5,10]	[2020,10107]	0.055	0.016	-1853.4	-1696.2	96.402 %	0.0478
10	20	10	[1,1000]	[1,30]	[1011,10115]	0.064	0.011	-790.6	-678.0	97.613 %	0.0288
10	20	10	[1,1000]	[1,30]	[2022,10115]	0.055	0.012	-1887.0	-1777.6	97.747 %	0.0236
10	20	10	[1,1000]	[15,30]	[1012,10122]	0.054	0.011	-1271.3	-1088.3	95.777 %	0.0319
10	20	10	[1,1000]	[15,30]	[2024,10122]	0.054	0.012	-2047.0	-1893.3	96.467 %	0.0399
10	20	10	[333,1000]	[1,10]	[1345,13458]	0.047	0.010	-1223.0	-986.1	95.956 %	0.0505
10	20	10	[333,1000]	[1,10]	[2690,13458]	0.050	0.010	-2456.5	-2081.3	93.816 %	0.0455
10	20	10	[333,1000]	[5,10]	[1346,13460]	0.046	0.011	-1124.2	-891.8	96.529 %	0.0462
10	20	10	[333,1000]	[5,10]	[2692,13460]	0.055	0.013	-2522.7	-2213.1	95.258 %	0.0384
10	20	10	[333,1000]	[1,30]	[1346,13468]	0.072	0.013	-1225.5	-989.1	96.264 %	0.0401
10	20	10	[333,1000]	[1,30]	[2692,13468]	0.067	0.017	-2674.5	-2349.9	94.271 %	0.0448
10	20	10	[333,1000]	[15,30]	[1347,13475]	0.077	0.024	-1300.4	-795.6	91.983 %	0.0387
10	20	10	[333,1000]	[15,30]	[2694,13475]	0.065	0.018	-2563.0	-2239.8	95.105 %	0.0452
10	20	10	[666,1000]	[1,10]	[1683,16831]	0.051	0.011	-1811.0	-1606.6	97.467 %	0.0374
10	20	10	[666,1000]	[1,10]	[3366,16831]	0.059	0.011	-3029.2	-2574.1	93.722 %	0.0429
10	20	10	[666,1000]	[5,10]	[1683,16833]	0.057	0.010	-1241.2	-796.7	94.977 %	0.0421
10	20	10	[666,1000]	[5,10]	[3366,16833]	0.045	0.011	-2989.7	-2548.2	94.596 %	0.0448
10	20	10	[666,1000]	[1,30]	[1684,16841]	0.058	0.012	-1509.5	-1058.5	94.663 %	0.0440
10	20	10	[666,1000]	[1,30]	[3368,16841]	0.060	0.012	-3537.9	-3148.5	94.418 %	0.0575
10	20	10	[666,1000]	[15,30]	[1684,16848]	0.053	0.010	-1339.0	-752.4	92.863 %	0.0344
10	20	10	[666,1000]	[15,30]	[3368,16848]	0.061	0.010	-3095.2	-2736.3	95.053 %	0.0507

Tiempo Promedio Total H_2: 0.056 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 95.610 %

Tabla de Experimentos

$n : 30, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	10	[1,1000]	[1,10]	[1515,15155]	0.089	0.011	-1883.8	-1584.9	95.753 %	0.0421
10	30	10	[1,1000]	[1,10]	[3030,15155]	0.085	0.014	-2923.2	-2627.0	95.701 %	0.0316
10	30	10	[1,1000]	[5,10]	[1515,15157]	0.082	0.011	-1696.1	-1411.8	95.736 %	0.0398
10	30	10	[1,1000]	[5,10]	[3030,15157]	0.077	0.014	-3068.2	-2710.8	93.998 %	0.0354
10	30	10	[1,1000]	[1,30]	[1516,15165]	0.106	0.018	-1596.3	-1357.0	96.765 %	0.0308
10	30	10	[1,1000]	[1,30]	[3032,15165]	0.106	0.018	-3001.2	-2713.1	95.831 %	0.0517
10	30	10	[1,1000]	[15,30]	[1517,15172]	0.117	0.016	-1430.2	-1154.8	96.332 %	0.0297
10	30	10	[1,1000]	[15,30]	[3034,15172]	0.111	0.020	-3264.1	-3013.6	96.054 %	0.0382
10	30	10	[333,1000]	[1,10]	[2018,20184]	0.088	0.018	-2279.3	-1390.0	90.971 %	0.0268
10	30	10	[333,1000]	[1,10]	[4036,20184]	0.090	0.015	-3697.5	-2964.7	92.467 %	0.0441
10	30	10	[333,1000]	[5,10]	[2018,20186]	0.079	0.014	-2399.4	-1805.8	93.753 %	0.0427
10	30	10	[333,1000]	[5,10]	[4036,20186]	0.080	0.013	-3807.6	-3217.2	93.098 %	0.0461
10	30	10	[333,1000]	[1,30]	[2019,20194]	0.108	0.018	-2041.4	-1194.7	91.880 %	0.0416
10	30	10	[333,1000]	[1,30]	[4038,20194]	0.109	0.013	-3900.4	-3087.2	91.467 %	0.0489
10	30	10	[333,1000]	[15,30]	[2020,20202]	0.114	0.015	-1756.6	-1098.9	93.141 %	0.0332
10	30	10	[333,1000]	[15,30]	[4040,20202]	0.093	0.016	-3961.1	-3218.7	91.603 %	0.0418
10	30	10	[666,1000]	[1,10]	[2524,25244]	0.090	0.014	-2578.1	-1535.2	91.819 %	0.0430
10	30	10	[666,1000]	[1,10]	[5048,25244]	0.088	0.012	-4654.7	-3451.4	90.027 %	0.0288
10	30	10	[666,1000]	[5,10]	[2524,25246]	0.084	0.014	-2404.6	-1753.2	94.591 %	0.0242
10	30	10	[666,1000]	[5,10]	[5048,25246]	0.077	0.014	-4816.4	-3655.0	90.040 %	0.0306
10	30	10	[666,1000]	[1,30]	[2525,25255]	0.113	0.013	-2287.0	-1168.2	90.877 %	0.0368
10	30	10	[666,1000]	[1,30]	[5050,25255]	0.117	0.015	-5593.2	-5012.1	94.090 %	0.0460
10	30	10	[666,1000]	[15,30]	[2526,25262]	0.096	0.014	-2177.0	-1213.4	92.204 %	0.0250
10	30	10	[666,1000]	[15,30]	[5052,25262]	0.097	0.015	-5025.4	-3800.1	89.847 %	0.0404

Tiempo Promedio Total H_2: 0.096 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 93.252 %

Tabla de Experimentos

$n : 50, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	10	[1,1000]	[1,10]	[2525,25255]	0.209	0.026	-2665.0	-1881.6	93.450 %	0.0307
10	50	10	[1,1000]	[1,10]	[5050,25255]	0.216	0.027	-5075.3	-4203.2	92.430 %	0.0399
10	50	10	[1,1000]	[5,10]	[2525,25257]	0.202	0.022	-2521.6	-1968.2	95.409 %	0.0335
10	50	10	[1,1000]	[5,10]	[5050,25257]	0.267	0.028	-5118.9	-4227.7	91.956 %	0.0358
10	50	10	[1,1000]	[1,30]	[2526,25265]	0.267	0.025	-2445.5	-1507.3	92.132 %	0.0249
10	50	10	[1,1000]	[1,30]	[5052,25265]	0.265	0.022	-5274.4	-4360.9	91.753 %	0.0425
10	50	10	[1,1000]	[15,30]	[2527,25272]	0.237	0.023	-2598.2	-1765.6	93.158 %	0.0346
10	50	10	[1,1000]	[15,30]	[5054,25272]	0.240	0.024	-5134.4	-4306.1	92.725 %	0.0340
10	50	10	[333,1000]	[1,10]	[3363,33638]	0.218	0.024	-3424.0	-2004.1	91.406 %	0.0357
10	50	10	[333,1000]	[1,10]	[6726,33638]	0.216	0.024	-6633.2	-5161.3	90.396 %	0.0380
10	50	10	[333,1000]	[5,10]	[3364,33640]	0.201	0.024	-3790.5	-2860.6	93.822 %	0.0298
10	50	10	[333,1000]	[5,10]	[6728,33640]	0.207	0.022	-7039.2	-5812.2	91.460 %	0.0342
10	50	10	[333,1000]	[1,30]	[3364,33648]	0.266	0.025	-3429.0	-1988.6	91.465 %	0.0349
10	50	10	[333,1000]	[1,30]	[6728,33648]	0.262	0.023	-6694.4	-5423.2	91.366 %	0.0470
10	50	10	[333,1000]	[15,30]	[3365,33655]	0.238	0.025	-3293.9	-1659.5	90.644 %	0.0287
10	50	10	[333,1000]	[15,30]	[6730,33655]	0.248	0.024	-6631.8	-4841.7	88.182 %	0.0351
10	50	10	[666,1000]	[1,10]	[4207,42071]	0.219	0.024	-4399.6	-2414.6	90.729 %	0.0261
10	50	10	[666,1000]	[1,10]	[8414,42071]	0.212	0.024	-8239.6	-5769.6	87.361 %	0.0292
10	50	10	[666,1000]	[5,10]	[4207,42073]	0.210	0.029	-4243.0	-2281.8	90.321 %	0.0432
10	50	10	[666,1000]	[5,10]	[8414,42073]	0.204	0.026	-8090.1	-6020.1	89.427 %	0.0418
10	50	10	[666,1000]	[1,30]	[4208,42081]	0.279	0.025	-3885.6	-1857.2	90.780 %	0.0475
10	50	10	[666,1000]	[1,30]	[8416,42081]	0.292	0.024	-8159.1	-5714.7	87.221 %	0.0351
10	50	10	[666,1000]	[15,30]	[4208,42088]	0.233	0.020	-4117.1	-1964.9	89.518 %	0.0358
10	50	10	[666,1000]	[15,30]	[8416,42088]	0.234	0.024	-8122.0	-6190.8	89.877 %	0.0358

Tiempo Promedio Total H_2: 0.235 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 91.125 %

Tabla de Experimentos

$n : 100, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	10	[1,1000]	[1,10]	[5050,50505]	1.100	0.064	-4964.3	-2850.0	91.560 %	0.0311
10	100	10	[1,1000]	[1,10]	[10100,50505]	1.038	0.066	-10283.2	-8378.4	91.423 %	0.0319
10	100	10	[1,1000]	[5,10]	[5050,50507]	1.033	0.064	-5029.4	-3230.9	92.570 %	0.0196
10	100	10	[1,1000]	[5,10]	[10100,50507]	1.070	0.066	-10133.9	-8397.2	92.368 %	0.0259
10	100	10	[1,1000]	[1,30]	[5051,50515]	1.257	0.061	-5005.4	-2730.8	90.941 %	0.0174
10	100	10	[1,1000]	[1,30]	[10102,50515]	1.228	0.061	-10007.3	-7815.6	90.280 %	0.0205
10	100	10	[1,1000]	[15,30]	[5052,50522]	1.128	0.061	-5020.2	-3049.2	91.958 %	0.0229
10	100	10	[1,1000]	[15,30]	[10104,50522]	1.112	0.062	-9987.7	-7836.6	90.278 %	0.0295
10	100	10	[333,1000]	[1,10]	[6727,67271]	1.044	0.063	-6545.0	-3342.3	90.602 %	0.0291
10	100	10	[333,1000]	[1,10]	[13454,67271]	1.065	0.063	-13130.5	-9841.5	89.433 %	0.0298
10	100	10	[333,1000]	[5,10]	[6727,67273]	1.033	0.064	-7311.6	-4225.5	90.808 %	0.0256
10	100	10	[333,1000]	[5,10]	[13454,67273]	1.016	0.065	-13416.9	-10117.1	89.238 %	0.0329
10	100	10	[333,1000]	[1,30]	[6728,67281]	1.275	0.066	-6814.2	-2671.2	87.761 %	0.0182
10	100	10	[333,1000]	[1,30]	[13456,67281]	1.258	0.061	-13406.4	-9677.5	87.939 %	0.0327
10	100	10	[333,1000]	[15,30]	[6728,67288]	1.114	0.060	-6572.6	-3001.4	89.164 %	0.0239
10	100	10	[333,1000]	[15,30]	[13456,67288]	1.119	0.062	-13336.2	-9550.9	87.810 %	0.0244
10	100	10	[666,1000]	[1,10]	[8413,84138]	1.112	0.065	-8515.1	-3924.7	89.636 %	0.0257
10	100	10	[666,1000]	[1,10]	[16826,84138]	1.048	0.063	-16634.8	-11918.3	88.293 %	0.0390
10	100	10	[666,1000]	[5,10]	[8414,84140]	1.027	0.064	-8452.6	-3567.5	89.127 %	0.0328
10	100	10	[666,1000]	[5,10]	[16828,84140]	0.998	0.063	-16913.7	-12510.5	88.266 %	0.0352
10	100	10	[666,1000]	[1,30]	[8414,84148]	1.232	0.065	-7917.2	-2485.8	87.738 %	0.0206
10	100	10	[666,1000]	[1,30]	[16828,84148]	1.265	0.060	-16601.2	-10733.8	85.239 %	0.0311
10	100	10	[666,1000]	[15,30]	[8415,84155]	1.150	0.064	-9116.9	-3917.0	87.836 %	0.0358
10	100	10	[666,1000]	[15,30]	[16830,84155]	1.126	0.063	-17231.6	-13152.1	89.472 %	0.0424

Tiempo Promedio Total H_2: 1.119 seg.

Tiempo Promedio Total H_1: 0.063 seg.

Rendimiento Promedio Total: 89.573 %

Tabla de Experimentos

$n : 200, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	10	[1,1000]	[1,10]	[10100,101005]	7.081	0.203	-10243.0	-5472.5	90.335 %	0.0191
10	200	10	[1,1000]	[1,10]	[20200,101005]	6.977	0.199	-20099.3	-15571.7	89.992 %	0.0240
10	200	10	[1,1000]	[5,10]	[10100,101007]	6.861	0.203	-9940.9	-5932.1	92.054 %	0.0254
10	200	10	[1,1000]	[5,10]	[20200,101007]	7.519	0.207	-20108.0	-15991.8	91.069 %	0.0227
10	200	10	[1,1000]	[1,30]	[10101,101015]	7.693	0.197	-10064.1	-5195.3	90.423 %	0.0218
10	200	10	[1,1000]	[1,30]	[20202,101015]	7.915	0.197	-20459.3	-15947.3	90.045 %	0.0201
10	200	10	[1,1000]	[15,30]	[10102,101022]	7.210	0.196	-10131.8	-5292.2	90.313 %	0.0155
10	200	10	[1,1000]	[15,30]	[20204,101022]	7.216	0.203	-20237.6	-15446.6	89.286 %	0.0261
10	200	10	[333,1000]	[1,10]	[13453,134537]	7.262	0.228	-13584.7	-6474.6	89.702 %	0.0252
10	200	10	[333,1000]	[1,10]	[26906,134537]	7.237	0.201	-27112.3	-19107.3	86.956 %	0.0256
10	200	10	[333,1000]	[5,10]	[13453,134539]	6.876	0.208	-13740.7	-5421.3	87.721 %	0.0200
10	200	10	[333,1000]	[5,10]	[26906,134539]	6.936	0.204	-26756.6	-20306.2	89.947 %	0.0271
10	200	10	[333,1000]	[1,30]	[13454,134547]	7.670	0.196	-13091.4	-4385.2	87.684 %	0.0196
10	200	10	[333,1000]	[1,30]	[26908,134547]	7.878	0.193	-26963.4	-19195.3	87.619 %	0.0369
10	200	10	[333,1000]	[15,30]	[13455,134554]	7.216	0.199	-13714.1	-5446.8	87.996 %	0.0159
10	200	10	[333,1000]	[15,30]	[26910,134554]	7.203	0.196	-26645.6	-17844.3	86.407 %	0.0262
10	200	10	[666,1000]	[1,10]	[16827,168271]	7.050	0.205	-16998.8	-6391.2	87.578 %	0.0220
10	200	10	[666,1000]	[1,10]	[33654,168271]	7.168	0.205	-33238.7	-21161.7	84.806 %	0.0143
10	200	10	[666,1000]	[5,10]	[16827,168273]	6.914	0.202	-16701.7	-5483.3	87.134 %	0.0158
10	200	10	[666,1000]	[5,10]	[33654,168273]	6.921	0.203	-33550.0	-21858.2	85.125 %	0.0223
10	200	10	[666,1000]	[1,30]	[16828,168281]	7.760	0.196	-17021.9	-5642.2	87.185 %	0.0268
10	200	10	[666,1000]	[1,30]	[33656,168281]	7.692	0.197	-33242.6	-20898.9	84.666 %	0.0134
10	200	10	[666,1000]	[15,30]	[16828,168288]	7.172	0.197	-16819.6	-5664.0	87.394 %	0.0180
10	200	10	[666,1000]	[15,30]	[33656,168288]	7.184	0.198	-33378.1	-21285.4	84.590 %	0.0222

Tiempo Promedio Total H_2: 7.275 seg.

Tiempo Promedio Total H_1: 0.201 seg.

Rendimiento Promedio Total: 88.168 %

Tabla de Experimentos

$n : 300, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	10	[1,1000]	[1,10]	[15150,151505]	23.037	0.463	-15381.2	-7341.6	89.438 %	0.0106
10	300	10	[1,1000]	[1,10]	[30300,151505]	22.717	0.439	-30384.6	-22469.2	88.422 %	0.0137
10	300	10	[1,1000]	[5,10]	[15150,151507]	22.586	0.520	-15121.3	-8374.1	91.155 %	0.0198
10	300	10	[1,1000]	[5,10]	[30300,151507]	22.512	0.448	-30509.3	-23865.5	90.196 %	0.0219
10	300	10	[1,1000]	[1,30]	[15151,151515]	24.077	0.430	-15163.7	-7751.1	90.180 %	0.0136
10	300	10	[1,1000]	[1,30]	[30302,151515]	24.166	0.435	-30430.6	-23349.6	89.740 %	0.0204
10	300	10	[1,1000]	[15,30]	[15152,151522]	23.376	0.432	-14983.4	-7266.8	89.786 %	0.0140
10	300	10	[1,1000]	[15,30]	[30304,151522]	23.568	0.443	-30156.2	-22036.0	88.160 %	0.0168
10	300	10	[333,1000]	[1,10]	[20180,201803]	23.301	0.444	-19987.1	-7651.1	88.143 %	0.0141
10	300	10	[333,1000]	[1,10]	[40360,201803]	22.837	0.444	-40146.9	-27254.8	86.251 %	0.0166
10	300	10	[333,1000]	[5,10]	[20180,201805]	22.663	0.452	-20104.3	-7761.1	88.109 %	0.0189
10	300	10	[333,1000]	[5,10]	[40360,201805]	23.153	0.472	-40052.8	-28348.7	87.518 %	0.0154
10	300	10	[333,1000]	[1,30]	[20181,201813]	24.668	0.436	-19949.5	-6961.5	87.516 %	0.0148
10	300	10	[333,1000]	[1,30]	[40362,201813]	25.176	0.430	-40040.5	-25755.3	85.134 %	0.0124
10	300	10	[333,1000]	[15,30]	[20182,201820]	23.812	0.501	-20126.0	-6267.3	86.934 %	0.0137
10	300	10	[333,1000]	[15,30]	[40364,201820]	23.321	0.437	-40545.5	-28041.7	86.760 %	0.0226
10	300	10	[666,1000]	[1,10]	[25240,252404]	24.193	0.478	-25223.1	-6546.1	85.697 %	0.0108
10	300	10	[666,1000]	[1,10]	[50480,252404]	23.058	0.521	-50512.8	-32849.5	85.202 %	0.0176
10	300	10	[666,1000]	[5,10]	[25240,252406]	23.084	0.449	-25324.5	-9014.4	87.432 %	0.0242
10	300	10	[666,1000]	[5,10]	[50480,252406]	23.056	0.449	-50539.8	-31879.3	84.384 %	0.0099
10	300	10	[666,1000]	[1,30]	[25241,252414]	24.720	0.433	-25283.5	-8208.8	86.844 %	0.0163
10	300	10	[666,1000]	[1,30]	[50482,252414]	24.526	0.447	-50613.1	-33379.6	85.494 %	0.0112
10	300	10	[666,1000]	[15,30]	[25242,252421]	24.109	0.447	-25405.6	-7699.1	86.640 %	0.0219
10	300	10	[666,1000]	[15,30]	[50484,252421]	23.730	0.446	-50275.4	-30403.9	83.340 %	0.0105

Tiempo Promedio Total H_2: 23.560 seg.

Tiempo Promedio Total H_1: 0.454 seg.

Rendimiento Promedio Total: 87.436 %

Tabla de Experimentos

$n : 500, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	10	[1,1000]	[1,10]	[25250,252505]	107.993	1.145	-25175.9	-11035.3	89.015 %	0.0100
10	500	10	[1,1000]	[1,10]	[50500,252505]	107.745	1.137	-50858.7	-38099.5	88.795 %	0.0123
10	500	10	[1,1000]	[5,10]	[25250,252507]	105.811	1.201	-25404.8	-12479.4	89.959 %	0.0129
10	500	10	[1,1000]	[5,10]	[50500,252507]	106.729	1.182	-50534.0	-37550.6	88.658 %	0.0088
10	500	10	[1,1000]	[1,30]	[25251,252515]	111.339	1.140	-25280.7	-11489.9	89.192 %	0.0153
10	500	10	[1,1000]	[1,30]	[50502,252515]	112.237	1.144	-50331.6	-35762.6	87.530 %	0.0104
10	500	10	[1,1000]	[15,30]	[25252,252522]	108.130	1.129	-25177.0	-11789.1	89.527 %	0.0126
10	500	10	[1,1000]	[15,30]	[50504,252522]	107.655	1.121	-50338.7	-37026.8	88.298 %	0.0181
10	500	10	[333,1000]	[1,10]	[33633,336335]	107.786	1.139	-33747.7	-12794.5	87.863 %	0.0107
10	500	10	[333,1000]	[1,10]	[67266,336335]	108.752	1.142	-67608.0	-45011.6	85.632 %	0.0081
10	500	10	[333,1000]	[5,10]	[33633,336337]	107.514	1.178	-33447.2	-12143.7	87.511 %	0.0135
10	500	10	[333,1000]	[5,10]	[67266,336337]	107.849	1.182	-67127.3	-45765.0	86.384 %	0.0115
10	500	10	[333,1000]	[1,30]	[33634,336345]	113.337	1.122	-33437.6	-9734.5	86.526 %	0.0087
10	500	10	[333,1000]	[1,30]	[67268,336345]	112.560	1.121	-67208.1	-43860.5	85.366 %	0.0129
10	500	10	[333,1000]	[15,30]	[33635,336352]	109.397	1.132	-33608.4	-11562.0	87.418 %	0.0162
10	500	10	[333,1000]	[15,30]	[67270,336352]	108.501	1.137	-67411.8	-44556.3	85.634 %	0.0170
10	500	10	[666,1000]	[1,10]	[42067,420670]	107.672	1.255	-42318.7	-11383.5	86.207 %	0.0142
10	500	10	[666,1000]	[1,10]	[84134,420670]	107.422	1.140	-84542.8	-50900.7	83.376 %	0.0103
10	500	10	[666,1000]	[5,10]	[42067,420672]	107.477	1.164	-41639.4	-11684.5	86.261 %	0.0100
10	500	10	[666,1000]	[5,10]	[84134,420672]	106.243	1.178	-83685.0	-53205.9	84.911 %	0.0102
10	500	10	[666,1000]	[1,30]	[42068,420680]	111.789	1.119	-41751.1	-10693.4	85.962 %	0.0162
10	500	10	[666,1000]	[1,30]	[84136,420680]	111.444	1.122	-84109.3	-50901.7	83.518 %	0.0121
10	500	10	[666,1000]	[15,30]	[42068,420687]	109.129	1.158	-41908.8	-10512.6	85.777 %	0.0240
10	500	10	[666,1000]	[15,30]	[84136,420687]	108.685	1.122	-84116.8	-50910.1	83.498 %	0.0091

Tiempo Promedio Total H_2: 108.883 seg.

Tiempo Promedio Total H_1: 1.150 seg.

Rendimiento Promedio Total: 86.784 %

Tabla de Experimentos

$n : 750, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	10	[1,1000]	[1,10]	[37875,378755]	398.204	2.646	-37889.0	-17359.9	89.145 %	0.0102
10	750	10	[1,1000]	[1,10]	[75750,378755]	395.662	2.587	-75871.4	-55566.0	88.197 %	0.0114
10	750	10	[1,1000]	[5,10]	[37875,378757]	394.850	2.816	-37848.0	-17201.5	89.175 %	0.0053
10	750	10	[1,1000]	[5,10]	[75750,378757]	396.138	2.716	-75667.9	-56695.3	88.749 %	0.0123
10	750	10	[1,1000]	[1,30]	[37876,378765]	406.547	2.673	-37784.7	-15179.0	88.455 %	0.0082
10	750	10	[1,1000]	[1,30]	[75752,378765]	407.650	2.507	-75882.4	-55610.5	88.189 %	0.0131
10	750	10	[1,1000]	[15,30]	[37877,378772]	399.119	2.557	-37928.5	-16607.1	88.909 %	0.0080
10	750	10	[1,1000]	[15,30]	[75754,378772]	401.843	2.564	-75801.3	-54227.2	87.533 %	0.0123
10	750	10	[333,1000]	[1,10]	[50450,504500]	400.092	2.833	-50263.7	-16937.7	87.211 %	0.0102
10	750	10	[333,1000]	[1,10]	[100900,504500]	400.002	2.592	-100540.6	-66312.5	85.720 %	0.0121
10	750	10	[333,1000]	[5,10]	[50450,504502]	397.436	2.928	-50384.3	-17776.0	87.539 %	0.0124
10	750	10	[333,1000]	[5,10]	[100900,504502]	394.048	2.729	-101494.1	-67279.5	85.498 %	0.0056
10	750	10	[333,1000]	[1,30]	[50451,504510]	407.542	2.520	-50573.2	-14661.7	86.254 %	0.0120
10	750	10	[333,1000]	[1,30]	[100902,504510]	405.862	2.729	-100799.4	-64027.5	84.573 %	0.0127
10	750	10	[333,1000]	[15,30]	[50451,504517]	401.304	2.504	-50501.2	-14600.4	86.502 %	0.0122
10	750	10	[333,1000]	[15,30]	[100902,504517]	397.907	2.560	-100876.9	-63452.0	84.444 %	0.0099
10	750	10	[666,1000]	[1,10]	[63100,631002]	394.718	2.590	-63085.3	-14072.7	85.259 %	0.0103
10	750	10	[666,1000]	[1,10]	[126200,631002]	397.284	2.638	-126140.3	-77712.5	83.838 %	0.0096
10	750	10	[666,1000]	[5,10]	[63100,631004]	390.842	2.858	-63599.2	-16902.6	85.831 %	0.0076
10	750	10	[666,1000]	[5,10]	[126200,631004]	389.842	2.601	-126576.1	-82559.7	85.273 %	0.0114
10	750	10	[666,1000]	[1,30]	[63101,631012]	401.833	2.511	-63593.0	-13757.3	85.195 %	0.0078
10	750	10	[666,1000]	[1,30]	[126202,631012]	399.145	2.493	-126336.8	-74584.4	83.000 %	0.0104
10	750	10	[666,1000]	[15,30]	[63101,631019]	391.656	2.523	-62998.8	-13594.2	85.062 %	0.0082
10	750	10	[666,1000]	[15,30]	[126202,631019]	390.795	2.787	-125795.2	-75887.5	83.534 %	0.0097

Tiempo Promedio Total H_2: 398.347 seg.

Tiempo Promedio Total H_1: 2.644 seg.

Rendimiento Promedio Total: 86.379 %

Tabla de Experimentos

$n : 1000, m : 10, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	10	[1,1000]	[1,10]	[50500,505005]	917.193	4.558	-50410.4	-21764.3	88.786 %	0.0097
10	1000	10	[1,1000]	[1,10]	[101000,505005]	915.713	4.549	-100895.7	-72910.7	87.869 %	0.0093
10	1000	10	[1,1000]	[5,10]	[50500,505007]	913.531	4.685	-50764.0	-24884.0	89.831 %	0.0056
10	1000	10	[1,1000]	[5,10]	[101000,505007]	914.892	4.680	-100940.0	-74606.7	88.486 %	0.0064
10	1000	10	[1,1000]	[1,30]	[50501,505015]	947.664	4.432	-50434.9	-22248.1	88.918 %	0.0110
10	1000	10	[1,1000]	[1,30]	[101002,505015]	957.465	4.447	-101009.6	-70991.3	87.054 %	0.0094
10	1000	10	[1,1000]	[15,30]	[50502,505022]	940.697	4.964	-50525.0	-22086.4	88.879 %	0.0110
10	1000	10	[1,1000]	[15,30]	[101004,505022]	942.044	4.538	-101006.4	-71905.0	87.420 %	0.0061
10	1000	10	[333,1000]	[1,10]	[67266,672665]	949.856	4.660	-67211.0	-19090.9	86.232 %	0.0076
10	1000	10	[333,1000]	[1,10]	[134532,672665]	944.320	4.598	-134354.8	-87042.3	84.968 %	0.0102
10	1000	10	[333,1000]	[5,10]	[67266,672667]	949.586	4.742	-67630.7	-21774.4	86.900 %	0.0055
10	1000	10	[333,1000]	[5,10]	[134532,672667]	946.752	4.684	-134876.8	-90121.7	85.824 %	0.0070
10	1000	10	[333,1000]	[1,30]	[67267,672675]	973.128	4.599	-67238.2	-17494.9	85.968 %	0.0092
10	1000	10	[333,1000]	[1,30]	[134534,672675]	978.138	4.743	-134457.3	-87062.2	85.038 %	0.0101
10	1000	10	[333,1000]	[15,30]	[67268,672682]	969.489	4.630	-67177.4	-19593.5	86.422 %	0.0132
10	1000	10	[333,1000]	[15,30]	[134536,672682]	972.082	4.672	-134372.5	-85024.5	84.560 %	0.0108
10	1000	10	[666,1000]	[1,10]	[84133,841335]	970.238	4.635	-83903.9	-19384.2	85.424 %	0.0114
10	1000	10	[666,1000]	[1,10]	[168266,841335]	965.446	5.032	-168183.1	-99055.0	82.948 %	0.0063
10	1000	10	[666,1000]	[5,10]	[84133,841337]	965.071	4.858	-83906.3	-20390.8	85.620 %	0.0067
10	1000	10	[666,1000]	[5,10]	[168266,841337]	966.049	4.832	-167905.3	-105380.0	84.256 %	0.0100
10	1000	10	[666,1000]	[1,30]	[84134,841345]	990.228	4.624	-83875.2	-14632.6	84.562 %	0.0108
10	1000	10	[666,1000]	[1,30]	[168268,841345]	991.825	4.903	-168302.6	-99080.4	82.912 %	0.0135
10	1000	10	[666,1000]	[15,30]	[84135,841352]	974.831	4.624	-84015.4	-14030.4	84.402 %	0.0050
10	1000	10	[666,1000]	[15,30]	[168270,841352]	981.710	4.665	-168059.4	-98745.9	82.866 %	0.0095

Tiempo Promedio Total H_2: 955.748 seg.

Tiempo Promedio Total H_1: 4.681 seg.

Rendimiento Promedio Total: 86.089 %

Tabla de Experimentos

$n : 10, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	20	[1,1000]	[1,10]	[505,5055]	0.022	0.009	-746.2	-746.2	100.000 %	0.0000
10	10	20	[1,1000]	[1,10]	[1010,5055]	0.023	0.008	-1300.0	-1300.0	100.000 %	0.0000
10	10	20	[1,1000]	[5,10]	[505,5057]	0.020	0.008	-369.5	-369.5	100.000 %	0.0000
10	10	20	[1,1000]	[5,10]	[1010,5057]	0.023	0.010	-980.4	-980.4	100.000 %	0.0000
10	10	20	[1,1000]	[1,30]	[506,5065]	0.024	0.008	-594.9	-594.9	100.000 %	0.0000
10	10	20	[1,1000]	[1,30]	[1012,5065]	0.021	0.011	-967.4	-967.4	100.000 %	0.0000
10	10	20	[1,1000]	[15,30]	[507,5072]	0.022	0.008	-314.6	-314.6	100.000 %	0.0000
10	10	20	[1,1000]	[15,30]	[1014,5072]	0.021	0.009	-972.7	-972.7	100.000 %	0.0000
10	10	20	[333,1000]	[1,10]	[673,6731]	0.025	0.008	-414.3	-414.3	100.000 %	0.0000
10	10	20	[333,1000]	[1,10]	[1346,6731]	0.026	0.010	-1145.3	-1145.3	100.000 %	0.0000
10	10	20	[333,1000]	[5,10]	[673,6733]	0.022	0.009	-526.8	-526.8	100.000 %	0.0000
10	10	20	[333,1000]	[5,10]	[1346,6733]	0.020	0.012	-955.7	-955.7	100.000 %	0.0000
10	10	20	[333,1000]	[1,30]	[674,6741]	0.024	0.009	-579.2	-579.2	100.000 %	0.0000
10	10	20	[333,1000]	[1,30]	[1348,6741]	0.027	0.008	-1472.0	-1472.0	100.000 %	0.0000
10	10	20	[333,1000]	[15,30]	[674,6748]	0.031	0.014	-832.9	-832.9	100.000 %	0.0000
10	10	20	[333,1000]	[15,30]	[1348,6748]	0.036	0.014	-1258.7	-1258.7	100.000 %	0.0000
10	10	20	[666,1000]	[1,10]	[841,8418]	0.025	0.010	-817.9	-817.9	100.000 %	0.0000
10	10	20	[666,1000]	[1,10]	[1682,8418]	0.030	0.011	-1324.2	-1324.2	100.000 %	0.0000
10	10	20	[666,1000]	[5,10]	[842,8420]	0.022	0.009	-849.1	-849.1	100.000 %	0.0000
10	10	20	[666,1000]	[5,10]	[1684,8420]	0.024	0.008	-1365.5	-1365.5	100.000 %	0.0000
10	10	20	[666,1000]	[1,30]	[842,8428]	0.026	0.008	-577.4	-577.4	100.000 %	0.0000
10	10	20	[666,1000]	[1,30]	[1684,8428]	0.021	0.010	-1834.8	-1834.8	100.000 %	0.0000
10	10	20	[666,1000]	[15,30]	[843,8435]	0.022	0.008	-885.9	-885.9	100.000 %	0.0000
10	10	20	[666,1000]	[15,30]	[1686,8435]	0.024	0.008	-1559.7	-1559.7	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.024 seg.

Tiempo Promedio Total H_1: 0.009 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 20, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	20	[1,1000]	[1,10]	[1010,10105]	0.060	0.011	-966.6	-966.6	100.000 %	0.0000
10	20	20	[1,1000]	[1,10]	[2020,10105]	0.066	0.013	-1983.7	-1977.0	99.859 %	0.0042
10	20	20	[1,1000]	[5,10]	[1010,10107]	0.051	0.011	-1080.8	-1059.3	99.552 %	0.0135
10	20	20	[1,1000]	[5,10]	[2020,10107]	0.057	0.013	-2081.0	-2081.0	100.000 %	0.0000
10	20	20	[1,1000]	[1,30]	[1011,10115]	0.068	0.011	-961.7	-958.0	99.923 %	0.0023
10	20	20	[1,1000]	[1,30]	[2022,10115]	0.072	0.012	-1988.3	-1977.0	99.762 %	0.0071
10	20	20	[1,1000]	[15,30]	[1012,10122]	0.106	0.022	-808.5	-808.5	100.000 %	0.0000
10	20	20	[1,1000]	[15,30]	[2024,10122]	0.081	0.018	-1843.3	-1843.3	100.000 %	0.0000
10	20	20	[333,1000]	[1,10]	[1345,13458]	0.061	0.013	-1265.3	-1265.3	100.000 %	0.0000
10	20	20	[333,1000]	[1,10]	[2690,13458]	0.095	0.016	-2809.7	-2771.5	99.160 %	0.0221
10	20	20	[333,1000]	[5,10]	[1346,13460]	0.052	0.013	-1175.2	-1153.8	99.686 %	0.0094
10	20	20	[333,1000]	[5,10]	[2692,13460]	0.053	0.011	-2480.4	-2472.4	99.870 %	0.0039
10	20	20	[333,1000]	[1,30]	[1346,13468]	0.077	0.014	-1459.6	-1437.9	99.643 %	0.0072
10	20	20	[333,1000]	[1,30]	[2692,13468]	0.068	0.013	-2661.3	-2612.9	99.160 %	0.0170
10	20	20	[333,1000]	[15,30]	[1347,13475]	0.063	0.012	-1357.3	-1357.3	100.000 %	0.0000
10	20	20	[333,1000]	[15,30]	[2694,13475]	0.067	0.013	-2774.4	-2771.0	99.940 %	0.0018
10	20	20	[666,1000]	[1,10]	[1683,16831]	0.069	0.018	-1678.1	-1678.1	100.000 %	0.0000
10	20	20	[666,1000]	[1,10]	[3366,16831]	0.057	0.011	-3124.3	-3121.0	99.953 %	0.0014
10	20	20	[666,1000]	[5,10]	[1683,16833]	0.056	0.011	-1783.9	-1758.6	99.737 %	0.0079
10	20	20	[666,1000]	[5,10]	[3366,16833]	0.053	0.012	-2920.3	-2902.4	99.674 %	0.0098
10	20	20	[666,1000]	[1,30]	[1684,16841]	0.067	0.016	-1646.7	-1646.7	100.000 %	0.0000
10	20	20	[666,1000]	[1,30]	[3368,16841]	0.070	0.013	-3279.7	-3271.4	99.904 %	0.0029
10	20	20	[666,1000]	[15,30]	[1684,16848]	0.066	0.017	-1630.9	-1624.4	99.912 %	0.0027
10	20	20	[666,1000]	[15,30]	[3368,16848]	0.064	0.011	-3241.9	-3238.8	99.948 %	0.0016

Tiempo Promedio Total H_2: 0.067 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 99.820 %

Tabla de Experimentos

$n : 30, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	20	[1,1000]	[1,10]	[1515,15155]	0.112	0.013	-1582.1	-1530.9	99.221 %	0.0112
10	30	20	[1,1000]	[1,10]	[3030,15155]	0.113	0.017	-3123.7	-3105.0	99.670 %	0.0083
10	30	20	[1,1000]	[5,10]	[1515,15157]	0.101	0.015	-1557.6	-1526.7	99.576 %	0.0110
10	30	20	[1,1000]	[5,10]	[3030,15157]	0.100	0.016	-2959.7	-2913.5	99.224 %	0.0127
10	30	20	[1,1000]	[1,30]	[1516,15165]	0.140	0.018	-1402.8	-1341.2	99.055 %	0.0141
10	30	20	[1,1000]	[1,30]	[3032,15165]	0.183	0.016	-3012.7	-3003.5	99.865 %	0.0029
10	30	20	[1,1000]	[15,30]	[1517,15172]	0.126	0.019	-1792.4	-1780.1	99.805 %	0.0058
10	30	20	[1,1000]	[15,30]	[3034,15172]	0.121	0.015	-2909.8	-2833.7	98.687 %	0.0165
10	30	20	[333,1000]	[1,10]	[2018,20184]	0.110	0.015	-1815.0	-1723.7	99.018 %	0.0196
10	30	20	[333,1000]	[1,10]	[4036,20184]	0.113	0.018	-4180.0	-3994.0	97.767 %	0.0172
10	30	20	[333,1000]	[5,10]	[2018,20186]	0.103	0.018	-2121.2	-2108.2	99.847 %	0.0031
10	30	20	[333,1000]	[5,10]	[4036,20186]	0.104	0.016	-4205.6	-4059.5	98.195 %	0.0223
10	30	20	[333,1000]	[1,30]	[2019,20194]	0.141	0.016	-1891.2	-1666.4	97.676 %	0.0187
10	30	20	[333,1000]	[1,30]	[4038,20194]	0.142	0.019	-3885.5	-3766.8	98.515 %	0.0235
10	30	20	[333,1000]	[15,30]	[2020,20202]	0.125	0.016	-2051.5	-1830.4	97.679 %	0.0250
10	30	20	[333,1000]	[15,30]	[4040,20202]	0.120	0.015	-3913.1	-3714.3	97.743 %	0.0177
10	30	20	[666,1000]	[1,10]	[2524,25244]	0.114	0.014	-2762.8	-2369.8	96.393 %	0.0311
10	30	20	[666,1000]	[1,10]	[5048,25244]	0.114	0.015	-5470.9	-5349.6	98.705 %	0.0250
10	30	20	[666,1000]	[5,10]	[2524,25246]	0.099	0.015	-2511.8	-2213.2	97.566 %	0.0283
10	30	20	[666,1000]	[5,10]	[5048,25246]	0.102	0.017	-4708.7	-4420.6	97.313 %	0.0304
10	30	20	[666,1000]	[1,30]	[2525,25255]	0.143	0.016	-2840.4	-2563.6	97.780 %	0.0250
10	30	20	[666,1000]	[1,30]	[5050,25255]	0.155	0.016	-4704.5	-4350.0	96.825 %	0.0270
10	30	20	[666,1000]	[15,30]	[2526,25262]	0.121	0.012	-2420.3	-2242.7	98.591 %	0.0177
10	30	20	[666,1000]	[15,30]	[5052,25262]	0.123	0.016	-4708.5	-4370.1	96.874 %	0.0323

Tiempo Promedio Total H_2: 0.122 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 98.400 %

Tabla de Experimentos

$n : 50, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	20	[1,1000]	[1,10]	[2525,25255]	0.255	0.027	-2416.8	-2197.1	98.113 %	0.0199
10	50	20	[1,1000]	[1,10]	[5050,25255]	0.281	0.027	-5012.3	-4729.3	97.339 %	0.0211
10	50	20	[1,1000]	[5,10]	[2525,25257]	0.280	0.027	-2755.3	-2505.3	97.857 %	0.0214
10	50	20	[1,1000]	[5,10]	[5050,25257]	0.250	0.028	-5066.5	-4950.4	98.891 %	0.0149
10	50	20	[1,1000]	[1,30]	[2526,25265]	0.312	0.026	-2277.0	-2004.5	97.571 %	0.0183
10	50	20	[1,1000]	[1,30]	[5052,25265]	0.316	0.027	-5249.9	-5123.3	98.769 %	0.0118
10	50	20	[1,1000]	[15,30]	[2527,25272]	0.281	0.029	-2760.8	-2586.6	98.512 %	0.0137
10	50	20	[1,1000]	[15,30]	[5054,25272]	0.298	0.027	-4839.6	-4573.8	97.423 %	0.0173
10	50	20	[333,1000]	[1,10]	[3363,33638]	0.257	0.027	-3340.2	-2545.3	95.081 %	0.0152
10	50	20	[333,1000]	[1,10]	[6726,33638]	0.268	0.026	-6401.6	-6087.2	97.721 %	0.0232
10	50	20	[333,1000]	[5,10]	[3364,33640]	0.249	0.028	-3606.3	-3032.9	96.498 %	0.0198
10	50	20	[333,1000]	[5,10]	[6728,33640]	0.241	0.030	-6791.9	-6410.4	97.348 %	0.0208
10	50	20	[333,1000]	[1,30]	[3364,33648]	0.313	0.025	-3202.6	-2646.6	96.409 %	0.0192
10	50	20	[333,1000]	[1,30]	[6728,33648]	0.345	0.025	-6727.7	-6167.6	96.004 %	0.0123
10	50	20	[333,1000]	[15,30]	[3365,33655]	0.289	0.026	-3409.5	-2949.5	97.053 %	0.0183
10	50	20	[333,1000]	[15,30]	[6730,33655]	0.284	0.025	-6658.1	-6215.4	96.811 %	0.0210
10	50	20	[666,1000]	[1,10]	[4207,42071]	0.264	0.026	-3992.9	-3631.3	98.218 %	0.0234
10	50	20	[666,1000]	[1,10]	[8414,42071]	0.257	0.025	-8138.8	-7406.4	95.750 %	0.0221
10	50	20	[666,1000]	[5,10]	[4207,42073]	0.241	0.028	-4059.2	-3673.8	98.036 %	0.0186
10	50	20	[666,1000]	[5,10]	[8414,42073]	0.269	0.025	-8290.3	-7384.5	94.904 %	0.0291
10	50	20	[666,1000]	[1,30]	[4208,42081]	0.322	0.025	-4053.0	-3278.4	95.978 %	0.0263
10	50	20	[666,1000]	[1,30]	[8416,42081]	0.323	0.026	-8398.8	-7717.9	95.946 %	0.0142
10	50	20	[666,1000]	[15,30]	[4208,42088]	0.278	0.025	-4000.0	-3222.9	96.212 %	0.0271
10	50	20	[666,1000]	[15,30]	[8416,42088]	0.281	0.026	-8289.1	-7295.3	94.473 %	0.0177

Tiempo Promedio Total H_2: 0.281 seg.

Tiempo Promedio Total H_1: 0.026 seg.

Rendimiento Promedio Total: 96.955 %

Tabla de Experimentos

$n : 100, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	20	[1,1000]	[1,10]	[5050,50505]	1.210	0.072	-4954.4	-4398.0	97.716 %	0.0173
10	100	20	[1,1000]	[1,10]	[10100,50505]	1.175	0.063	-10117.1	-9278.4	95.958 %	0.0189
10	100	20	[1,1000]	[5,10]	[5050,50507]	1.154	0.067	-5192.1	-4443.4	96.792 %	0.0165
10	100	20	[1,1000]	[5,10]	[10100,50507]	1.110	0.068	-10001.7	-9322.3	96.719 %	0.0179
10	100	20	[1,1000]	[1,30]	[5051,50515]	1.375	0.068	-5113.3	-4543.5	97.583 %	0.0187
10	100	20	[1,1000]	[1,30]	[10102,50515]	1.317	0.071	-10237.5	-9469.9	96.330 %	0.0141
10	100	20	[1,1000]	[15,30]	[5052,50522]	1.222	0.066	-5058.3	-4430.9	97.268 %	0.0206
10	100	20	[1,1000]	[15,30]	[10104,50522]	1.254	0.070	-10303.9	-9500.7	96.259 %	0.0243
10	100	20	[333,1000]	[1,10]	[6727,67271]	1.171	0.068	-6727.3	-5910.6	97.422 %	0.0166
10	100	20	[333,1000]	[1,10]	[13454,67271]	1.209	0.065	-13255.6	-12170.0	96.136 %	0.0230
10	100	20	[333,1000]	[5,10]	[6727,67273]	1.136	0.067	-7023.0	-5816.8	96.179 %	0.0194
10	100	20	[333,1000]	[5,10]	[13454,67273]	1.123	0.070	-13317.4	-12167.5	96.034 %	0.0202
10	100	20	[333,1000]	[1,30]	[6728,67281]	1.490	0.074	-6847.6	-5768.5	96.611 %	0.0188
10	100	20	[333,1000]	[1,30]	[13456,67281]	1.415	0.067	-13468.0	-11961.2	94.813 %	0.0203
10	100	20	[333,1000]	[15,30]	[6728,67288]	1.257	0.066	-6361.2	-4979.9	95.748 %	0.0222
10	100	20	[333,1000]	[15,30]	[13456,67288]	1.235	0.071	-13142.3	-11892.8	95.581 %	0.0110
10	100	20	[666,1000]	[1,10]	[8413,84138]	1.183	0.071	-8665.3	-6713.8	95.165 %	0.0248
10	100	20	[666,1000]	[1,10]	[16826,84138]	1.196	0.072	-16582.2	-14968.5	95.461 %	0.0195
10	100	20	[666,1000]	[5,10]	[8414,84140]	1.101	0.071	-8239.4	-6904.5	96.601 %	0.0157
10	100	20	[666,1000]	[5,10]	[16828,84140]	1.124	0.076	-16551.8	-14996.9	95.528 %	0.0184
10	100	20	[666,1000]	[1,30]	[8414,84148]	1.423	0.068	-8276.6	-6453.3	95.424 %	0.0168
10	100	20	[666,1000]	[1,30]	[16828,84148]	1.380	0.065	-16804.1	-15015.8	94.895 %	0.0259
10	100	20	[666,1000]	[15,30]	[8415,84155]	1.229	0.063	-8703.2	-6841.8	95.323 %	0.0233
10	100	20	[666,1000]	[15,30]	[16830,84155]	1.232	0.070	-16572.1	-14722.6	94.778 %	0.0236

Tiempo Promedio Total H_2: 1.238 seg.

Tiempo Promedio Total H_1: 0.069 seg.

Rendimiento Promedio Total: 96.097 %

Tabla de Experimentos

$n : 200, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	20	[1,1000]	[1,10]	[10100,101005]	7.171	0.211	-9991.5	-8448.9	96.702 %	0.0092
10	200	20	[1,1000]	[1,10]	[20200,101005]	7.169	0.212	-20336.8	-18376.5	95.463 %	0.0161
10	200	20	[1,1000]	[5,10]	[10100,101007]	7.056	0.219	-10217.2	-8253.2	95.806 %	0.0143
10	200	20	[1,1000]	[5,10]	[20200,101007]	7.050	0.218	-20054.8	-18456.3	96.248 %	0.0149
10	200	20	[1,1000]	[1,30]	[10101,101015]	7.888	0.210	-10280.9	-8518.7	96.206 %	0.0119
10	200	20	[1,1000]	[1,30]	[20202,101015]	7.715	0.207	-20566.1	-19040.5	96.370 %	0.0212
10	200	20	[1,1000]	[15,30]	[10102,101022]	7.320	0.211	-10432.7	-8591.5	95.945 %	0.0150
10	200	20	[1,1000]	[15,30]	[20204,101022]	7.404	0.213	-20301.8	-18122.0	94.891 %	0.0095
10	200	20	[333,1000]	[1,10]	[13453,134537]	7.316	0.214	-13447.3	-9907.4	94.434 %	0.0154
10	200	20	[333,1000]	[1,10]	[26906,134537]	7.653	0.213	-26840.7	-23237.7	93.794 %	0.0150
10	200	20	[333,1000]	[5,10]	[13453,134539]	7.071	0.220	-13410.7	-10111.0	94.966 %	0.0096
10	200	20	[333,1000]	[5,10]	[26906,134539]	7.121	0.230	-26695.2	-23805.5	94.815 %	0.0199
10	200	20	[333,1000]	[1,30]	[13454,134547]	8.017	0.208	-13529.9	-10139.3	94.783 %	0.0177
10	200	20	[333,1000]	[1,30]	[26908,134547]	7.850	0.208	-26898.8	-23266.4	93.613 %	0.0165
10	200	20	[333,1000]	[15,30]	[13455,134554]	7.848	0.210	-13333.7	-10142.7	94.954 %	0.0123
10	200	20	[333,1000]	[15,30]	[26910,134554]	7.465	0.211	-27282.8	-24954.8	95.774 %	0.0139
10	200	20	[666,1000]	[1,10]	[16827,168271]	7.204	0.212	-16641.0	-12367.2	94.694 %	0.0190
10	200	20	[666,1000]	[1,10]	[33654,168271]	7.325	0.215	-33597.7	-28660.2	93.370 %	0.0078
10	200	20	[666,1000]	[5,10]	[16827,168273]	7.135	0.220	-16452.7	-11496.3	93.950 %	0.0108
10	200	20	[666,1000]	[5,10]	[33654,168273]	7.153	0.224	-33633.2	-29196.4	93.678 %	0.0183
10	200	20	[666,1000]	[1,30]	[16828,168281]	7.946	0.207	-16912.0	-11430.2	93.248 %	0.0142
10	200	20	[666,1000]	[1,30]	[33656,168281]	8.266	0.210	-33244.0	-27384.4	91.917 %	0.0096
10	200	20	[666,1000]	[15,30]	[16828,168288]	7.432	0.219	-16893.8	-11418.0	93.166 %	0.0079
10	200	20	[666,1000]	[15,30]	[33656,168288]	7.480	0.210	-33175.3	-28305.6	93.234 %	0.0146

Tiempo Promedio Total H_2: 7.461 seg.

Tiempo Promedio Total H_1: 0.214 seg.

Rendimiento Promedio Total: 94.668 %

Tabla de Experimentos

$n : 300, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	20	[1,1000]	[1,10]	[15150,151505]	22.574	0.439	-15291.6	-12748.8	96.403 %	0.0157
10	300	20	[1,1000]	[1,10]	[30300,151505]	22.810	0.430	-30231.1	-26790.0	94.605 %	0.0097
10	300	20	[1,1000]	[5,10]	[15150,151507]	22.404	0.439	-15038.9	-11761.6	95.434 %	0.0094
10	300	20	[1,1000]	[5,10]	[30300,151507]	22.396	0.441	-30386.4	-27990.2	96.244 %	0.0120
10	300	20	[1,1000]	[1,30]	[15151,151515]	24.063	0.427	-15295.0	-11977.1	95.484 %	0.0116
10	300	20	[1,1000]	[1,30]	[30302,151515]	24.195	0.418	-30283.6	-27413.5	95.611 %	0.0203
10	300	20	[1,1000]	[15,30]	[15152,151522]	23.736	0.423	-15077.9	-11787.7	95.398 %	0.0108
10	300	20	[1,1000]	[15,30]	[30304,151522]	23.534	0.426	-30170.2	-26761.1	94.642 %	0.0085
10	300	20	[333,1000]	[1,10]	[20180,201803]	23.136	0.436	-20543.1	-15694.6	94.923 %	0.0130
10	300	20	[333,1000]	[1,10]	[40360,201803]	23.225	0.439	-40139.9	-33993.0	92.920 %	0.0093
10	300	20	[333,1000]	[5,10]	[20180,201805]	23.107	0.440	-20802.0	-15443.9	94.462 %	0.0120
10	300	20	[333,1000]	[5,10]	[40360,201805]	22.721	0.437	-40644.4	-35167.1	93.738 %	0.0168
10	300	20	[333,1000]	[1,30]	[20181,201813]	24.547	0.420	-20084.1	-14139.0	93.760 %	0.0096
10	300	20	[333,1000]	[1,30]	[40362,201813]	24.355	0.418	-40116.9	-33606.1	92.509 %	0.0138
10	300	20	[333,1000]	[15,30]	[20182,201820]	23.318	0.425	-20074.6	-14960.6	94.701 %	0.0150
10	300	20	[333,1000]	[15,30]	[40364,201820]	23.689	0.428	-40571.3	-34200.0	92.700 %	0.0092
10	300	20	[666,1000]	[1,10]	[25240,252404]	23.056	0.433	-24941.8	-16562.9	93.060 %	0.0139
10	300	20	[666,1000]	[1,10]	[50480,252404]	23.368	0.428	-50218.0	-42831.1	93.339 %	0.0151
10	300	20	[666,1000]	[5,10]	[25240,252406]	22.676	0.439	-25104.3	-19044.1	94.921 %	0.0146
10	300	20	[666,1000]	[5,10]	[50480,252406]	22.814	0.441	-50487.6	-43234.2	93.360 %	0.0170
10	300	20	[666,1000]	[1,30]	[25241,252414]	24.532	0.425	-25394.3	-16386.2	92.636 %	0.0194
10	300	20	[666,1000]	[1,30]	[50482,252414]	24.717	0.419	-50396.8	-41961.2	92.366 %	0.0112
10	300	20	[666,1000]	[15,30]	[25242,252421]	23.628	0.426	-24910.8	-15846.9	92.599 %	0.0068
10	300	20	[666,1000]	[15,30]	[50484,252421]	23.941	0.424	-50598.3	-42362.3	92.533 %	0.0116

Tiempo Promedio Total H_2: 23.439 seg.

Tiempo Promedio Total H_1: 0.430 seg.

Rendimiento Promedio Total: 94.098 %

Tabla de Experimentos

$n : 500, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	20	[1,1000]	[1,10]	[25250,252505]	105.939	1.170	-25201.3	-19021.6	94.835 %	0.0104
10	500	20	[1,1000]	[1,10]	[50500,252505]	105.166	1.165	-50679.9	-44970.5	94.666 %	0.0132
10	500	20	[1,1000]	[5,10]	[25250,252507]	104.270	1.201	-25190.3	-19699.6	95.401 %	0.0040
10	500	20	[1,1000]	[5,10]	[50500,252507]	103.548	1.194	-50817.5	-45143.1	94.688 %	0.0081
10	500	20	[1,1000]	[1,30]	[25251,252515]	108.974	1.145	-25166.6	-19338.4	95.192 %	0.0125
10	500	20	[1,1000]	[1,30]	[50502,252515]	108.185	1.131	-50401.4	-44719.9	94.686 %	0.0123
10	500	20	[1,1000]	[15,30]	[25252,252522]	105.768	1.141	-25199.9	-18747.9	94.594 %	0.0086
10	500	20	[1,1000]	[15,30]	[50504,252522]	106.040	1.151	-50474.5	-44485.0	94.423 %	0.0138
10	500	20	[333,1000]	[1,10]	[33633,336335]	105.631	1.161	-33712.4	-24575.4	94.287 %	0.0105
10	500	20	[333,1000]	[1,10]	[67266,336335]	105.420	1.164	-67335.8	-57238.0	93.018 %	0.0088
10	500	20	[333,1000]	[5,10]	[33633,336337]	105.338	1.193	-33468.0	-24130.2	94.202 %	0.0113
10	500	20	[333,1000]	[5,10]	[67266,336337]	105.809	1.205	-67242.7	-57572.4	93.323 %	0.0094
10	500	20	[333,1000]	[1,30]	[33634,336345]	110.199	1.152	-33987.9	-24120.4	93.861 %	0.0092
10	500	20	[333,1000]	[1,30]	[67268,336345]	111.446	1.146	-67398.8	-57380.9	93.004 %	0.0124
10	500	20	[333,1000]	[15,30]	[33635,336352]	108.607	1.156	-33586.4	-21855.6	92.855 %	0.0070
10	500	20	[333,1000]	[15,30]	[67270,336352]	108.064	1.173	-67099.9	-56218.9	92.573 %	0.0074
10	500	20	[666,1000]	[1,10]	[42067,420670]	107.058	1.167	-42260.5	-28582.7	93.248 %	0.0081
10	500	20	[666,1000]	[1,10]	[84134,420670]	106.696	1.177	-83807.2	-68483.0	91.691 %	0.0082
10	500	20	[666,1000]	[5,10]	[42067,420672]	105.163	1.205	-42498.9	-28918.9	93.297 %	0.0121
10	500	20	[666,1000]	[5,10]	[84134,420672]	106.174	1.202	-84025.5	-70654.7	92.720 %	0.0145
10	500	20	[666,1000]	[1,30]	[42068,420680]	110.204	1.134	-41780.6	-25556.3	92.180 %	0.0072
10	500	20	[666,1000]	[1,30]	[84136,420680]	111.536	1.144	-83893.0	-67119.7	90.854 %	0.0084
10	500	20	[666,1000]	[15,30]	[42068,420687]	108.303	1.144	-42031.8	-27540.3	92.852 %	0.0111
10	500	20	[666,1000]	[15,30]	[84136,420687]	108.311	1.165	-84420.2	-69313.8	91.785 %	0.0125

Tiempo Promedio Total H_2: 107.160 seg.

Tiempo Promedio Total H_1: 1.166 seg.

Rendimiento Promedio Total: 93.510 %

Tabla de Experimentos

$n : 750, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	20	[1,1000]	[1,10]	[37875,378755]	370.229	2.577	-37997.1	-29301.4	95.184 %	0.0077
10	750	20	[1,1000]	[1,10]	[75750,378755]	369.634	2.546	-75721.8	-65924.0	93.978 %	0.0073
10	750	20	[1,1000]	[5,10]	[37875,378757]	369.816	2.717	-38136.7	-29113.3	94.962 %	0.0044
10	750	20	[1,1000]	[5,10]	[75750,378757]	367.032	2.627	-75854.1	-66526.6	94.269 %	0.0054
10	750	20	[1,1000]	[1,30]	[37876,378765]	378.177	2.485	-37659.6	-27255.0	94.255 %	0.0042
10	750	20	[1,1000]	[1,30]	[75752,378765]	378.155	2.488	-75868.5	-66578.8	94.199 %	0.0090
10	750	20	[1,1000]	[15,30]	[37877,378772]	372.283	2.511	-37767.7	-28274.2	94.684 %	0.0063
10	750	20	[1,1000]	[15,30]	[75754,378772]	370.788	2.515	-75811.8	-66078.7	93.967 %	0.0053
10	750	20	[333,1000]	[1,10]	[50450,504500]	371.657	2.552	-50064.4	-35297.2	93.805 %	0.0104
10	750	20	[333,1000]	[1,10]	[100900,504500]	372.666	2.550	-101004.5	-85733.8	92.973 %	0.0085
10	750	20	[333,1000]	[5,10]	[50450,504502]	371.587	2.636	-50664.1	-35261.3	93.662 %	0.0085
10	750	20	[333,1000]	[5,10]	[100900,504502]	371.882	2.623	-100953.2	-86965.1	93.543 %	0.0102
10	750	20	[333,1000]	[1,30]	[50451,504510]	383.649	2.490	-50315.5	-33509.6	93.101 %	0.0077
10	750	20	[333,1000]	[1,30]	[100902,504510]	383.381	2.501	-100493.0	-84305.5	92.637 %	0.0074
10	750	20	[333,1000]	[15,30]	[50451,504517]	375.872	2.502	-50536.3	-34015.3	93.225 %	0.0074
10	750	20	[333,1000]	[15,30]	[100902,504517]	374.383	2.532	-100833.7	-83061.0	91.965 %	0.0064
10	750	20	[666,1000]	[1,10]	[63100,631002]	371.017	2.553	-62958.5	-41214.5	92.784 %	0.0099
10	750	20	[666,1000]	[1,10]	[126200,631002]	373.583	2.541	-126192.3	-103299.5	91.657 %	0.0077
10	750	20	[666,1000]	[5,10]	[63100,631004]	373.673	2.643	-62749.6	-41619.8	93.097 %	0.0074
10	750	20	[666,1000]	[5,10]	[126200,631004]	371.475	2.614	-125803.3	-104834.0	92.354 %	0.0101
10	750	20	[666,1000]	[1,30]	[63101,631012]	382.796	2.486	-63080.9	-40638.8	92.732 %	0.0104
10	750	20	[666,1000]	[1,30]	[126202,631012]	382.053	2.479	-126004.2	-100681.0	90.837 %	0.0084
10	750	20	[666,1000]	[15,30]	[63101,631019]	375.724	2.516	-62778.1	-39966.4	92.550 %	0.0085
10	750	20	[666,1000]	[15,30]	[126202,631019]	376.809	2.521	-126092.2	-102420.2	91.479 %	0.0106

Tiempo Promedio Total H_2: 374.513 seg.

Tiempo Promedio Total H_1: 2.550 seg.

Rendimiento Promedio Total: 93.246 %

Tabla de Experimentos

$n : 1000, m : 20, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	20	[1,1000]	[1,10]	[50500,505005]	904.449	4.671	-50338.0	-38458.5	94.996 %	0.0062
10	1000	20	[1,1000]	[1,10]	[101000,505005]	898.245	4.796	-100995.2	-87666.6	93.762 %	0.0052
10	1000	20	[1,1000]	[5,10]	[50500,505007]	900.710	4.818	-50651.6	-39499.7	95.388 %	0.0079
10	1000	20	[1,1000]	[5,10]	[101000,505007]	899.595	4.840	-101191.6	-89372.2	94.463 %	0.0098
10	1000	20	[1,1000]	[1,30]	[50501,505015]	920.100	4.554	-50594.0	-38102.6	94.717 %	0.0063
10	1000	20	[1,1000]	[1,30]	[101002,505015]	914.646	4.578	-100909.4	-87198.4	93.582 %	0.0064
10	1000	20	[1,1000]	[15,30]	[50502,505022]	912.586	4.683	-50855.7	-37345.1	94.375 %	0.0076
10	1000	20	[1,1000]	[15,30]	[101004,505022]	915.292	4.622	-101049.6	-87668.4	93.816 %	0.0073
10	1000	20	[333,1000]	[1,10]	[67266,672665]	923.737	4.811	-67380.4	-45620.8	93.308 %	0.0088
10	1000	20	[333,1000]	[1,10]	[134532,672665]	934.306	4.789	-134529.9	-112518.5	92.549 %	0.0056
10	1000	20	[333,1000]	[5,10]	[67266,672667]	929.180	5.231	-67172.9	-46360.4	93.590 %	0.0065
10	1000	20	[333,1000]	[5,10]	[134532,672667]	942.728	4.923	-134298.4	-112468.0	92.512 %	0.0037
10	1000	20	[333,1000]	[1,30]	[67267,672675]	956.428	4.607	-67300.8	-44631.6	93.040 %	0.0088
10	1000	20	[333,1000]	[1,30]	[134534,672675]	957.044	4.537	-134381.8	-110926.2	91.964 %	0.0063
10	1000	20	[333,1000]	[15,30]	[67268,672682]	953.247	4.865	-67253.3	-46207.2	93.528 %	0.0091
10	1000	20	[333,1000]	[15,30]	[134536,672682]	949.902	4.898	-134315.8	-112177.6	92.338 %	0.0085
10	1000	20	[666,1000]	[1,10]	[84133,841335]	948.544	4.807	-83937.8	-53438.5	92.622 %	0.0066
10	1000	20	[666,1000]	[1,10]	[168266,841335]	952.891	5.241	-168114.7	-137275.7	91.588 %	0.0097
10	1000	20	[666,1000]	[5,10]	[84133,841337]	952.556	4.953	-84571.0	-54559.8	92.696 %	0.0054
10	1000	20	[666,1000]	[5,10]	[168266,841337]	957.164	4.927	-168041.4	-138873.1	92.037 %	0.0037
10	1000	20	[666,1000]	[1,30]	[84134,841345]	986.189	4.744	-83992.0	-52207.8	92.306 %	0.0070
10	1000	20	[666,1000]	[1,30]	[168268,841345]	979.342	4.768	-168169.8	-135967.3	91.242 %	0.0079
10	1000	20	[666,1000]	[15,30]	[84135,841352]	967.225	5.009	-84256.6	-53228.7	92.443 %	0.0049
10	1000	20	[666,1000]	[15,30]	[168270,841352]	971.496	4.856	-168228.4	-135566.0	91.197 %	0.0090

Tiempo Promedio Total H_2: 938.650 seg.

Tiempo Promedio Total H_1: 4.814 seg.

Rendimiento Promedio Total: 93.086 %

Tabla de Experimentos

$n : 10, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	50	[1,1000]	[1,10]	[505,5055]	0.034	0.014	-744.5	-744.5	100.000 %	0.0000
10	10	50	[1,1000]	[1,10]	[1010,5055]	0.028	0.014	-832.6	-832.6	100.000 %	0.0000
10	10	50	[1,1000]	[5,10]	[505,5057]	0.028	0.011	-728.6	-728.6	100.000 %	0.0000
10	10	50	[1,1000]	[5,10]	[1010,5057]	0.024	0.011	-1044.4	-1044.4	100.000 %	0.0000
10	10	50	[1,1000]	[1,30]	[506,5065]	0.032	0.010	-259.3	-259.3	100.000 %	0.0000
10	10	50	[1,1000]	[1,30]	[1012,5065]	0.034	0.010	-796.1	-796.1	100.000 %	0.0000
10	10	50	[1,1000]	[15,30]	[507,5072]	0.035	0.013	-614.8	-614.8	100.000 %	0.0000
10	10	50	[1,1000]	[15,30]	[1014,5072]	0.035	0.017	-849.4	-849.4	100.000 %	0.0000
10	10	50	[333,1000]	[1,10]	[673,6731]	0.033	0.010	-696.2	-696.2	100.000 %	0.0000
10	10	50	[333,1000]	[1,10]	[1346,6731]	0.029	0.012	-1428.1	-1428.1	100.000 %	0.0000
10	10	50	[333,1000]	[5,10]	[673,6733]	0.027	0.016	-978.3	-978.3	100.000 %	0.0000
10	10	50	[333,1000]	[5,10]	[1346,6733]	0.028	0.012	-1345.7	-1345.7	100.000 %	0.0000
10	10	50	[333,1000]	[1,30]	[674,6741]	0.045	0.017	-609.4	-609.4	100.000 %	0.0000
10	10	50	[333,1000]	[1,30]	[1348,6741]	0.040	0.019	-1166.2	-1166.2	100.000 %	0.0000
10	10	50	[333,1000]	[15,30]	[674,6748]	0.029	0.013	-518.5	-518.5	100.000 %	0.0000
10	10	50	[333,1000]	[15,30]	[1348,6748]	0.032	0.011	-1394.6	-1394.6	100.000 %	0.0000
10	10	50	[666,1000]	[1,10]	[841,8418]	0.031	0.011	-790.2	-790.2	100.000 %	0.0000
10	10	50	[666,1000]	[1,10]	[1682,8418]	0.029	0.012	-1633.8	-1633.8	100.000 %	0.0000
10	10	50	[666,1000]	[5,10]	[842,8420]	0.026	0.011	-330.1	-330.1	100.000 %	0.0000
10	10	50	[666,1000]	[5,10]	[1684,8420]	0.032	0.016	-1401.0	-1401.0	100.000 %	0.0000
10	10	50	[666,1000]	[1,30]	[842,8428]	0.034	0.011	-511.1	-511.1	100.000 %	0.0000
10	10	50	[666,1000]	[1,30]	[1684,8428]	0.031	0.011	-1481.5	-1481.5	100.000 %	0.0000
10	10	50	[666,1000]	[15,30]	[843,8435]	0.030	0.011	-1192.0	-1192.0	100.000 %	0.0000
10	10	50	[666,1000]	[15,30]	[1686,8435]	0.031	0.011	-1440.1	-1440.1	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.032 seg.

Tiempo Promedio Total H_1: 0.013 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 20, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	50	[1,1000]	[1,10]	[1010,10105]	0.059	0.015	-1098.5	-1098.5	100.000 %	0.0000
10	20	50	[1,1000]	[1,10]	[2020,10105]	0.059	0.013	-2161.5	-2161.5	100.000 %	0.0000
10	20	50	[1,1000]	[5,10]	[1010,10107]	0.055	0.013	-801.7	-801.7	100.000 %	0.0000
10	20	50	[1,1000]	[5,10]	[2020,10107]	0.055	0.014	-1773.5	-1773.5	100.000 %	0.0000
10	20	50	[1,1000]	[1,30]	[1011,10115]	0.065	0.013	-752.8	-752.8	100.000 %	0.0000
10	20	50	[1,1000]	[1,30]	[2022,10115]	0.078	0.015	-1883.4	-1883.4	100.000 %	0.0000
10	20	50	[1,1000]	[15,30]	[1012,10122]	0.083	0.021	-1293.4	-1293.4	100.000 %	0.0000
10	20	50	[1,1000]	[15,30]	[2024,10122]	0.065	0.017	-1940.9	-1940.9	100.000 %	0.0000
10	20	50	[333,1000]	[1,10]	[1345,13458]	0.059	0.015	-1324.4	-1324.4	100.000 %	0.0000
10	20	50	[333,1000]	[1,10]	[2690,13458]	0.084	0.021	-2708.8	-2708.8	100.000 %	0.0000
10	20	50	[333,1000]	[5,10]	[1346,13460]	0.054	0.014	-1505.7	-1505.7	100.000 %	0.0000
10	20	50	[333,1000]	[5,10]	[2692,13460]	0.056	0.014	-2847.8	-2847.8	100.000 %	0.0000
10	20	50	[333,1000]	[1,30]	[1346,13468]	0.073	0.017	-979.9	-979.9	100.000 %	0.0000
10	20	50	[333,1000]	[1,30]	[2692,13468]	0.071	0.016	-2918.4	-2918.4	100.000 %	0.0000
10	20	50	[333,1000]	[15,30]	[1347,13475]	0.064	0.015	-1365.8	-1365.8	100.000 %	0.0000
10	20	50	[333,1000]	[15,30]	[2694,13475]	0.069	0.014	-3110.8	-3110.8	100.000 %	0.0000
10	20	50	[666,1000]	[1,10]	[1683,16831]	0.061	0.018	-1799.7	-1799.7	100.000 %	0.0000
10	20	50	[666,1000]	[1,10]	[3366,16831]	0.057	0.016	-3329.6	-3329.6	100.000 %	0.0000
10	20	50	[666,1000]	[5,10]	[1683,16833]	0.056	0.014	-1400.7	-1400.7	100.000 %	0.0000
10	20	50	[666,1000]	[5,10]	[3366,16833]	0.054	0.015	-2905.5	-2905.5	100.000 %	0.0000
10	20	50	[666,1000]	[1,30]	[1684,16841]	0.072	0.013	-1563.1	-1563.1	100.000 %	0.0000
10	20	50	[666,1000]	[1,30]	[3368,16841]	0.069	0.014	-3555.7	-3555.7	100.000 %	0.0000
10	20	50	[666,1000]	[15,30]	[1684,16848]	0.065	0.015	-1620.8	-1620.8	100.000 %	0.0000
10	20	50	[666,1000]	[15,30]	[3368,16848]	0.067	0.016	-3344.7	-3344.7	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.065 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 30, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	50	[1,1000]	[1,10]	[1515,15155]	0.115	0.020	-1629.8	-1629.8	100.000 %	0.0000
10	30	50	[1,1000]	[1,10]	[3030,15155]	0.126	0.020	-3013.5	-3013.5	100.000 %	0.0000
10	30	50	[1,1000]	[5,10]	[1515,15157]	0.109	0.020	-1481.8	-1481.8	100.000 %	0.0000
10	30	50	[1,1000]	[5,10]	[3030,15157]	0.108	0.020	-3023.2	-3023.2	100.000 %	0.0000
10	30	50	[1,1000]	[1,30]	[1516,15165]	0.178	0.022	-1661.2	-1661.2	100.000 %	0.0000
10	30	50	[1,1000]	[1,30]	[3032,15165]	0.158	0.020	-3041.9	-3041.9	100.000 %	0.0000
10	30	50	[1,1000]	[15,30]	[1517,15172]	0.129	0.022	-1406.6	-1406.6	100.000 %	0.0000
10	30	50	[1,1000]	[15,30]	[3034,15172]	0.129	0.017	-3049.2	-3049.2	100.000 %	0.0000
10	30	50	[333,1000]	[1,10]	[2018,20184]	0.119	0.019	-1905.8	-1905.8	100.000 %	0.0000
10	30	50	[333,1000]	[1,10]	[4036,20184]	0.116	0.018	-4137.4	-4137.4	100.000 %	0.0000
10	30	50	[333,1000]	[5,10]	[2018,20186]	0.110	0.020	-2132.3	-2132.3	100.000 %	0.0000
10	30	50	[333,1000]	[5,10]	[4036,20186]	0.110	0.019	-3845.6	-3845.6	100.000 %	0.0000
10	30	50	[333,1000]	[1,30]	[2019,20194]	0.153	0.022	-2285.7	-2285.7	100.000 %	0.0000
10	30	50	[333,1000]	[1,30]	[4038,20194]	0.181	0.022	-3825.3	-3825.3	100.000 %	0.0000
10	30	50	[333,1000]	[15,30]	[2020,20202]	0.134	0.019	-2069.0	-2069.0	100.000 %	0.0000
10	30	50	[333,1000]	[15,30]	[4040,20202]	0.138	0.020	-3873.4	-3873.4	100.000 %	0.0000
10	30	50	[666,1000]	[1,10]	[2524,25244]	0.115	0.019	-2058.4	-2058.4	100.000 %	0.0000
10	30	50	[666,1000]	[1,10]	[5048,25244]	0.145	0.020	-5050.0	-5050.0	100.000 %	0.0000
10	30	50	[666,1000]	[5,10]	[2524,25246]	0.108	0.021	-2505.4	-2505.4	100.000 %	0.0000
10	30	50	[666,1000]	[5,10]	[5048,25246]	0.116	0.022	-4967.8	-4967.8	100.000 %	0.0000
10	30	50	[666,1000]	[1,30]	[2525,25255]	0.145	0.019	-2618.1	-2618.1	100.000 %	0.0000
10	30	50	[666,1000]	[1,30]	[5050,25255]	0.152	0.023	-4949.7	-4949.7	100.000 %	0.0000
10	30	50	[666,1000]	[15,30]	[2526,25262]	0.129	0.021	-2840.8	-2840.8	100.000 %	0.0000
10	30	50	[666,1000]	[15,30]	[5052,25262]	0.131	0.019	-4576.1	-4576.1	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.131 seg.

Tiempo Promedio Total H_1: 0.020 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 50, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	50	[1,1000]	[1,10]	[2525,25255]	0.318	0.033	-2558.0	-2558.0	100.000 %	0.0000
10	50	50	[1,1000]	[1,10]	[5050,25255]	0.347	0.030	-5046.9	-5043.0	99.962 %	0.0011
10	50	50	[1,1000]	[5,10]	[2525,25257]	0.351	0.037	-2697.1	-2697.1	100.000 %	0.0000
10	50	50	[1,1000]	[5,10]	[5050,25257]	0.311	0.033	-5089.9	-5089.9	100.000 %	0.0000
10	50	50	[1,1000]	[1,30]	[2526,25265]	0.412	0.043	-2614.0	-2614.0	100.000 %	0.0000
10	50	50	[1,1000]	[1,30]	[5052,25265]	0.398	0.032	-4923.5	-4923.5	100.000 %	0.0000
10	50	50	[1,1000]	[15,30]	[2527,25272]	0.350	0.034	-2795.9	-2795.9	100.000 %	0.0000
10	50	50	[1,1000]	[15,30]	[5054,25272]	0.380	0.032	-4696.2	-4692.9	99.969 %	0.0007
10	50	50	[333,1000]	[1,10]	[3363,33638]	0.327	0.031	-3230.8	-3230.8	100.000 %	0.0000
10	50	50	[333,1000]	[1,10]	[6726,33638]	0.325	0.033	-6779.7	-6779.7	100.000 %	0.0000
10	50	50	[333,1000]	[5,10]	[3364,33640]	0.315	0.031	-3500.2	-3483.6	99.889 %	0.0033
10	50	50	[333,1000]	[5,10]	[6728,33640]	0.334	0.033	-6549.1	-6549.1	100.000 %	0.0000
10	50	50	[333,1000]	[1,30]	[3364,33648]	0.408	0.032	-3697.6	-3697.6	100.000 %	0.0000
10	50	50	[333,1000]	[1,30]	[6728,33648]	0.413	0.032	-6626.3	-6616.6	99.940 %	0.0018
10	50	50	[333,1000]	[15,30]	[3365,33655]	0.392	0.032	-3512.6	-3497.0	99.900 %	0.0030
10	50	50	[333,1000]	[15,30]	[6730,33655]	0.347	0.032	-7089.5	-7089.5	100.000 %	0.0000
10	50	50	[666,1000]	[1,10]	[4207,42071]	0.307	0.031	-4309.3	-4309.3	100.000 %	0.0000
10	50	50	[666,1000]	[1,10]	[8414,42071]	0.312	0.032	-8106.1	-8077.6	99.844 %	0.0047
10	50	50	[666,1000]	[5,10]	[4207,42073]	0.356	0.031	-4562.8	-4562.8	100.000 %	0.0000
10	50	50	[666,1000]	[5,10]	[8414,42073]	0.312	0.034	-8601.3	-8601.3	100.000 %	0.0000
10	50	50	[666,1000]	[1,30]	[4208,42081]	0.413	0.031	-4321.6	-4306.6	99.916 %	0.0017
10	50	50	[666,1000]	[1,30]	[8416,42081]	0.442	0.033	-8243.8	-8243.8	100.000 %	0.0000
10	50	50	[666,1000]	[15,30]	[4208,42088]	0.338	0.033	-4991.0	-4991.0	100.000 %	0.0000
10	50	50	[666,1000]	[15,30]	[8416,42088]	0.352	0.034	-8263.7	-8235.8	99.843 %	0.0047

Tiempo Promedio Total H_2: 0.357 seg.

Tiempo Promedio Total H_1: 0.033 seg.

Rendimiento Promedio Total: 99.969 %

Tabla de Experimentos

$n : 100, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	50	[1,1000]	[1,10]	[5050,50505]	1.470	0.077	-5051.4	-4937.4	99.487 %	0.0064
10	100	50	[1,1000]	[1,10]	[10100,50505]	1.468	0.082	-10200.4	-10012.4	99.067 %	0.0063
10	100	50	[1,1000]	[5,10]	[5050,50507]	1.395	0.076	-5076.3	-4907.1	99.227 %	0.0072
10	100	50	[1,1000]	[5,10]	[10100,50507]	1.359	0.081	-10156.5	-10073.6	99.572 %	0.0057
10	100	50	[1,1000]	[1,30]	[5051,50515]	1.649	0.078	-4816.9	-4671.9	99.371 %	0.0062
10	100	50	[1,1000]	[1,30]	[10102,50515]	1.693	0.082	-10046.6	-9863.6	99.110 %	0.0059
10	100	50	[1,1000]	[15,30]	[5052,50522]	1.504	0.080	-5285.9	-5172.1	99.489 %	0.0065
10	100	50	[1,1000]	[15,30]	[10104,50522]	1.447	0.079	-10202.4	-10098.6	99.499 %	0.0057
10	100	50	[333,1000]	[1,10]	[6727,67271]	1.483	0.078	-6678.7	-6391.8	99.053 %	0.0093
10	100	50	[333,1000]	[1,10]	[13454,67271]	1.499	0.079	-13358.8	-13020.5	98.740 %	0.0107
10	100	50	[333,1000]	[5,10]	[6727,67273]	1.402	0.082	-6596.9	-6232.2	98.811 %	0.0098
10	100	50	[333,1000]	[5,10]	[13454,67273]	1.397	0.080	-13464.0	-13202.0	99.045 %	0.0096
10	100	50	[333,1000]	[1,30]	[6728,67281]	1.745	0.083	-6960.6	-6514.5	98.490 %	0.0093
10	100	50	[333,1000]	[1,30]	[13456,67281]	1.705	0.078	-13418.5	-13057.9	98.673 %	0.0107
10	100	50	[333,1000]	[15,30]	[6728,67288]	1.552	0.079	-6779.7	-6526.2	99.187 %	0.0085
10	100	50	[333,1000]	[15,30]	[13456,67288]	1.488	0.079	-13562.8	-13322.2	99.155 %	0.0088
10	100	50	[666,1000]	[1,10]	[8413,84138]	1.440	0.079	-8547.1	-8300.7	99.347 %	0.0086
10	100	50	[666,1000]	[1,10]	[16826,84138]	1.437	0.081	-16808.6	-16415.6	98.804 %	0.0108
10	100	50	[666,1000]	[5,10]	[8414,84140]	1.364	0.081	-8672.0	-8212.7	98.824 %	0.0081
10	100	50	[666,1000]	[5,10]	[16828,84140]	1.356	0.080	-17204.6	-16741.8	98.643 %	0.0093
10	100	50	[666,1000]	[1,30]	[8414,84148]	1.605	0.080	-8117.5	-7859.4	99.331 %	0.0098
10	100	50	[666,1000]	[1,30]	[16828,84148]	1.674	0.080	-16843.4	-16301.0	98.422 %	0.0106
10	100	50	[666,1000]	[15,30]	[8415,84155]	1.529	0.076	-8443.4	-7765.2	98.189 %	0.0076
10	100	50	[666,1000]	[15,30]	[16830,84155]	1.498	0.077	-16810.9	-16215.3	98.235 %	0.0092

Tiempo Promedio Total H_2: 1.507 seg.

Tiempo Promedio Total H_1: 0.079 seg.

Rendimiento Promedio Total: 98.990 %

Tabla de Experimentos

$n : 200, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	50	[1,1000]	[1,10]	[10100,101005]	7.953	0.238	-10115.0	-9640.6	98.968 %	0.0063
10	200	50	[1,1000]	[1,10]	[20200,101005]	7.924	0.238	-20052.0	-19466.1	98.557 %	0.0080
10	200	50	[1,1000]	[5,10]	[10100,101007]	7.586	0.237	-10189.5	-9819.1	99.200 %	0.0059
10	200	50	[1,1000]	[5,10]	[20200,101007]	7.671	0.249	-19985.6	-19683.6	99.255 %	0.0064
10	200	50	[1,1000]	[1,30]	[10101,101015]	8.410	0.269	-10354.1	-10009.7	99.263 %	0.0080
10	200	50	[1,1000]	[1,30]	[20202,101015]	8.284	0.229	-20172.7	-19724.7	98.919 %	0.0088
10	200	50	[1,1000]	[15,30]	[10102,101022]	7.967	0.232	-10275.1	-9768.0	98.911 %	0.0045
10	200	50	[1,1000]	[15,30]	[20204,101022]	8.159	0.247	-20252.2	-19892.6	99.134 %	0.0075
10	200	50	[333,1000]	[1,10]	[13453,134537]	7.911	0.245	-13439.8	-12711.8	98.827 %	0.0088
10	200	50	[333,1000]	[1,10]	[26906,134537]	7.954	0.236	-26651.7	-25528.5	97.952 %	0.0066
10	200	50	[333,1000]	[5,10]	[13453,134539]	7.729	0.237	-13480.0	-12676.5	98.711 %	0.0089
10	200	50	[333,1000]	[5,10]	[26906,134539]	7.991	0.271	-27239.1	-26295.5	98.221 %	0.0098
10	200	50	[333,1000]	[1,30]	[13454,134547]	9.003	0.229	-13581.8	-12749.6	98.657 %	0.0099
10	200	50	[333,1000]	[1,30]	[26908,134547]	8.749	0.238	-26782.3	-25685.1	98.022 %	0.0101
10	200	50	[333,1000]	[15,30]	[13455,134554]	8.327	0.232	-13776.1	-12719.0	98.296 %	0.0080
10	200	50	[333,1000]	[15,30]	[26910,134554]	8.279	0.234	-26687.0	-25682.8	98.134 %	0.0062
10	200	50	[666,1000]	[1,10]	[16827,168271]	8.016	0.231	-16396.3	-14807.3	97.974 %	0.0103
10	200	50	[666,1000]	[1,10]	[33654,168271]	7.830	0.237	-33350.7	-31729.4	97.616 %	0.0090
10	200	50	[666,1000]	[5,10]	[16827,168273]	8.398	0.244	-16602.7	-15002.1	97.929 %	0.0058
10	200	50	[666,1000]	[5,10]	[33654,168273]	7.593	0.245	-33353.1	-31986.3	98.004 %	0.0099
10	200	50	[666,1000]	[1,30]	[16828,168281]	9.204	0.232	-16557.1	-14797.0	97.746 %	0.0077
10	200	50	[666,1000]	[1,30]	[33656,168281]	8.831	0.233	-33637.9	-32104.4	97.745 %	0.0069
10	200	50	[666,1000]	[15,30]	[16828,168288]	8.050	0.235	-16781.2	-15162.8	97.896 %	0.0090
10	200	50	[666,1000]	[15,30]	[33656,168288]	8.290	0.236	-33581.2	-32453.1	98.335 %	0.0107

Tiempo Promedio Total H_2: 8.171 seg.

Tiempo Promedio Total H_1: 0.240 seg.

Rendimiento Promedio Total: 98.428 %

Tabla de Experimentos

$n : 300, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	50	[1,1000]	[1,10]	[15150,151505]	23.400	0.485	-15182.7	-14178.3	98.553 %	0.0084
10	300	50	[1,1000]	[1,10]	[30300,151505]	23.569	0.476	-30431.4	-29181.8	97.978 %	0.0062
10	300	50	[1,1000]	[5,10]	[15150,151507]	23.321	0.558	-15111.9	-14421.6	98.994 %	0.0066
10	300	50	[1,1000]	[5,10]	[30300,151507]	24.474	0.516	-30490.8	-29578.1	98.513 %	0.0086
10	300	50	[1,1000]	[1,30]	[15151,151515]	25.303	0.470	-15148.8	-14455.8	98.992 %	0.0049
10	300	50	[1,1000]	[1,30]	[30302,151515]	25.324	0.483	-30205.8	-28945.4	97.940 %	0.0051
10	300	50	[1,1000]	[15,30]	[15152,151522]	24.884	0.486	-15145.8	-14349.8	98.829 %	0.0041
10	300	50	[1,1000]	[15,30]	[30304,151522]	25.082	0.494	-30252.6	-29297.9	98.435 %	0.0089
10	300	50	[333,1000]	[1,10]	[20180,201803]	24.728	0.489	-20128.2	-18262.4	97.978 %	0.0062
10	300	50	[333,1000]	[1,10]	[40360,201803]	24.664	0.497	-40308.7	-38877.7	98.289 %	0.0110
10	300	50	[333,1000]	[5,10]	[20180,201805]	24.305	0.490	-20153.5	-18731.2	98.464 %	0.0080
10	300	50	[333,1000]	[5,10]	[40360,201805]	24.232	0.495	-40108.2	-38415.7	97.976 %	0.0089
10	300	50	[333,1000]	[1,30]	[20181,201813]	26.129	0.472	-19919.6	-18221.1	98.181 %	0.0065
10	300	50	[333,1000]	[1,30]	[40362,201813]	26.385	0.477	-40440.5	-38311.1	97.446 %	0.0064
10	300	50	[333,1000]	[15,30]	[20182,201820]	25.840	0.490	-20123.8	-18375.0	98.111 %	0.0070
10	300	50	[333,1000]	[15,30]	[40364,201820]	24.945	0.469	-40246.4	-38743.6	98.148 %	0.0093
10	300	50	[666,1000]	[1,10]	[25240,252404]	24.572	0.545	-25563.3	-22791.7	97.589 %	0.0077
10	300	50	[666,1000]	[1,10]	[50480,252404]	24.178	0.497	-50740.6	-48712.1	98.040 %	0.0093
10	300	50	[666,1000]	[5,10]	[25240,252406]	23.368	0.500	-25161.7	-22964.1	98.109 %	0.0071
10	300	50	[666,1000]	[5,10]	[50480,252406]	23.259	0.576	-50191.7	-47613.9	97.516 %	0.0114
10	300	50	[666,1000]	[1,30]	[25241,252414]	25.467	0.472	-25339.6	-22248.3	97.278 %	0.0051
10	300	50	[666,1000]	[1,30]	[50482,252414]	25.272	0.482	-50346.6	-47625.5	97.358 %	0.0110
10	300	50	[666,1000]	[15,30]	[25242,252421]	24.491	0.473	-25064.8	-22323.7	97.656 %	0.0068
10	300	50	[666,1000]	[15,30]	[50484,252421]	24.085	0.486	-50105.6	-47504.2	97.535 %	0.0088

Tiempo Promedio Total H_2: 24.637 seg.

Tiempo Promedio Total H_1: 0.495 seg.

Rendimiento Promedio Total: 98.080 %

Tabla de Experimentos

$n : 500, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	50	[1,1000]	[1,10]	[25250,252505]	106.525	1.264	-25057.6	-23222.7	98.415 %	0.0049
10	500	50	[1,1000]	[1,10]	[50500,252505]	107.136	1.297	-50564.7	-48539.9	98.059 %	0.0051
10	500	50	[1,1000]	[5,10]	[25250,252507]	107.025	1.313	-25335.7	-23384.4	98.299 %	0.0062
10	500	50	[1,1000]	[5,10]	[50500,252507]	107.635	1.466	-50772.3	-48668.2	97.984 %	0.0046
10	500	50	[1,1000]	[1,30]	[25251,252515]	110.945	1.235	-25330.4	-23269.8	98.230 %	0.0054
10	500	50	[1,1000]	[1,30]	[50502,252515]	109.061	1.228	-50664.2	-48640.2	98.033 %	0.0042
10	500	50	[1,1000]	[15,30]	[25252,252522]	107.230	1.426	-25232.0	-23392.9	98.391 %	0.0052
10	500	50	[1,1000]	[15,30]	[50504,252522]	106.579	1.243	-50419.1	-48352.1	97.994 %	0.0061
10	500	50	[333,1000]	[1,10]	[33633,336335]	109.062	1.313	-33538.5	-30354.6	97.968 %	0.0080
10	500	50	[333,1000]	[1,10]	[67266,336335]	108.616	1.239	-67408.8	-64382.0	97.776 %	0.0092
10	500	50	[333,1000]	[5,10]	[33633,336337]	107.674	1.276	-34142.5	-31192.7	98.055 %	0.0048
10	500	50	[333,1000]	[5,10]	[67266,336337]	107.659	1.286	-67204.8	-63516.0	97.344 %	0.0062
10	500	50	[333,1000]	[1,30]	[33634,336345]	114.623	1.216	-33861.0	-29996.4	97.477 %	0.0072
10	500	50	[333,1000]	[1,30]	[67268,336345]	113.840	1.209	-67065.3	-63550.0	97.453 %	0.0076
10	500	50	[333,1000]	[15,30]	[33635,336352]	110.387	1.274	-33491.5	-30672.7	98.181 %	0.0065
10	500	50	[333,1000]	[15,30]	[67270,336352]	109.432	1.274	-67672.3	-63375.0	96.922 %	0.0035
10	500	50	[666,1000]	[1,10]	[42067,420670]	106.829	1.220	-41593.3	-37320.0	97.827 %	0.0080
10	500	50	[666,1000]	[1,10]	[84134,420670]	108.175	1.238	-83924.5	-79579.1	97.458 %	0.0094
10	500	50	[666,1000]	[5,10]	[42067,420672]	106.883	1.265	-41933.7	-36826.3	97.376 %	0.0061
10	500	50	[666,1000]	[5,10]	[84134,420672]	105.674	1.273	-83976.5	-79296.7	97.300 %	0.0062
10	500	50	[666,1000]	[1,30]	[42068,420680]	112.622	1.238	-42200.1	-36780.1	97.225 %	0.0078
10	500	50	[666,1000]	[1,30]	[84136,420680]	110.941	1.220	-83983.5	-78547.5	96.895 %	0.0076
10	500	50	[666,1000]	[15,30]	[42068,420687]	108.239	1.211	-41856.4	-36529.0	97.290 %	0.0068
10	500	50	[666,1000]	[15,30]	[84136,420687]	107.427	1.220	-83987.9	-78341.1	96.765 %	0.0041

Tiempo Promedio Total H_2: 108.759 seg.

Tiempo Promedio Total H_1: 1.269 seg.

Rendimiento Promedio Total: 97.697 %

Tabla de Experimentos

$n : 750, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	50	[1,1000]	[1,10]	[37875,378755]	360.457	2.530	-38039.5	-34475.5	97.936 %	0.0035
10	750	50	[1,1000]	[1,10]	[75750,378755]	361.522	2.627	-75736.3	-72920.7	98.181 %	0.0056
10	750	50	[1,1000]	[5,10]	[37875,378757]	357.646	2.657	-37814.4	-34762.9	98.252 %	0.0050
10	750	50	[1,1000]	[5,10]	[75750,378757]	363.899	2.638	-75967.5	-73232.7	98.242 %	0.0052
10	750	50	[1,1000]	[1,30]	[37876,378765]	379.167	2.480	-38116.1	-34311.0	97.844 %	0.0030
10	750	50	[1,1000]	[1,30]	[75752,378765]	372.273	2.709	-75631.2	-71980.2	97.637 %	0.0041
10	750	50	[1,1000]	[15,30]	[37877,378772]	368.212	2.677	-37920.7	-34932.9	98.287 %	0.0038
10	750	50	[1,1000]	[15,30]	[75754,378772]	372.534	2.550	-75880.2	-72590.6	97.863 %	0.0055
10	750	50	[333,1000]	[1,10]	[50450,504500]	374.695	2.567	-50577.9	-44931.1	97.584 %	0.0066
10	750	50	[333,1000]	[1,10]	[100900,504500]	377.613	2.550	-101161.7	-95318.2	97.184 %	0.0049
10	750	50	[333,1000]	[5,10]	[50450,504502]	375.612	2.621	-50327.9	-44684.8	97.571 %	0.0037
10	750	50	[333,1000]	[5,10]	[100900,504502]	373.255	2.662	-100749.4	-94935.1	97.198 %	0.0058
10	750	50	[333,1000]	[1,30]	[50451,504510]	378.737	2.467	-50583.7	-44671.6	97.471 %	0.0046
10	750	50	[333,1000]	[1,30]	[100902,504510]	379.378	2.468	-100822.7	-94116.0	96.791 %	0.0027
10	750	50	[333,1000]	[15,30]	[50451,504517]	370.150	2.872	-50424.7	-44873.4	97.608 %	0.0065
10	750	50	[333,1000]	[15,30]	[100902,504517]	372.387	2.505	-101043.4	-95542.4	97.331 %	0.0046
10	750	50	[666,1000]	[1,10]	[63100,631002]	365.210	2.519	-63206.3	-54742.0	97.119 %	0.0054
10	750	50	[666,1000]	[1,10]	[126200,631002]	367.447	2.589	-126204.9	-118589.0	97.063 %	0.0068
10	750	50	[666,1000]	[5,10]	[63100,631004]	361.472	2.605	-63041.2	-54901.2	97.189 %	0.0040
10	750	50	[666,1000]	[5,10]	[126200,631004]	364.188	2.615	-126046.0	-118280.3	97.064 %	0.0053
10	750	50	[666,1000]	[1,30]	[63101,631012]	375.949	2.482	-63490.4	-55396.1	97.230 %	0.0043
10	750	50	[666,1000]	[1,30]	[126202,631012]	373.814	2.465	-125848.0	-118345.2	97.129 %	0.0075
10	750	50	[666,1000]	[15,30]	[63101,631019]	369.966	2.512	-62632.4	-54241.5	97.154 %	0.0046
10	750	50	[666,1000]	[15,30]	[126202,631019]	366.373	2.524	-126286.1	-117947.9	96.789 %	0.0075

Tiempo Promedio Total H_2: 370.082 seg.

Tiempo Promedio Total H_1: 2.579 seg.

Rendimiento Promedio Total: 97.488 %

Tabla de Experimentos

$n : 1000, m : 50, p_{max} : 1000$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	50	[1,1000]	[1,10]	[50500,505005]	877.219	4.799	-50567.1	-46561.3	98.274 %	0.0032
10	1000	50	[1,1000]	[1,10]	[101000,505005]	868.825	4.679	-101140.0	-95971.6	97.498 %	0.0026
10	1000	50	[1,1000]	[5,10]	[50500,505007]	867.077	4.836	-50391.5	-45979.0	98.089 %	0.0028
10	1000	50	[1,1000]	[5,10]	[101000,505007]	861.853	4.810	-100980.9	-96705.3	97.931 %	0.0039
10	1000	50	[1,1000]	[1,30]	[50501,505015]	879.464	4.572	-50645.9	-46462.6	98.195 %	0.0045
10	1000	50	[1,1000]	[1,30]	[101002,505015]	883.320	4.507	-100824.5	-96586.1	97.952 %	0.0064
10	1000	50	[1,1000]	[15,30]	[50502,505022]	871.909	4.605	-50443.1	-46285.1	98.187 %	0.0060
10	1000	50	[1,1000]	[15,30]	[101004,505022]	869.547	4.651	-100991.1	-96326.3	97.727 %	0.0070
10	1000	50	[333,1000]	[1,10]	[67266,672665]	884.595	4.642	-67143.1	-58382.3	97.169 %	0.0041
10	1000	50	[333,1000]	[1,10]	[134532,672665]	892.442	4.661	-134372.7	-126515.5	97.171 %	0.0027
10	1000	50	[333,1000]	[5,10]	[67266,672667]	886.586	4.864	-67382.0	-60241.3	97.700 %	0.0031
10	1000	50	[333,1000]	[5,10]	[134532,672667]	886.379	4.782	-134780.9	-127055.2	97.219 %	0.0041
10	1000	50	[333,1000]	[1,30]	[67267,672675]	902.589	4.607	-67536.8	-58991.8	97.255 %	0.0048
10	1000	50	[333,1000]	[1,30]	[134534,672675]	906.249	4.551	-134292.6	-126455.2	97.184 %	0.0052
10	1000	50	[333,1000]	[15,30]	[67268,672682]	891.005	4.678	-67312.1	-59746.9	97.553 %	0.0059
10	1000	50	[333,1000]	[15,30]	[134536,672682]	895.097	4.583	-134585.8	-126506.7	97.085 %	0.0040
10	1000	50	[666,1000]	[1,10]	[84133,841335]	889.619	4.717	-83753.9	-72493.3	97.099 %	0.0053
10	1000	50	[666,1000]	[1,10]	[168266,841335]	886.089	4.644	-167998.3	-157253.3	96.914 %	0.0059
10	1000	50	[666,1000]	[5,10]	[84133,841337]	878.332	4.821	-84171.8	-74092.5	97.387 %	0.0044
10	1000	50	[666,1000]	[5,10]	[168266,841337]	881.763	4.797	-168022.8	-157420.2	96.965 %	0.0046
10	1000	50	[666,1000]	[1,30]	[84134,841345]	912.738	4.544	-84185.9	-71988.9	96.853 %	0.0027
10	1000	50	[666,1000]	[1,30]	[168268,841345]	904.079	4.572	-168088.9	-157083.0	96.850 %	0.0053
10	1000	50	[666,1000]	[15,30]	[84135,841352]	893.294	4.604	-83814.4	-72522.5	97.105 %	0.0041
10	1000	50	[666,1000]	[15,30]	[168270,841352]	889.664	4.612	-167895.1	-156381.2	96.707 %	0.0055

Tiempo Promedio Total H_2: 885.822 seg.

Tiempo Promedio Total H_1: 4.672 seg.

Rendimiento Promedio Total: 97.420 %

Tabla de Experimentos

$n : 10, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	2	[1000,1100]	[1,10]	[1061,10610]	0.017	0.008	-602.2	1950.4	66.862 %	0.1100
10	10	2	[1000,1100]	[1,10]	[2122,10610]	0.025	0.010	-1507.2	1027.1	66.600 %	0.0743
10	10	2	[1000,1100]	[5,10]	[1061,10612]	0.016	0.011	-764.8	1652.4	67.693 %	0.0910
10	10	2	[1000,1100]	[5,10]	[2122,10612]	0.013	0.010	-1570.8	1080.8	64.772 %	0.0731
10	10	2	[1000,1100]	[1,30]	[1062,10620]	0.016	0.008	-974.2	1679.9	65.507 %	0.0815
10	10	2	[1000,1100]	[1,30]	[2124,10620]	0.018	0.009	-1681.8	1024.6	65.191 %	0.0858
10	10	2	[1000,1100]	[15,30]	[1062,10627]	0.018	0.006	-1086.7	1463.8	65.457 %	0.0621
10	10	2	[1000,1100]	[15,30]	[2124,10627]	0.016	0.007	-1807.8	675.0	66.800 %	0.0860
10	10	2	[1033,1100]	[1,10]	[1077,10771]	0.014	0.009	-488.2	1567.5	71.746 %	0.0944
10	10	2	[1033,1100]	[1,10]	[2154,10771]	0.017	0.005	-1720.8	713.2	68.578 %	0.1218
10	10	2	[1033,1100]	[5,10]	[1077,10773]	0.013	0.009	-528.5	2191.1	67.639 %	0.0929
10	10	2	[1033,1100]	[5,10]	[2154,10773]	0.012	0.010	-1987.7	1003.2	62.956 %	0.0817
10	10	2	[1033,1100]	[1,30]	[1078,10781]	0.021	0.006	-1336.0	1138.4	67.171 %	0.0917
10	10	2	[1033,1100]	[1,30]	[2156,10781]	0.020	0.009	-1632.9	854.7	66.297 %	0.0813
10	10	2	[1033,1100]	[15,30]	[1078,10788]	0.018	0.005	-476.3	1960.4	68.976 %	0.0484
10	10	2	[1033,1100]	[15,30]	[2156,10788]	0.026	0.012	-1689.6	761.4	67.558 %	0.1218
10	10	2	[1066,1100]	[1,10]	[1094,10943]	0.020	0.010	-643.6	1513.5	72.103 %	0.1516
10	10	2	[1066,1100]	[1,10]	[2188,10943]	0.015	0.009	-2015.3	984.5	62.627 %	0.0610
10	10	2	[1066,1100]	[5,10]	[1094,10945]	0.013	0.010	-420.1	2012.2	70.950 %	0.1212
10	10	2	[1066,1100]	[5,10]	[2188,10945]	0.018	0.045	-1302.6	1002.8	70.228 %	0.1531
10	10	2	[1066,1100]	[1,30]	[1095,10953]	0.022	0.011	-984.2	2064.7	63.628 %	0.1094
10	10	2	[1066,1100]	[1,30]	[2190,10953]	0.017	0.007	-1372.0	2202.7	58.668 %	0.0561
10	10	2	[1066,1100]	[15,30]	[1096,10960]	0.018	0.008	-455.5	2151.6	68.966 %	0.0868
10	10	2	[1066,1100]	[15,30]	[2192,10960]	0.021	0.008	-1870.0	119.5	72.564 %	0.1588

Tiempo Promedio Total H_2: 0.018 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 67.064 %

Tabla de Experimentos

$n : 20, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	2	[1000,1100]	[1,10]	[2121,21215]	0.032	0.010	-1751.4	4230.8	63.467 %	0.0924
10	20	2	[1000,1100]	[1,10]	[4242,21215]	0.033	0.011	-3796.0	2536.3	60.144 %	0.0692
10	20	2	[1000,1100]	[5,10]	[2121,21217]	0.032	0.013	-1584.1	3655.2	65.843 %	0.0854
10	20	2	[1000,1100]	[5,10]	[4242,21217]	0.032	0.009	-3966.3	2008.7	60.987 %	0.0924
10	20	2	[1000,1100]	[1,30]	[2122,21225]	0.041	0.011	-1526.3	4545.1	63.351 %	0.0751
10	20	2	[1000,1100]	[1,30]	[4244,21225]	0.037	0.011	-3572.8	3449.0	57.466 %	0.0547
10	20	2	[1000,1100]	[15,30]	[2123,21232]	0.044	0.012	-2000.8	4071.8	62.680 %	0.0740
10	20	2	[1000,1100]	[15,30]	[4246,21232]	0.039	0.008	-3856.5	3276.1	57.266 %	0.0770
10	20	2	[1033,1100]	[1,10]	[2153,21538]	0.036	0.010	-1728.5	4486.5	61.659 %	0.0570
10	20	2	[1033,1100]	[1,10]	[4306,21538]	0.034	0.009	-3586.9	2414.2	60.890 %	0.0827
10	20	2	[1033,1100]	[5,10]	[2154,21540]	0.042	0.010	-1648.3	5518.2	58.624 %	0.0553
10	20	2	[1033,1100]	[5,10]	[4308,21540]	0.035	0.012	-3605.6	2631.4	59.145 %	0.0637
10	20	2	[1033,1100]	[1,30]	[2154,21548]	0.041	0.009	-1373.4	6008.6	57.749 %	0.0612
10	20	2	[1033,1100]	[1,30]	[4308,21548]	0.042	0.011	-4031.1	2693.4	58.208 %	0.0918
10	20	2	[1033,1100]	[15,30]	[2155,21555]	0.036	0.009	-1506.4	4879.3	60.827 %	0.0544
10	20	2	[1033,1100]	[15,30]	[4310,21555]	0.042	0.014	-3715.3	3030.3	58.443 %	0.0605
10	20	2	[1066,1100]	[1,10]	[2188,21881]	0.033	0.010	-1706.9	4939.9	60.208 %	0.0630
10	20	2	[1066,1100]	[1,10]	[4376,21881]	0.048	0.015	-3726.7	2683.5	60.942 %	0.0930
10	20	2	[1066,1100]	[5,10]	[2188,21883]	0.030	0.010	-1405.5	4520.8	63.834 %	0.0511
10	20	2	[1066,1100]	[5,10]	[4376,21883]	0.032	0.011	-4308.9	2442.7	58.261 %	0.0659
10	20	2	[1066,1100]	[1,30]	[2189,21891]	0.041	0.011	-2611.8	4721.7	57.485 %	0.0605
10	20	2	[1066,1100]	[1,30]	[4378,21891]	0.038	0.010	-3519.2	4008.5	56.489 %	0.0477
10	20	2	[1066,1100]	[15,30]	[2189,21898]	0.034	0.010	-1674.4	5390.6	60.275 %	0.0636
10	20	2	[1066,1100]	[15,30]	[4378,21898]	0.034	0.010	-3765.7	3426.8	57.540 %	0.0514

Tiempo Promedio Total H_2: 0.037 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 60.074 %

Tabla de Experimentos

$n : 30, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	2	[1000,1100]	[1,10]	[3182,31820]	0.061	0.012	-2729.6	7777.0	57.957 %	0.0630
10	30	2	[1000,1100]	[1,10]	[6364,31820]	0.063	0.014	-5978.7	5026.6	54.492 %	0.0396
10	30	2	[1000,1100]	[5,10]	[3182,31822]	0.056	0.014	-2575.4	7812.2	58.355 %	0.0470
10	30	2	[1000,1100]	[5,10]	[6364,31822]	0.058	0.012	-6040.1	4960.1	54.786 %	0.0651
10	30	2	[1000,1100]	[1,30]	[3183,31830]	0.073	0.013	-2305.0	9125.9	55.832 %	0.0527
10	30	2	[1000,1100]	[1,30]	[6366,31830]	0.078	0.016	-5418.6	5763.2	55.095 %	0.0385
10	30	2	[1000,1100]	[15,30]	[3183,31837]	0.069	0.016	-2844.0	8849.9	56.402 %	0.0607
10	30	2	[1000,1100]	[15,30]	[6366,31837]	0.106	0.018	-6312.6	5163.5	53.166 %	0.0515
10	30	2	[1033,1100]	[1,10]	[3230,32304]	0.067	0.013	-2718.7	7717.0	59.262 %	0.0675
10	30	2	[1033,1100]	[1,10]	[6460,32304]	0.061	0.011	-5850.9	5443.1	54.051 %	0.0625
10	30	2	[1033,1100]	[5,10]	[3230,32306]	0.101	0.018	-2514.9	8242.6	58.184 %	0.0609
10	30	2	[1033,1100]	[5,10]	[6460,32306]	0.058	0.012	-6413.8	4467.5	56.325 %	0.0513
10	30	2	[1033,1100]	[1,30]	[3231,32314]	0.079	0.015	-3125.9	8331.3	55.752 %	0.0625
10	30	2	[1033,1100]	[1,30]	[6462,32314]	0.077	0.012	-5399.8	5569.1	55.665 %	0.0482
10	30	2	[1033,1100]	[15,30]	[3232,32322]	0.071	0.016	-2502.6	8133.6	58.649 %	0.0520
10	30	2	[1033,1100]	[15,30]	[6464,32322]	0.063	0.013	-6162.7	4320.2	56.250 %	0.0599
10	30	2	[1066,1100]	[1,10]	[3281,32819]	0.063	0.011	-2890.5	8749.6	56.503 %	0.0366
10	30	2	[1066,1100]	[1,10]	[6562,32819]	0.063	0.017	-5728.4	5837.8	53.698 %	0.0395
10	30	2	[1066,1100]	[5,10]	[3282,32821]	0.058	0.013	-3297.5	7022.0	59.578 %	0.0482
10	30	2	[1066,1100]	[5,10]	[6564,32821]	0.057	0.014	-6474.9	5222.6	54.211 %	0.0444
10	30	2	[1066,1100]	[1,30]	[3283,32830]	0.101	0.017	-3374.2	7858.5	57.865 %	0.0866
10	30	2	[1066,1100]	[1,30]	[6566,32830]	0.077	0.011	-5607.0	5696.2	54.801 %	0.0280
10	30	2	[1066,1100]	[15,30]	[3283,32837]	0.068	0.014	-3349.4	8199.6	55.818 %	0.0686
10	30	2	[1066,1100]	[15,30]	[6566,32837]	0.072	0.015	-6076.3	3887.2	59.577 %	0.0729

Tiempo Promedio Total H_2: 0.071 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 56.345 %

Tabla de Experimentos

$n : 50, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	2	[1000,1100]	[1,10]	[5303,53030]	0.175	0.025	-5122.4	12820.4	57.824 %	0.0455
10	50	2	[1000,1100]	[1,10]	[10606,53030]	0.168	0.021	-9845.6	9243.0	53.542 %	0.0436
10	50	2	[1000,1100]	[5,10]	[5303,53032]	0.157	0.024	-5389.1	12401.0	57.290 %	0.0212
10	50	2	[1000,1100]	[5,10]	[10606,53032]	0.163	0.022	-9839.5	8759.4	53.716 %	0.0262
10	50	2	[1000,1100]	[1,30]	[5304,53040]	0.237	0.025	-4592.0	16126.5	53.652 %	0.0342
10	50	2	[1000,1100]	[1,30]	[10608,53040]	0.215	0.022	-10112.2	9763.9	52.830 %	0.0395
10	50	2	[1000,1100]	[15,30]	[5304,53047]	0.187	0.022	-4670.1	15848.6	53.026 %	0.0368
10	50	2	[1000,1100]	[15,30]	[10608,53047]	0.189	0.023	-10744.1	8547.1	53.689 %	0.0519
10	50	2	[1033,1100]	[1,10]	[5383,53838]	0.168	0.021	-4781.6	12918.2	57.552 %	0.0501
10	50	2	[1033,1100]	[1,10]	[10766,53838]	0.178	0.024	-10225.9	8799.8	53.911 %	0.0408
10	50	2	[1033,1100]	[5,10]	[5384,53840]	0.160	0.022	-6161.4	12930.1	56.294 %	0.0367
10	50	2	[1033,1100]	[5,10]	[10768,53840]	0.167	0.022	-9746.4	7637.3	56.219 %	0.0407
10	50	2	[1033,1100]	[1,30]	[5384,53848]	0.210	0.021	-5197.1	13559.3	56.642 %	0.0415
10	50	2	[1033,1100]	[1,30]	[10768,53848]	0.207	0.025	-10653.2	9654.4	51.039 %	0.0395
10	50	2	[1033,1100]	[15,30]	[5385,53855]	0.182	0.022	-4825.9	14983.6	55.173 %	0.0446
10	50	2	[1033,1100]	[15,30]	[10770,53855]	0.192	0.020	-10393.7	9206.4	53.703 %	0.0304
10	50	2	[1066,1100]	[1,10]	[5469,54696]	0.172	0.021	-4862.8	15984.6	54.544 %	0.0218
10	50	2	[1066,1100]	[1,10]	[10938,54696]	0.170	0.022	-9785.6	9934.3	53.772 %	0.0439
10	50	2	[1066,1100]	[5,10]	[5469,54698]	0.160	0.021	-5000.5	14475.6	56.238 %	0.0513
10	50	2	[1066,1100]	[5,10]	[10938,54698]	0.158	0.024	-10654.1	7881.8	55.437 %	0.0391
10	50	2	[1066,1100]	[1,30]	[5470,54706]	0.213	0.021	-4926.2	14596.5	56.204 %	0.0493
10	50	2	[1066,1100]	[1,30]	[10940,54706]	0.213	0.020	-10586.8	9994.2	52.899 %	0.0217
10	50	2	[1066,1100]	[15,30]	[5471,54713]	0.194	0.023	-5006.3	15569.3	54.882 %	0.0385
10	50	2	[1066,1100]	[15,30]	[10942,54713]	0.185	0.022	-10628.7	9178.9	53.868 %	0.0397

Tiempo Promedio Total H_2: 0.184 seg.

Tiempo Promedio Total H_1: 0.022 seg.

Rendimiento Promedio Total: 54.748 %

Tabla de Experimentos

$n : 100, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	2	[1000,1100]	[1,10]	[10605,106055]	1.068	0.064	-10145.9	31890.3	52.928 %	0.0206
10	100	2	[1000,1100]	[1,10]	[21210,106055]	1.019	0.063	-20282.9	22224.0	50.530 %	0.0177
10	100	2	[1000,1100]	[5,10]	[10605,106057]	0.969	0.060	-10179.8	29650.1	54.279 %	0.0302
10	100	2	[1000,1100]	[5,10]	[21210,106057]	0.979	0.060	-21004.6	18712.8	51.142 %	0.0253
10	100	2	[1000,1100]	[1,30]	[10606,106065]	1.164	0.059	-9665.8	32647.4	53.767 %	0.0362
10	100	2	[1000,1100]	[1,30]	[21212,106065]	1.182	0.060	-20641.7	23660.6	49.144 %	0.0199
10	100	2	[1000,1100]	[15,30]	[10607,106072]	1.063	0.059	-10335.1	34897.5	51.579 %	0.0211
10	100	2	[1000,1100]	[15,30]	[21214,106072]	1.050	0.059	-20492.3	22578.5	50.080 %	0.0282
10	100	2	[1033,1100]	[1,10]	[10767,107671]	1.002	0.058	-10623.2	28832.0	55.984 %	0.0389
10	100	2	[1033,1100]	[1,10]	[21534,107671]	0.993	0.059	-20732.9	19352.7	52.221 %	0.0313
10	100	2	[1033,1100]	[5,10]	[10767,107673]	0.974	0.064	-10311.0	31866.9	53.512 %	0.0181
10	100	2	[1033,1100]	[5,10]	[21534,107673]	0.970	0.061	-21151.2	16641.5	54.164 %	0.0449
10	100	2	[1033,1100]	[1,30]	[10768,107681]	1.182	0.061	-10587.4	33023.6	53.732 %	0.0383
10	100	2	[1033,1100]	[1,30]	[21536,107681]	1.177	0.060	-21138.2	22779.7	49.591 %	0.0125
10	100	2	[1033,1100]	[15,30]	[10768,107688]	1.043	0.061	-10062.3	31921.8	54.311 %	0.0307
10	100	2	[1033,1100]	[15,30]	[21536,107688]	1.051	0.059	-20577.3	23774.5	50.138 %	0.0185
10	100	2	[1066,1100]	[1,10]	[10938,109388]	0.993	0.060	-10522.9	31914.0	54.690 %	0.0334
10	100	2	[1066,1100]	[1,10]	[21876,109388]	1.005	0.061	-21278.6	21637.9	50.689 %	0.0218
10	100	2	[1066,1100]	[5,10]	[10939,109390]	0.948	0.062	-10603.9	31710.1	53.945 %	0.0184
10	100	2	[1066,1100]	[5,10]	[21878,109390]	0.956	0.063	-20932.5	19494.3	52.606 %	0.0343
10	100	2	[1066,1100]	[1,30]	[10939,109398]	1.181	0.059	-10292.0	34311.5	52.659 %	0.0375
10	100	2	[1066,1100]	[1,30]	[21878,109398]	1.166	0.059	-21128.6	23325.7	50.122 %	0.0240
10	100	2	[1066,1100]	[15,30]	[10940,109405]	1.057	0.071	-10582.1	32492.4	53.671 %	0.0402
10	100	2	[1066,1100]	[15,30]	[21880,109405]	1.068	0.061	-21356.5	22602.8	50.631 %	0.0331

Tiempo Promedio Total H_2: 1.052 seg.

Tiempo Promedio Total H_1: 0.061 seg.

Rendimiento Promedio Total: 52.338 %

Tabla de Experimentos

$n : 200, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	2	[1000,1100]	[1,10]	[21210,212105]	7.017	0.196	-20472.7	68989.3	51.540 %	0.0179
10	200	2	[1000,1100]	[1,10]	[42420,212105]	6.978	0.196	-41558.4	45571.2	49.859 %	0.0225
10	200	2	[1000,1100]	[5,10]	[21210,212107]	6.809	0.198	-21130.5	61798.3	53.360 %	0.0221
10	200	2	[1000,1100]	[5,10]	[42420,212107]	6.842	0.196	-41890.2	41656.3	50.190 %	0.0181
10	200	2	[1000,1100]	[1,30]	[21211,212115]	7.729	0.191	-20558.1	68238.5	52.236 %	0.0224
10	200	2	[1000,1100]	[1,30]	[42422,212115]	7.612	0.187	-41568.7	51497.9	48.227 %	0.0141
10	200	2	[1000,1100]	[15,30]	[21212,212122]	7.103	0.192	-21144.9	65181.2	52.929 %	0.0256
10	200	2	[1000,1100]	[15,30]	[42424,212122]	7.209	0.201	-41917.6	49928.7	48.199 %	0.0164
10	200	2	[1033,1100]	[1,10]	[21533,215337]	6.983	0.195	-21664.7	66660.9	51.846 %	0.0180
10	200	2	[1033,1100]	[1,10]	[43066,215337]	6.955	0.196	-42907.3	47673.7	49.087 %	0.0138
10	200	2	[1033,1100]	[5,10]	[21533,215339]	6.835	0.195	-21649.1	63770.5	53.308 %	0.0078
10	200	2	[1033,1100]	[5,10]	[43066,215339]	6.848	0.199	-42787.1	40622.3	51.291 %	0.0204
10	200	2	[1033,1100]	[1,30]	[21534,215347]	7.609	0.190	-21280.9	68332.0	51.898 %	0.0193
10	200	2	[1033,1100]	[1,30]	[43068,215347]	7.652	0.190	-42871.4	48550.9	48.640 %	0.0218
10	200	2	[1033,1100]	[15,30]	[21535,215354]	7.596	0.220	-21142.3	71019.0	50.842 %	0.0245
10	200	2	[1033,1100]	[15,30]	[43070,215354]	7.339	0.193	-42241.7	49078.9	48.318 %	0.0205
10	200	2	[1066,1100]	[1,10]	[21877,218771]	7.011	0.191	-21164.9	70569.8	52.337 %	0.0218
10	200	2	[1066,1100]	[1,10]	[43754,218771]	7.094	0.198	-43213.0	46466.8	49.429 %	0.0165
10	200	2	[1066,1100]	[5,10]	[21877,218773]	6.864	0.207	-21201.8	67385.0	52.744 %	0.0139
10	200	2	[1066,1100]	[5,10]	[43754,218773]	6.825	0.200	-43155.0	40450.6	51.265 %	0.0191
10	200	2	[1066,1100]	[1,30]	[21878,218781]	7.638	0.189	-21509.8	73033.9	50.750 %	0.0167
10	200	2	[1066,1100]	[1,30]	[43756,218781]	7.695	0.193	-43520.0	50087.4	48.256 %	0.0167
10	200	2	[1066,1100]	[15,30]	[21878,218788]	7.239	0.193	-21207.6	74216.6	50.508 %	0.0176
10	200	2	[1066,1100]	[15,30]	[43756,218788]	7.205	0.194	-42779.1	48408.6	49.002 %	0.0225

Tiempo Promedio Total H_2: 7.195 seg.

Tiempo Promedio Total H_1: 0.196 seg.

Rendimiento Promedio Total: 50.669 %

Tabla de Experimentos

$n : 300, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	2	[1000,1100]	[1,10]	[31815,318155]	22.863	0.434	-32147.3	102257.3	51.705 %	0.0152
10	300	2	[1000,1100]	[1,10]	[63630,318155]	22.622	0.432	-63330.3	72862.7	48.536 %	0.0154
10	300	2	[1000,1100]	[5,10]	[31815,318157]	22.439	0.435	-31514.5	94953.3	53.312 %	0.0211
10	300	2	[1000,1100]	[5,10]	[63630,318157]	22.390	0.436	-63224.5	65184.5	49.671 %	0.0071
10	300	2	[1000,1100]	[1,30]	[31816,318165]	24.334	0.422	-31341.5	108782.5	50.360 %	0.0124
10	300	2	[1000,1100]	[1,30]	[63632,318165]	24.213	0.428	-63461.2	76911.9	47.936 %	0.0171
10	300	2	[1000,1100]	[15,30]	[31817,318172]	23.077	0.422	-32305.6	102866.0	51.419 %	0.0220
10	300	2	[1000,1100]	[15,30]	[63634,318172]	22.849	0.424	-63009.2	72550.3	48.900 %	0.0124
10	300	2	[1033,1100]	[1,10]	[32300,323003]	22.522	0.424	-31640.3	104830.1	51.546 %	0.0126
10	300	2	[1033,1100]	[1,10]	[64600,323003]	22.840	0.430	-64026.8	68718.5	48.862 %	0.0151
10	300	2	[1033,1100]	[5,10]	[32300,323005]	22.533	0.433	-31955.3	98673.6	53.065 %	0.0106
10	300	2	[1033,1100]	[5,10]	[64600,323005]	22.185	0.438	-64204.2	64911.0	50.273 %	0.0124
10	300	2	[1033,1100]	[1,30]	[32301,323013]	24.112	0.416	-32291.7	111554.4	50.267 %	0.0114
10	300	2	[1033,1100]	[1,30]	[64602,323013]	24.222	0.419	-63857.6	80121.2	47.391 %	0.0127
10	300	2	[1033,1100]	[15,30]	[32302,323020]	23.437	0.424	-31283.1	106939.5	51.374 %	0.0158
10	300	2	[1033,1100]	[15,30]	[64604,323020]	23.611	0.425	-63916.3	73783.4	48.842 %	0.0159
10	300	2	[1066,1100]	[1,10]	[32815,328154]	22.821	0.427	-32727.7	101750.3	52.330 %	0.0211
10	300	2	[1066,1100]	[1,10]	[65630,328154]	22.837	0.427	-65540.3	69970.0	49.297 %	0.0189
10	300	2	[1066,1100]	[5,10]	[32815,328156]	22.340	0.436	-32704.8	96206.4	53.764 %	0.0129
10	300	2	[1066,1100]	[5,10]	[65630,328156]	22.471	0.433	-65413.3	61826.5	50.517 %	0.0120
10	300	2	[1066,1100]	[1,30]	[32816,328164]	24.084	0.421	-32426.5	114022.3	49.953 %	0.0104
10	300	2	[1066,1100]	[1,30]	[65632,328164]	24.272	0.416	-64691.5	80194.5	47.346 %	0.0121
10	300	2	[1066,1100]	[15,30]	[32817,328171]	23.082	0.427	-32658.7	107470.1	51.392 %	0.0094
10	300	2	[1066,1100]	[15,30]	[65634,328171]	23.294	0.421	-64901.2	78003.4	48.195 %	0.0129

Tiempo Promedio Total H_2: 23.144 seg.

Tiempo Promedio Total H_1: 0.427 seg.

Rendimiento Promedio Total: 50.261 %

Tabla de Experimentos

$n : 500, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	2	[1000,1100]	[1,10]	[53025,530255]	106.885	1.163	-52442.3	171512.9	51.756 %	0.0176
10	500	2	[1000,1100]	[1,10]	[106050,530255]	106.043	1.173	-105803.0	125342.9	47.458 %	0.0100
10	500	2	[1000,1100]	[5,10]	[53025,530257]	106.030	1.210	-53427.1	163402.6	52.571 %	0.0061
10	500	2	[1000,1100]	[5,10]	[106050,530257]	105.427	1.201	-105966.1	109413.9	49.508 %	0.0105
10	500	2	[1000,1100]	[1,30]	[53026,530265]	111.461	1.192	-52799.0	187579.6	50.065 %	0.0150
10	500	2	[1000,1100]	[1,30]	[106052,530265]	110.608	1.156	-105518.7	130815.1	47.207 %	0.0136
10	500	2	[1000,1100]	[15,30]	[53027,530272]	107.517	1.156	-52362.0	183187.2	50.386 %	0.0174
10	500	2	[1000,1100]	[15,30]	[106054,530272]	108.505	1.152	-105561.2	122139.4	48.546 %	0.0137
10	500	2	[1033,1100]	[1,10]	[53833,538335]	106.556	1.171	-52866.8	176776.9	51.294 %	0.0107
10	500	2	[1033,1100]	[1,10]	[107666,538335]	106.901	1.182	-106785.4	122888.1	48.261 %	0.0149
10	500	2	[1033,1100]	[5,10]	[53833,538337]	105.792	1.208	-53402.2	162290.9	53.008 %	0.0065
10	500	2	[1033,1100]	[5,10]	[107666,538337]	105.749	1.218	-106852.6	106759.9	50.113 %	0.0124
10	500	2	[1033,1100]	[1,30]	[53834,538345]	111.714	1.154	-53011.6	185089.1	50.351 %	0.0149
10	500	2	[1033,1100]	[1,30]	[107668,538345]	110.105	1.138	-107513.5	126970.1	48.212 %	0.0095
10	500	2	[1033,1100]	[15,30]	[53835,538352]	107.390	1.158	-53460.6	181795.9	50.908 %	0.0158
10	500	2	[1033,1100]	[15,30]	[107670,538352]	107.405	1.156	-107386.6	133006.0	47.437 %	0.0102
10	500	2	[1066,1100]	[1,10]	[54692,546920]	106.442	1.166	-54024.7	179066.6	51.284 %	0.0098
10	500	2	[1066,1100]	[1,10]	[109384,546920]	105.748	1.172	-108261.6	130050.0	47.979 %	0.0106
10	500	2	[1066,1100]	[5,10]	[54692,546922]	105.427	1.210	-54252.5	166777.5	52.521 %	0.0117
10	500	2	[1066,1100]	[5,10]	[109384,546922]	105.140	1.195	-108494.8	111157.2	50.128 %	0.0076
10	500	2	[1066,1100]	[1,30]	[54693,546930]	110.283	1.147	-53733.9	188864.7	50.685 %	0.0115
10	500	2	[1066,1100]	[1,30]	[109386,546930]	110.020	1.147	-109028.5	135116.5	47.127 %	0.0146
10	500	2	[1066,1100]	[15,30]	[54693,546937]	107.229	1.186	-54383.8	181118.4	51.389 %	0.0126
10	500	2	[1066,1100]	[15,30]	[109386,546937]	107.118	1.158	-108572.2	134049.9	47.464 %	0.0095

Tiempo Promedio Total H_2: 107.562 seg.

Tiempo Promedio Total H_1: 1.174 seg.

Rendimiento Promedio Total: 49.819 %

Tabla de Experimentos

$n : 750, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	2	[1000,1100]	[1,10]	[79538,795380]	378.537	2.502	-78989.3	270563.0	50.827 %	0.0093
10	750	2	[1000,1100]	[1,10]	[159076,795380]	379.169	2.528	-158406.8	185742.4	47.758 %	0.0062
10	750	2	[1000,1100]	[5,10]	[79538,795382]	375.383	2.580	-78942.1	241539.2	52.864 %	0.0085
10	750	2	[1000,1100]	[5,10]	[159076,795382]	374.003	2.570	-158402.1	165832.3	49.543 %	0.0074
10	750	2	[1000,1100]	[1,30]	[79539,795390]	388.618	2.440	-79243.5	280166.4	49.869 %	0.0102
10	750	2	[1000,1100]	[1,30]	[159078,795390]	386.628	2.446	-158960.2	205387.1	46.533 %	0.0080
10	750	2	[1000,1100]	[15,30]	[79539,795397]	380.032	2.473	-79116.5	282404.2	50.006 %	0.0043
10	750	2	[1000,1100]	[15,30]	[159078,795397]	380.135	2.489	-158176.1	197840.1	47.386 %	0.0123
10	750	2	[1033,1100]	[1,10]	[80750,807500]	377.697	2.506	-80456.7	268025.6	51.064 %	0.0101
10	750	2	[1033,1100]	[1,10]	[161500,807500]	378.350	2.501	-161040.8	190998.4	48.083 %	0.0075
10	750	2	[1033,1100]	[5,10]	[80750,807502]	373.529	2.596	-80365.6	249374.1	52.476 %	0.0061
10	750	2	[1033,1100]	[5,10]	[161500,807502]	375.312	2.592	-160463.9	169688.4	49.666 %	0.0072
10	750	2	[1033,1100]	[1,30]	[80751,807510]	388.074	2.446	-80321.5	287236.1	49.930 %	0.0119
10	750	2	[1033,1100]	[1,30]	[161502,807510]	385.218	2.469	-160935.0	203154.5	47.169 %	0.0139
10	750	2	[1033,1100]	[15,30]	[80751,807517]	380.330	2.457	-80391.3	281403.1	50.133 %	0.0102
10	750	2	[1033,1100]	[15,30]	[161502,807517]	377.852	2.472	-161121.3	203659.3	47.024 %	0.0111
10	750	2	[1066,1100]	[1,10]	[82037,820377]	376.886	2.516	-81872.5	277140.2	50.855 %	0.0034
10	750	2	[1066,1100]	[1,10]	[164074,820377]	377.703	2.512	-163783.2	192709.0	48.115 %	0.0074
10	750	2	[1066,1100]	[5,10]	[82037,820379]	374.909	2.591	-81707.5	252534.3	52.562 %	0.0105
10	750	2	[1066,1100]	[5,10]	[164074,820379]	375.359	2.579	-163172.2	167128.9	49.258 %	0.0081
10	750	2	[1066,1100]	[1,30]	[82038,820387]	387.157	2.433	-81800.0	293480.1	49.540 %	0.0136
10	750	2	[1066,1100]	[1,30]	[164076,820387]	387.269	2.467	-163925.6	210719.6	46.557 %	0.0082
10	750	2	[1066,1100]	[15,30]	[82039,820394]	379.671	2.488	-81404.8	287952.4	49.740 %	0.0093
10	750	2	[1066,1100]	[15,30]	[164078,820394]	377.986	2.471	-162824.2	210000.3	46.784 %	0.0076

Tiempo Promedio Total H_2: 379.825 seg.

Tiempo Promedio Total H_1: 2.505 seg.

Rendimiento Promedio Total: 49.323 %

Tabla de Experimentos

$n : 1000, m : 2, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	2	[1000,1100]	[1,10]	[106050,1060505]	925.276	4.632	-105460.5	360828.4	50.475 %	0.0055
10	1000	2	[1000,1100]	[1,10]	[212100,1060505]	919.225	4.595	-211628.6	251794.9	47.969 %	0.0070
10	1000	2	[1000,1100]	[5,10]	[106050,1060507]	919.387	4.666	-106328.5	327262.1	52.271 %	0.0077
10	1000	2	[1000,1100]	[5,10]	[212100,1060507]	919.822	4.578	-211471.5	221355.4	49.377 %	0.0064
10	1000	2	[1000,1100]	[1,30]	[106051,1060515]	941.162	4.415	-105666.9	385698.0	49.102 %	0.0054
10	1000	2	[1000,1100]	[1,30]	[212102,1060515]	937.281	4.336	-211664.0	270953.4	46.696 %	0.0085
10	1000	2	[1000,1100]	[15,30]	[106052,1060522]	925.617	4.440	-105631.2	375614.1	49.837 %	0.0078
10	1000	2	[1000,1100]	[15,30]	[212104,1060522]	921.287	4.360	-211218.9	271111.1	46.616 %	0.0071
10	1000	2	[1033,1100]	[1,10]	[107666,1076665]	920.831	4.504	-107079.7	362390.9	50.930 %	0.0050
10	1000	2	[1033,1100]	[1,10]	[215332,1076665]	915.676	4.563	-214818.1	253180.9	47.963 %	0.0074
10	1000	2	[1033,1100]	[5,10]	[107666,1076667]	916.102	4.595	-107462.6	330834.4	52.665 %	0.0080
10	1000	2	[1033,1100]	[5,10]	[215332,1076667]	920.229	4.639	-215212.2	226592.8	49.346 %	0.0043
10	1000	2	[1033,1100]	[1,30]	[107667,1076675]	940.585	4.363	-107290.5	392420.7	49.346 %	0.0072
10	1000	2	[1033,1100]	[1,30]	[215334,1076675]	939.181	4.405	-214681.5	282101.8	46.567 %	0.0057
10	1000	2	[1033,1100]	[15,30]	[107668,1076682]	934.198	4.434	-107828.1	373088.2	50.084 %	0.0085
10	1000	2	[1033,1100]	[15,30]	[215336,1076682]	939.909	4.366	-214740.0	264099.5	47.437 %	0.0076
10	1000	2	[1066,1100]	[1,10]	[109383,1093835]	938.841	4.593	-108587.8	370033.8	50.615 %	0.0062
10	1000	2	[1066,1100]	[1,10]	[218766,1093835]	944.126	4.556	-218618.5	260019.2	47.513 %	0.0050
10	1000	2	[1066,1100]	[5,10]	[109383,1093837]	936.110	4.736	-109157.2	332688.8	52.614 %	0.0043
10	1000	2	[1066,1100]	[5,10]	[218766,1093837]	946.354	4.670	-217827.5	225987.4	49.720 %	0.0050
10	1000	2	[1066,1100]	[1,30]	[109384,1093845]	970.479	4.497	-108555.4	402009.0	49.046 %	0.0040
10	1000	2	[1066,1100]	[1,30]	[218768,1093845]	974.877	4.415	-218116.6	290893.9	46.395 %	0.0075
10	1000	2	[1066,1100]	[15,30]	[109385,1093852]	963.802	4.585	-109281.1	384261.8	50.068 %	0.0074
10	1000	2	[1066,1100]	[15,30]	[218770,1093852]	963.779	4.862	-218199.5	279142.7	46.719 %	0.0071

Tiempo Promedio Total H_2: 936.422 seg.

Tiempo Promedio Total H_1: 4.534 seg.

Rendimiento Promedio Total: 49.140 %

Tabla de Experimentos

$n : 10, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	4	[1000,1100]	[1,10]	[1061,10610]	0.021	0.008	-718.2	742.6	77.708 %	0.0639
10	10	4	[1000,1100]	[1,10]	[2122,10610]	0.019	0.007	-2058.6	-836.2	78.725 %	0.0855
10	10	4	[1000,1100]	[5,10]	[1061,10612]	0.018	0.008	-723.5	194.5	83.804 %	0.0610
10	10	4	[1000,1100]	[5,10]	[2122,10612]	0.019	0.007	-1628.1	-438.8	80.329 %	0.0661
10	10	4	[1000,1100]	[1,30]	[1062,10620]	0.018	0.008	-918.0	99.5	83.586 %	0.1042
10	10	4	[1000,1100]	[1,30]	[2124,10620]	0.020	0.007	-1510.2	-865.8	88.416 %	0.1117
10	10	4	[1000,1100]	[15,30]	[1062,10627]	0.020	0.007	-782.3	269.8	84.544 %	0.1157
10	10	4	[1000,1100]	[15,30]	[2124,10627]	0.019	0.009	-1408.6	18.0	78.740 %	0.0854
10	10	4	[1033,1100]	[1,10]	[1077,10771]	0.018	0.007	-917.1	12.0	84.789 %	0.0827
10	10	4	[1033,1100]	[1,10]	[2154,10771]	0.018	0.006	-1995.9	-1153.1	85.262 %	0.1292
10	10	4	[1033,1100]	[5,10]	[1077,10773]	0.021	0.010	-406.3	188.6	91.258 %	0.0878
10	10	4	[1033,1100]	[5,10]	[2154,10773]	0.018	0.008	-1688.2	-650.7	82.933 %	0.1144
10	10	4	[1033,1100]	[1,30]	[1078,10781]	0.021	0.008	-1139.3	-247.1	84.559 %	0.1173
10	10	4	[1033,1100]	[1,30]	[2156,10781]	0.019	0.007	-1763.2	-321.6	76.559 %	0.0976
10	10	4	[1033,1100]	[15,30]	[1078,10788]	0.019	0.010	-817.6	310.3	81.780 %	0.0954
10	10	4	[1033,1100]	[15,30]	[2156,10788]	0.022	0.008	-1617.2	-342.7	79.863 %	0.1175
10	10	4	[1066,1100]	[1,10]	[1094,10943]	0.022	0.007	-289.9	1063.4	80.632 %	0.1035
10	10	4	[1066,1100]	[1,10]	[2188,10943]	0.020	0.009	-1886.3	-842.8	81.666 %	0.0771
10	10	4	[1066,1100]	[5,10]	[1094,10945]	0.019	0.008	-915.0	-149.9	88.157 %	0.1005
10	10	4	[1066,1100]	[5,10]	[2188,10945]	0.047	0.019	-1991.5	-936.9	82.570 %	0.1054
10	10	4	[1066,1100]	[1,30]	[1095,10953]	0.023	0.006	-748.5	875.9	75.518 %	0.0799
10	10	4	[1066,1100]	[1,30]	[2190,10953]	0.020	0.008	-1507.0	-616.0	86.680 %	0.1345
10	10	4	[1066,1100]	[15,30]	[1096,10960]	0.019	0.007	-937.9	64.9	84.100 %	0.1285
10	10	4	[1066,1100]	[15,30]	[2192,10960]	0.020	0.008	-2182.0	-701.4	75.365 %	0.0947

Tiempo Promedio Total H_2: 0.021 seg.

Tiempo Promedio Total H_1: 0.008 seg.

Rendimiento Promedio Total: 82.398 %

Tabla de Experimentos

$n : 20, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	4	[1000,1100]	[1,10]	[2121,21215]	0.038	0.010	-1634.7	623.8	82.373 %	0.0728
10	20	4	[1000,1100]	[1,10]	[4242,21215]	0.038	0.013	-4145.9	-915.2	73.965 %	0.0589
10	20	4	[1000,1100]	[5,10]	[2121,21217]	0.037	0.010	-2061.0	650.4	77.295 %	0.0599
10	20	4	[1000,1100]	[5,10]	[4242,21217]	0.037	0.010	-3854.7	-911.8	74.941 %	0.0854
10	20	4	[1000,1100]	[1,30]	[2122,21225]	0.043	0.010	-1988.3	742.8	78.303 %	0.0645
10	20	4	[1000,1100]	[1,30]	[4244,21225]	0.044	0.010	-3853.5	-732.2	73.636 %	0.0779
10	20	4	[1000,1100]	[15,30]	[2123,21232]	0.044	0.013	-1829.9	1228.2	77.448 %	0.0567
10	20	4	[1000,1100]	[15,30]	[4246,21232]	0.079	0.022	-3748.5	-904.1	74.867 %	0.0626
10	20	4	[1033,1100]	[1,10]	[2153,21538]	0.039	0.009	-2098.6	749.1	77.836 %	0.0615
10	20	4	[1033,1100]	[1,10]	[4306,21538]	0.042	0.009	-4541.3	-1511.9	74.275 %	0.0917
10	20	4	[1033,1100]	[5,10]	[2154,21540]	0.043	0.014	-2039.2	391.2	80.084 %	0.0596
10	20	4	[1033,1100]	[5,10]	[4308,21540]	0.037	0.012	-4075.5	-1781.7	78.676 %	0.0676
10	20	4	[1033,1100]	[1,30]	[2154,21548]	0.048	0.008	-2107.2	438.1	80.016 %	0.0878
10	20	4	[1033,1100]	[1,30]	[4308,21548]	0.047	0.011	-3916.5	-788.6	74.463 %	0.0519
10	20	4	[1033,1100]	[15,30]	[2155,21555]	0.041	0.010	-1756.9	1351.8	75.847 %	0.0691
10	20	4	[1033,1100]	[15,30]	[4310,21555]	0.041	0.010	-3905.1	-823.5	74.355 %	0.0656
10	20	4	[1066,1100]	[1,10]	[2188,21881]	0.037	0.012	-2010.0	836.3	76.913 %	0.0485
10	20	4	[1066,1100]	[1,10]	[4376,21881]	0.055	0.015	-4195.3	-1321.9	76.484 %	0.0466
10	20	4	[1066,1100]	[5,10]	[2188,21883]	0.034	0.009	-1851.6	623.9	80.469 %	0.0731
10	20	4	[1066,1100]	[5,10]	[4376,21883]	0.034	0.011	-4283.0	-1525.0	76.022 %	0.0587
10	20	4	[1066,1100]	[1,30]	[2189,21891]	0.048	0.010	-2360.1	380.3	78.048 %	0.0734
10	20	4	[1066,1100]	[1,30]	[4378,21891]	0.045	0.010	-4099.7	-1252.8	77.365 %	0.0932
10	20	4	[1066,1100]	[15,30]	[2189,21898]	0.044	0.010	-1869.4	1192.9	76.821 %	0.0701
10	20	4	[1066,1100]	[15,30]	[4378,21898]	0.044	0.009	-3955.4	-1052.0	75.628 %	0.0840

Tiempo Promedio Total H_2: 0.043 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 76.922 %

Tabla de Experimentos

$n : 30, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	4	[1000,1100]	[1,10]	[3182,31820]	0.069	0.011	-2972.5	1742.1	75.851 %	0.0700
10	30	4	[1000,1100]	[1,10]	[6364,31820]	0.071	0.015	-6060.5	-834.4	71.477 %	0.0317
10	30	4	[1000,1100]	[5,10]	[3182,31822]	0.061	0.017	-2795.0	1372.1	77.817 %	0.0700
10	30	4	[1000,1100]	[5,10]	[6364,31822]	0.067	0.012	-5739.2	-1756.0	76.042 %	0.0389
10	30	4	[1000,1100]	[1,30]	[3183,31830]	0.082	0.015	-2903.3	1549.7	77.605 %	0.0622
10	30	4	[1000,1100]	[1,30]	[6366,31830]	0.091	0.016	-6095.1	-1380.8	73.116 %	0.0656
10	30	4	[1000,1100]	[15,30]	[3183,31837]	0.080	0.014	-3454.9	521.0	78.859 %	0.0714
10	30	4	[1000,1100]	[15,30]	[6366,31837]	0.078	0.013	-6257.2	-1028.4	70.281 %	0.0503
10	30	4	[1033,1100]	[1,10]	[3230,32304]	0.074	0.016	-3110.1	1919.1	74.410 %	0.0539
10	30	4	[1033,1100]	[1,10]	[6460,32304]	0.066	0.016	-6664.3	-1755.8	73.498 %	0.0844
10	30	4	[1033,1100]	[5,10]	[3230,32306]	0.086	0.015	-3054.7	1093.3	76.913 %	0.0821
10	30	4	[1033,1100]	[5,10]	[6460,32306]	0.066	0.014	-6198.8	-2351.9	77.093 %	0.0760
10	30	4	[1033,1100]	[1,30]	[3231,32314]	0.080	0.013	-3310.6	1948.5	74.453 %	0.0566
10	30	4	[1033,1100]	[1,30]	[6462,32314]	0.090	0.014	-6145.2	-1331.4	74.212 %	0.0787
10	30	4	[1033,1100]	[15,30]	[3232,32322]	0.076	0.015	-2955.8	1697.5	76.866 %	0.0738
10	30	4	[1033,1100]	[15,30]	[6464,32322]	0.072	0.014	-6325.1	-1836.9	75.057 %	0.0754
10	30	4	[1066,1100]	[1,10]	[3281,32819]	0.067	0.016	-2609.1	2076.5	76.320 %	0.0555
10	30	4	[1066,1100]	[1,10]	[6562,32819]	0.072	0.011	-6225.9	-2076.1	77.804 %	0.0825
10	30	4	[1066,1100]	[5,10]	[3282,32821]	0.070	0.013	-3121.2	1394.9	76.935 %	0.0633
10	30	4	[1066,1100]	[5,10]	[6564,32821]	0.063	0.013	-5931.3	-1877.5	77.702 %	0.0564
10	30	4	[1066,1100]	[1,30]	[3283,32830]	0.086	0.012	-3501.8	1740.4	75.143 %	0.0612
10	30	4	[1066,1100]	[1,30]	[6566,32830]	0.090	0.011	-6078.3	-790.5	71.989 %	0.0713
10	30	4	[1066,1100]	[15,30]	[3283,32837]	0.078	0.013	-3173.7	1783.7	74.893 %	0.0642
10	30	4	[1066,1100]	[15,30]	[6566,32837]	0.073	0.013	-6386.4	-599.1	70.431 %	0.0472

Tiempo Promedio Total H_2: 0.075 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 75.199 %

Tabla de Experimentos

$n : 50, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	4	[1000,1100]	[1,10]	[5303,53030]	0.179	0.021	-4798.4	2882.3	76.316 %	0.0607
10	50	4	[1000,1100]	[1,10]	[10606,53030]	0.184	0.021	-10226.6	-1175.7	70.815 %	0.0439
10	50	4	[1000,1100]	[5,10]	[5303,53032]	0.172	0.022	-5374.4	3276.4	73.044 %	0.0269
10	50	4	[1000,1100]	[5,10]	[10606,53032]	0.175	0.022	-10298.6	-1601.9	71.448 %	0.0449
10	50	4	[1000,1100]	[1,30]	[5304,53040]	0.247	0.029	-5105.4	3500.8	73.979 %	0.0600
10	50	4	[1000,1100]	[1,30]	[10608,53040]	0.226	0.023	-10257.6	-1004.6	70.518 %	0.0403
10	50	4	[1000,1100]	[15,30]	[5304,53047]	0.199	0.022	-4907.5	2764.6	76.496 %	0.0986
10	50	4	[1000,1100]	[15,30]	[10608,53047]	0.193	0.023	-9956.2	-469.0	68.789 %	0.0472
10	50	4	[1033,1100]	[1,10]	[5383,53838]	0.185	0.021	-4997.4	3697.7	74.050 %	0.0500
10	50	4	[1033,1100]	[1,10]	[10766,53838]	0.187	0.025	-10645.8	-1829.5	70.961 %	0.0332
10	50	4	[1033,1100]	[5,10]	[5384,53840]	0.171	0.021	-5346.6	3559.3	73.864 %	0.0419
10	50	4	[1033,1100]	[5,10]	[10768,53840]	0.167	0.023	-10481.1	-3991.7	77.523 %	0.0802
10	50	4	[1033,1100]	[1,30]	[5384,53848]	0.228	0.023	-5179.9	4630.6	71.411 %	0.0421
10	50	4	[1033,1100]	[1,30]	[10768,53848]	0.220	0.026	-10367.0	-1638.1	72.198 %	0.0646
10	50	4	[1033,1100]	[15,30]	[5385,53855]	0.201	0.024	-5656.2	3298.9	73.023 %	0.0351
10	50	4	[1033,1100]	[15,30]	[10770,53855]	0.198	0.021	-11004.4	-2150.3	70.391 %	0.0319
10	50	4	[1066,1100]	[1,10]	[5469,54696]	0.179	0.022	-4937.2	4058.3	73.310 %	0.0413
10	50	4	[1066,1100]	[1,10]	[10938,54696]	0.184	0.027	-10404.3	-1473.8	71.858 %	0.0546
10	50	4	[1066,1100]	[5,10]	[5469,54698]	0.169	0.021	-4916.1	2692.2	76.800 %	0.0549
10	50	4	[1066,1100]	[5,10]	[10938,54698]	0.176	0.026	-10708.2	-1921.3	72.679 %	0.0616
10	50	4	[1066,1100]	[1,30]	[5470,54706]	0.214	0.023	-5022.8	4908.8	71.174 %	0.0308
10	50	4	[1066,1100]	[1,30]	[10940,54706]	0.230	0.025	-10337.6	-1544.4	71.118 %	0.0421
10	50	4	[1066,1100]	[15,30]	[5471,54713]	0.196	0.022	-5244.2	4097.3	72.214 %	0.0604
10	50	4	[1066,1100]	[15,30]	[10942,54713]	0.198	0.022	-10787.1	-2110.6	71.746 %	0.0496

Tiempo Promedio Total H_2: 0.195 seg.

Tiempo Promedio Total H_1: 0.023 seg.

Rendimiento Promedio Total: 72.739 %

Tabla de Experimentos

$n : 100, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	4	[1000,1100]	[1,10]	[10605,106055]	1.093	0.066	-10542.5	7456.0	73.200 %	0.0190
10	100	4	[1000,1100]	[1,10]	[21210,106055]	1.047	0.063	-20659.4	-1696.8	68.909 %	0.0348
10	100	4	[1000,1100]	[5,10]	[10605,106057]	1.009	0.063	-10824.7	6047.5	73.869 %	0.0591
10	100	4	[1000,1100]	[5,10]	[21210,106057]	0.978	0.060	-20795.1	-1373.7	68.275 %	0.0288
10	100	4	[1000,1100]	[1,30]	[10606,106065]	1.218	0.060	-10361.3	8718.5	71.475 %	0.0524
10	100	4	[1000,1100]	[1,30]	[21212,106065]	1.211	0.059	-21205.6	-1929.8	69.187 %	0.0390
10	100	4	[1000,1100]	[15,30]	[10607,106072]	1.106	0.059	-10330.7	8993.9	71.313 %	0.0303
10	100	4	[1000,1100]	[15,30]	[21214,106072]	1.098	0.061	-21159.0	-117.1	66.434 %	0.0328
10	100	4	[1033,1100]	[1,10]	[10767,107671]	1.049	0.060	-10814.0	9002.6	71.095 %	0.0291
10	100	4	[1033,1100]	[1,10]	[21534,107671]	1.013	0.061	-21508.5	-2087.3	69.009 %	0.0299
10	100	4	[1033,1100]	[5,10]	[10767,107673]	0.978	0.064	-10638.2	7633.4	71.810 %	0.0304
10	100	4	[1033,1100]	[5,10]	[21534,107673]	1.027	0.061	-21063.1	-2967.7	70.640 %	0.0200
10	100	4	[1033,1100]	[1,30]	[10768,107681]	1.237	0.057	-11404.5	8831.1	69.418 %	0.0327
10	100	4	[1033,1100]	[1,30]	[21536,107681]	1.196	0.061	-20772.4	334.9	67.924 %	0.0381
10	100	4	[1033,1100]	[15,30]	[10768,107688]	1.097	0.059	-10776.6	7462.2	72.634 %	0.0269
10	100	4	[1033,1100]	[15,30]	[21536,107688]	1.141	0.064	-21230.8	-2134.1	69.534 %	0.0375
10	100	4	[1066,1100]	[1,10]	[10938,109388]	1.048	0.079	-10772.2	9321.6	71.511 %	0.0277
10	100	4	[1066,1100]	[1,10]	[21876,109388]	1.017	0.057	-21381.9	15.9	68.206 %	0.0201
10	100	4	[1066,1100]	[5,10]	[10939,109390]	1.003	0.062	-10902.0	9913.4	70.626 %	0.0209
10	100	4	[1066,1100]	[5,10]	[21878,109390]	1.012	0.065	-21701.8	-1860.1	69.152 %	0.0406
10	100	4	[1066,1100]	[1,30]	[10939,109398]	1.197	0.062	-10635.7	9569.2	71.171 %	0.0230
10	100	4	[1066,1100]	[1,30]	[21878,109398]	1.211	0.057	-21578.4	-2270.6	69.540 %	0.0418
10	100	4	[1066,1100]	[15,30]	[10940,109405]	1.065	0.062	-10582.5	9118.6	71.575 %	0.0384
10	100	4	[1066,1100]	[15,30]	[21880,109405]	1.088	0.060	-21683.9	-539.9	67.867 %	0.0270

Tiempo Promedio Total H_2: 1.089 seg.

Tiempo Promedio Total H_1: 0.062 seg.

Rendimiento Promedio Total: 70.182 %

Tabla de Experimentos

$n : 200, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	4	[1000,1100]	[1,10]	[21210,212105]	7.040	0.201	-21808.4	20963.8	68.796 %	0.0159
10	200	4	[1000,1100]	[1,10]	[42420,212105]	6.929	0.202	-42037.3	-1639.7	68.187 %	0.0390
10	200	4	[1000,1100]	[5,10]	[21210,212107]	6.867	0.208	-20752.1	18611.5	70.567 %	0.0149
10	200	4	[1000,1100]	[5,10]	[42420,212107]	6.782	0.205	-41994.4	-2703.2	68.502 %	0.0228
10	200	4	[1000,1100]	[1,30]	[21211,212115]	7.646	0.195	-20842.9	23377.8	68.308 %	0.0220
10	200	4	[1000,1100]	[1,30]	[42422,212115]	7.554	0.196	-41986.3	38.3	67.322 %	0.0367
10	200	4	[1000,1100]	[15,30]	[21212,212122]	7.190	0.202	-20923.9	20508.2	69.918 %	0.0271
10	200	4	[1000,1100]	[15,30]	[42424,212122]	7.160	0.200	-42036.5	1314.4	66.539 %	0.0147
10	200	4	[1033,1100]	[1,10]	[21533,215337]	7.079	0.206	-21325.3	21677.3	69.854 %	0.0118
10	200	4	[1033,1100]	[1,10]	[43066,215337]	7.021	0.208	-43091.1	-542.4	66.987 %	0.0187
10	200	4	[1033,1100]	[5,10]	[21533,215339]	6.773	0.208	-21315.8	18373.8	70.850 %	0.0284
10	200	4	[1033,1100]	[5,10]	[43066,215339]	6.798	0.203	-42753.1	-2056.8	68.384 %	0.0228
10	200	4	[1033,1100]	[1,30]	[21534,215347]	7.575	0.196	-21322.1	23528.2	67.918 %	0.0250
10	200	4	[1033,1100]	[1,30]	[43068,215347]	7.743	0.195	-42665.2	3165.5	65.663 %	0.0227
10	200	4	[1033,1100]	[15,30]	[21535,215354]	7.159	0.201	-20975.1	20804.4	69.584 %	0.0296
10	200	4	[1033,1100]	[15,30]	[43070,215354]	7.102	0.198	-43220.2	1183.3	66.046 %	0.0183
10	200	4	[1066,1100]	[1,10]	[21877,218771]	6.942	0.202	-21819.0	21114.4	69.790 %	0.0225
10	200	4	[1066,1100]	[1,10]	[43754,218771]	7.076	0.202	-43560.9	-1005.9	67.330 %	0.0229
10	200	4	[1066,1100]	[5,10]	[21877,218773]	6.786	0.206	-22169.0	20752.3	69.682 %	0.0166
10	200	4	[1066,1100]	[5,10]	[43754,218773]	6.802	0.205	-43561.6	-3566.8	68.861 %	0.0280
10	200	4	[1066,1100]	[1,30]	[21878,218781]	7.411	0.198	-21259.7	22028.7	69.913 %	0.0207
10	200	4	[1066,1100]	[1,30]	[43756,218781]	7.702	0.201	-43400.2	207.3	67.056 %	0.0244
10	200	4	[1066,1100]	[15,30]	[21878,218788]	7.174	0.199	-22323.6	20204.0	69.564 %	0.0237
10	200	4	[1066,1100]	[15,30]	[43756,218788]	7.117	0.200	-43507.1	2250.1	65.483 %	0.0114

Tiempo Promedio Total H_2: 7.143 seg.

Tiempo Promedio Total H_1: 0.202 seg.

Rendimiento Promedio Total: 68.379 %

Tabla de Experimentos

$n : 300, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	4	[1000,1100]	[1,10]	[31815,318155]	22.680	0.428	-31334.2	30884.3	69.610 %	0.0291
10	300	4	[1000,1100]	[1,10]	[63630,318155]	22.708	0.430	-63307.2	-260.0	66.712 %	0.0271
10	300	4	[1000,1100]	[5,10]	[31815,318157]	22.393	0.444	-31837.1	29344.8	69.852 %	0.0206
10	300	4	[1000,1100]	[5,10]	[63630,318157]	22.719	0.462	-63558.4	-3196.9	67.761 %	0.0150
10	300	4	[1000,1100]	[1,30]	[31816,318165]	24.334	0.419	-31849.4	34842.9	68.619 %	0.0180
10	300	4	[1000,1100]	[1,30]	[63632,318165]	25.234	0.421	-63881.8	553.6	66.174 %	0.0204
10	300	4	[1000,1100]	[15,30]	[31817,318172]	23.308	0.424	-31479.0	34821.8	68.697 %	0.0219
10	300	4	[1000,1100]	[15,30]	[63634,318172]	23.455	0.427	-63219.4	765.8	67.029 %	0.0194
10	300	4	[1033,1100]	[1,10]	[32300,323003]	22.742	0.434	-32290.0	34121.6	68.753 %	0.0187
10	300	4	[1033,1100]	[1,10]	[64600,323003]	23.255	0.442	-64207.1	-399.3	67.066 %	0.0261
10	300	4	[1033,1100]	[5,10]	[32300,323005]	22.413	0.438	-31963.0	32833.7	69.094 %	0.0096
10	300	4	[1033,1100]	[5,10]	[64600,323005]	22.342	0.434	-64317.2	-641.4	66.657 %	0.0133
10	300	4	[1033,1100]	[1,30]	[32301,323013]	24.077	0.421	-32155.8	34638.8	68.687 %	0.0241
10	300	4	[1033,1100]	[1,30]	[64602,323013]	24.157	0.418	-63869.7	5093.8	65.433 %	0.0225
10	300	4	[1033,1100]	[15,30]	[32302,323020]	24.537	0.443	-32326.9	30845.9	69.898 %	0.0215
10	300	4	[1033,1100]	[15,30]	[64604,323020]	24.171	0.445	-64321.0	3667.3	65.529 %	0.0189
10	300	4	[1066,1100]	[1,10]	[32815,328154]	23.584	0.444	-32668.1	31737.6	69.165 %	0.0161
10	300	4	[1066,1100]	[1,10]	[65630,328154]	22.690	0.433	-65733.7	1110.5	66.396 %	0.0100
10	300	4	[1066,1100]	[5,10]	[32815,328156]	22.048	0.435	-32577.7	27730.1	71.653 %	0.0204
10	300	4	[1066,1100]	[5,10]	[65630,328156]	22.391	0.440	-65200.1	-2453.7	68.072 %	0.0175
10	300	4	[1066,1100]	[1,30]	[32816,328164]	24.195	0.424	-33513.6	34137.1	68.424 %	0.0212
10	300	4	[1066,1100]	[1,30]	[65632,328164]	23.987	0.420	-65136.7	6197.1	64.883 %	0.0141
10	300	4	[1066,1100]	[15,30]	[32817,328171]	23.303	0.428	-33043.0	35670.2	68.219 %	0.0130
10	300	4	[1066,1100]	[15,30]	[65634,328171]	23.049	0.417	-65347.9	2687.5	65.807 %	0.0164

Tiempo Promedio Total H_2: 23.324 seg.

Tiempo Promedio Total H_1: 0.432 seg.

Rendimiento Promedio Total: 67.841 %

Tabla de Experimentos

$n : 500, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	4	[1000,1100]	[1,10]	[53025,530255]	107.367	1.137	-53193.6	55653.7	68.634 %	0.0150
10	500	4	[1000,1100]	[1,10]	[106050,530255]	105.692	1.128	-105600.6	6709.4	65.513 %	0.0070
10	500	4	[1000,1100]	[5,10]	[53025,530257]	105.682	1.158	-52901.3	50276.0	69.813 %	0.0084
10	500	4	[1000,1100]	[5,10]	[106050,530257]	105.519	1.163	-105778.6	1709.2	65.987 %	0.0078
10	500	4	[1000,1100]	[1,30]	[53026,530265]	109.777	1.108	-52954.5	64316.3	66.560 %	0.0132
10	500	4	[1000,1100]	[1,30]	[106052,530265]	110.197	1.115	-105675.9	10447.2	64.721 %	0.0089
10	500	4	[1000,1100]	[15,30]	[53027,530272]	107.806	1.116	-53281.1	61948.5	67.677 %	0.0166
10	500	4	[1000,1100]	[15,30]	[106054,530272]	107.960	1.119	-105836.7	6727.9	65.502 %	0.0125
10	500	4	[1033,1100]	[1,10]	[53833,538335]	106.583	1.138	-54435.7	62000.8	67.201 %	0.0067
10	500	4	[1033,1100]	[1,10]	[107666,538335]	106.945	1.132	-108274.2	1080.3	66.368 %	0.0194
10	500	4	[1033,1100]	[5,10]	[53833,538337]	105.389	1.166	-53633.6	49944.8	70.220 %	0.0160
10	500	4	[1033,1100]	[5,10]	[107666,538337]	104.942	1.168	-107312.1	401.3	66.688 %	0.0068
10	500	4	[1033,1100]	[1,30]	[53834,538345]	110.965	1.104	-53708.9	62778.1	67.500 %	0.0118
10	500	4	[1033,1100]	[1,30]	[107668,538345]	110.656	1.094	-107329.8	8642.2	64.848 %	0.0171
10	500	4	[1033,1100]	[15,30]	[53835,538352]	106.709	1.120	-53551.9	62554.2	67.325 %	0.0094
10	500	4	[1033,1100]	[15,30]	[107670,538352]	107.650	1.108	-107212.7	9289.0	65.120 %	0.0137
10	500	4	[1066,1100]	[1,10]	[54692,546920]	105.801	1.146	-54802.0	57214.6	68.553 %	0.0147
10	500	4	[1066,1100]	[1,10]	[109384,546920]	106.233	1.134	-109272.6	5271.6	65.704 %	0.0117
10	500	4	[1066,1100]	[5,10]	[54692,546922]	105.320	1.165	-54665.9	53572.2	69.136 %	0.0092
10	500	4	[1066,1100]	[5,10]	[109384,546922]	104.750	1.165	-109143.9	434.0	66.770 %	0.0096
10	500	4	[1066,1100]	[1,30]	[54693,546930]	110.529	1.102	-54964.5	66881.3	66.838 %	0.0163
10	500	4	[1066,1100]	[1,30]	[109386,546930]	110.107	1.108	-109281.4	6577.4	65.484 %	0.0172
10	500	4	[1066,1100]	[15,30]	[54693,546937]	106.872	1.124	-54282.6	64735.4	67.499 %	0.0201
10	500	4	[1066,1100]	[15,30]	[109386,546937]	107.387	1.116	-109200.3	8797.4	65.452 %	0.0158

Tiempo Promedio Total H_2: 107.368 seg.

Tiempo Promedio Total H_1: 1.131 seg.

Rendimiento Promedio Total: 66.880 %

Tabla de Experimentos

$n : 750, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	4	[1000,1100]	[1,10]	[79538,795380]	381.716	2.601	-79554.5	92345.3	67.714 %	0.0088
10	750	4	[1000,1100]	[1,10]	[159076,795380]	385.402	2.596	-158942.3	8803.0	65.575 %	0.0103
10	750	4	[1000,1100]	[5,10]	[79538,795382]	383.560	2.677	-79055.1	79191.3	69.423 %	0.0155
10	750	4	[1000,1100]	[5,10]	[159076,795382]	386.034	2.687	-158528.5	-3455.1	67.217 %	0.0132
10	750	4	[1000,1100]	[1,30]	[79539,795390]	397.794	2.555	-79443.8	96655.2	67.116 %	0.0114
10	750	4	[1000,1100]	[1,30]	[159078,795390]	400.546	2.529	-158563.4	16392.3	64.595 %	0.0107
10	750	4	[1000,1100]	[15,30]	[79539,795397]	389.260	2.576	-79093.8	92107.8	67.536 %	0.0131
10	750	4	[1000,1100]	[15,30]	[159078,795397]	390.181	2.559	-159322.0	13852.3	64.739 %	0.0133
10	750	4	[1033,1100]	[1,10]	[80750,807500]	389.498	2.830	-80531.2	92648.2	67.774 %	0.0092
10	750	4	[1033,1100]	[1,10]	[161500,807500]	391.227	2.638	-161105.5	8607.3	65.635 %	0.0136
10	750	4	[1033,1100]	[5,10]	[80750,807502]	388.402	2.736	-80412.5	81126.0	69.055 %	0.0056
10	750	4	[1033,1100]	[5,10]	[161500,807502]	389.243	2.685	-161766.4	36.1	66.727 %	0.0074
10	750	4	[1033,1100]	[1,30]	[80751,807510]	396.825	2.601	-80496.7	100706.4	66.638 %	0.0073
10	750	4	[1033,1100]	[1,30]	[161502,807510]	398.677	2.560	-160759.9	19903.6	64.043 %	0.0143
10	750	4	[1033,1100]	[15,30]	[80751,807517]	394.689	2.576	-80234.3	93449.9	67.811 %	0.0112
10	750	4	[1033,1100]	[15,30]	[161502,807517]	391.468	2.554	-161370.1	11330.5	65.494 %	0.0149
10	750	4	[1066,1100]	[1,10]	[82037,820377]	388.641	2.688	-81807.4	90756.8	68.078 %	0.0065
10	750	4	[1066,1100]	[1,10]	[164074,820377]	386.453	2.640	-163738.1	10978.3	64.993 %	0.0111
10	750	4	[1066,1100]	[5,10]	[82037,820379]	385.789	2.686	-81333.0	78971.5	69.803 %	0.0092
10	750	4	[1066,1100]	[5,10]	[164074,820379]	386.956	2.711	-163912.3	87.5	66.407 %	0.0130
10	750	4	[1066,1100]	[1,30]	[82038,820387]	396.941	2.541	-81832.1	102003.8	66.571 %	0.0165
10	750	4	[1066,1100]	[1,30]	[164076,820387]	398.906	2.553	-163716.3	14645.8	64.657 %	0.0149
10	750	4	[1066,1100]	[15,30]	[82039,820394]	388.558	2.563	-82098.7	98257.5	67.119 %	0.0115
10	750	4	[1066,1100]	[15,30]	[164078,820394]	388.199	2.584	-164088.2	18665.6	64.209 %	0.0089

Tiempo Promedio Total H_2: 390.623 seg.

Tiempo Promedio Total H_1: 2.622 seg.

Rendimiento Promedio Total: 66.622 %

Tabla de Experimentos

$n : 1000, m : 4, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	4	[1000,1100]	[1,10]	[106050,1060505]	938.373	4.776	-106043.9	120419.4	67.689 %	0.0067
10	1000	4	[1000,1100]	[1,10]	[212100,1060505]	943.428	4.576	-211717.6	17829.0	64.949 %	0.0079
10	1000	4	[1000,1100]	[5,10]	[106050,1060507]	943.593	4.717	-106045.8	106172.1	69.279 %	0.0142
10	1000	4	[1000,1100]	[5,10]	[212100,1060507]	938.371	4.723	-211992.3	1092.6	66.723 %	0.0048
10	1000	4	[1000,1100]	[1,30]	[106051,1060515]	958.853	4.454	-105665.3	131227.7	66.970 %	0.0124
10	1000	4	[1000,1100]	[1,30]	[212102,1060515]	951.643	4.422	-211613.0	24156.8	64.084 %	0.0135
10	1000	4	[1000,1100]	[15,30]	[106052,1060522]	936.594	4.455	-106105.9	131320.3	66.682 %	0.0093
10	1000	4	[1000,1100]	[15,30]	[212104,1060522]	933.752	4.429	-212282.1	28221.7	63.836 %	0.0053
10	1000	4	[1033,1100]	[1,10]	[107666,1076665]	926.547	4.569	-107227.4	124630.4	67.543 %	0.0069
10	1000	4	[1033,1100]	[1,10]	[215332,1076665]	926.866	4.538	-214964.7	12643.3	65.530 %	0.0184
10	1000	4	[1033,1100]	[5,10]	[107666,1076667]	923.084	4.655	-107242.6	111293.7	68.747 %	0.0047
10	1000	4	[1033,1100]	[5,10]	[215332,1076667]	920.018	4.705	-215109.6	757.2	66.439 %	0.0058
10	1000	4	[1033,1100]	[1,30]	[107667,1076675]	941.149	4.400	-107204.4	128390.1	67.333 %	0.0094
10	1000	4	[1033,1100]	[1,30]	[215334,1076675]	943.557	4.397	-215018.0	25208.1	64.051 %	0.0075
10	1000	4	[1033,1100]	[15,30]	[107668,1076682]	929.095	4.449	-107319.0	130449.1	67.196 %	0.0094
10	1000	4	[1033,1100]	[15,30]	[215336,1076682]	941.367	4.504	-215041.5	24923.3	64.254 %	0.0111
10	1000	4	[1066,1100]	[1,10]	[109383,1093835]	930.802	4.528	-109520.8	127261.1	67.520 %	0.0074
10	1000	4	[1066,1100]	[1,10]	[218766,1093835]	929.876	4.532	-219113.5	16685.9	65.122 %	0.0085
10	1000	4	[1066,1100]	[5,10]	[109383,1093837]	929.059	4.658	-109113.5	106492.1	69.484 %	0.0097
10	1000	4	[1066,1100]	[5,10]	[218766,1093837]	930.019	4.907	-218567.9	2954.9	66.436 %	0.0072
10	1000	4	[1066,1100]	[1,30]	[109384,1093845]	949.537	4.382	-109885.7	132953.5	66.874 %	0.0121
10	1000	4	[1066,1100]	[1,30]	[218768,1093845]	951.644	4.373	-218288.6	24691.9	64.332 %	0.0106
10	1000	4	[1066,1100]	[15,30]	[109385,1093852]	932.878	4.457	-108854.1	134907.8	67.076 %	0.0097
10	1000	4	[1066,1100]	[15,30]	[218770,1093852]	930.648	4.475	-218290.0	24008.3	64.245 %	0.0107

Tiempo Promedio Total H_2: 936.698 seg.

Tiempo Promedio Total H_1: 4.545 seg.

Rendimiento Promedio Total: 66.350 %

Tabla de Experimentos

$n : 10, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	6	[1000,1100]	[1,10]	[1061,10610]	0.024	0.010	-1138.1	-761.1	93.079 %	0.0792
10	10	6	[1000,1100]	[1,10]	[2122,10610]	0.021	0.009	-1319.0	-805.3	90.594 %	0.0960
10	10	6	[1000,1100]	[5,10]	[1061,10612]	0.022	0.010	-857.6	-380.3	91.794 %	0.0708
10	10	6	[1000,1100]	[5,10]	[2122,10612]	0.023	0.008	-1700.4	-889.8	85.183 %	0.0770
10	10	6	[1000,1100]	[1,30]	[1062,10620]	0.024	0.011	-659.9	-85.8	90.861 %	0.0774
10	10	6	[1000,1100]	[1,30]	[2124,10620]	0.023	0.009	-2034.9	-1587.1	91.173 %	0.0794
10	10	6	[1000,1100]	[15,30]	[1062,10627]	0.022	0.008	-492.1	320.9	86.724 %	0.0667
10	10	6	[1000,1100]	[15,30]	[2124,10627]	0.020	0.010	-1816.3	-1700.0	97.931 %	0.0527
10	10	6	[1033,1100]	[1,10]	[1077,10771]	0.021	0.007	-1242.6	-657.3	89.314 %	0.0842
10	10	6	[1033,1100]	[1,10]	[2154,10771]	0.021	0.007	-2317.1	-1638.5	87.545 %	0.0862
10	10	6	[1033,1100]	[5,10]	[1077,10773]	0.020	0.006	-804.0	-429.9	92.608 %	0.0743
10	10	6	[1033,1100]	[5,10]	[2154,10773]	0.020	0.009	-1678.7	-1355.8	94.490 %	0.0798
10	10	6	[1033,1100]	[1,30]	[1078,10781]	0.023	0.009	-667.6	-231.0	92.865 %	0.0808
10	10	6	[1033,1100]	[1,30]	[2156,10781]	0.024	0.012	-1572.4	-872.6	86.058 %	0.0940
10	10	6	[1033,1100]	[15,30]	[1078,10788]	0.021	0.009	-881.3	-221.3	88.559 %	0.0834
10	10	6	[1033,1100]	[15,30]	[2156,10788]	0.020	0.007	-2107.0	-1405.5	87.027 %	0.0763
10	10	6	[1066,1100]	[1,10]	[1094,10943]	0.022	0.008	-682.4	-88.2	89.964 %	0.0856
10	10	6	[1066,1100]	[1,10]	[2188,10943]	0.024	0.009	-1955.4	-1778.6	96.390 %	0.0634
10	10	6	[1066,1100]	[5,10]	[1094,10945]	0.064	0.025	-1392.1	-873.5	91.431 %	0.0796
10	10	6	[1066,1100]	[5,10]	[2188,10945]	0.020	0.007	-2468.2	-1953.7	89.671 %	0.0860
10	10	6	[1066,1100]	[1,30]	[1095,10953]	0.021	0.008	-614.5	249.4	86.252 %	0.0597
10	10	6	[1066,1100]	[1,30]	[2190,10953]	0.021	0.009	-2275.7	-1551.2	85.340 %	0.0787
10	10	6	[1066,1100]	[15,30]	[1096,10960]	0.020	0.007	-759.3	-338.7	92.056 %	0.0827
10	10	6	[1066,1100]	[15,30]	[2192,10960]	0.021	0.007	-1834.9	-1224.3	88.277 %	0.0863

Tiempo Promedio Total H_2: 0.023 seg.

Tiempo Promedio Total H_1: 0.009 seg.

Rendimiento Promedio Total: 90.216 %

Tabla de Experimentos

$n : 20, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	6	[1000,1100]	[1,10]	[2121,21215]	0.041	0.010	-2069.4	-299.8	84.345 %	0.0653
10	20	6	[1000,1100]	[1,10]	[4242,21215]	0.041	0.012	-3778.7	-2340.8	86.795 %	0.0723
10	20	6	[1000,1100]	[5,10]	[2121,21217]	0.038	0.011	-2020.7	-147.8	83.543 %	0.0839
10	20	6	[1000,1100]	[5,10]	[4242,21217]	0.038	0.011	-3628.7	-1964.9	84.561 %	0.0615
10	20	6	[1000,1100]	[1,30]	[2122,21225]	0.050	0.011	-1962.4	-280.6	84.579 %	0.0633
10	20	6	[1000,1100]	[1,30]	[4244,21225]	0.049	0.010	-3877.0	-1946.1	82.344 %	0.0671
10	20	6	[1000,1100]	[15,30]	[2123,21232]	0.048	0.012	-2187.0	-399.0	83.986 %	0.0631
10	20	6	[1000,1100]	[15,30]	[4246,21232]	0.083	0.013	-3732.5	-2368.7	86.658 %	0.0657
10	20	6	[1033,1100]	[1,10]	[2153,21538]	0.041	0.011	-1877.6	-513.3	88.524 %	0.0623
10	20	6	[1033,1100]	[1,10]	[4306,21538]	0.041	0.011	-3831.3	-2004.5	82.508 %	0.0560
10	20	6	[1033,1100]	[5,10]	[2154,21540]	0.049	0.017	-2222.1	-729.9	87.407 %	0.0370
10	20	6	[1033,1100]	[5,10]	[4308,21540]	0.040	0.011	-4086.4	-2549.1	84.794 %	0.0763
10	20	6	[1033,1100]	[1,30]	[2154,21548]	0.055	0.011	-2003.4	-618.5	87.852 %	0.0539
10	20	6	[1033,1100]	[1,30]	[4308,21548]	0.050	0.011	-4199.6	-2419.6	83.712 %	0.0601
10	20	6	[1033,1100]	[15,30]	[2155,21555]	0.048	0.009	-2382.1	-772.8	84.631 %	0.0867
10	20	6	[1033,1100]	[15,30]	[4310,21555]	0.045	0.010	-4300.4	-2577.8	84.569 %	0.0595
10	20	6	[1066,1100]	[1,10]	[2188,21881]	0.044	0.010	-1891.0	-52.0	83.897 %	0.0537
10	20	6	[1066,1100]	[1,10]	[4376,21881]	0.050	0.014	-4187.4	-2428.9	83.641 %	0.0537
10	20	6	[1066,1100]	[5,10]	[2188,21883]	0.036	0.009	-1959.0	-619.7	88.899 %	0.0679
10	20	6	[1066,1100]	[5,10]	[4376,21883]	0.040	0.013	-3950.1	-2334.7	86.251 %	0.0704
10	20	6	[1066,1100]	[1,30]	[2189,21891]	0.056	0.012	-2142.1	-640.1	87.813 %	0.0745
10	20	6	[1066,1100]	[1,30]	[4378,21891]	0.050	0.010	-4137.3	-2243.4	82.868 %	0.0661
10	20	6	[1066,1100]	[15,30]	[2189,21898]	0.045	0.008	-2005.6	-594.8	87.874 %	0.0590
10	20	6	[1066,1100]	[15,30]	[4378,21898]	0.049	0.012	-4170.3	-2865.5	87.166 %	0.0951

Tiempo Promedio Total H_2: 0.047 seg.

Tiempo Promedio Total H_1: 0.011 seg.

Rendimiento Promedio Total: 85.384 %

Tabla de Experimentos

$n : 30, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	6	[1000,1100]	[1,10]	[3182,31820]	0.076	0.013	-3342.8	-1036.3	86.373 %	0.0526
10	30	6	[1000,1100]	[1,10]	[6364,31820]	0.076	0.011	-6024.2	-2817.0	81.033 %	0.0473
10	30	6	[1000,1100]	[5,10]	[3182,31822]	0.070	0.014	-2863.8	15.8	83.254 %	0.0466
10	30	6	[1000,1100]	[5,10]	[6364,31822]	0.072	0.014	-6130.4	-3556.8	83.663 %	0.0476
10	30	6	[1000,1100]	[1,30]	[3183,31830]	0.088	0.015	-3196.2	-198.0	82.501 %	0.0487
10	30	6	[1000,1100]	[1,30]	[6366,31830]	0.091	0.013	-5747.7	-2706.6	81.038 %	0.0501
10	30	6	[1000,1100]	[15,30]	[3183,31837]	0.084	0.014	-3009.4	-453.2	84.978 %	0.0366
10	30	6	[1000,1100]	[15,30]	[6366,31837]	0.096	0.021	-6116.4	-3122.2	81.363 %	0.0657
10	30	6	[1033,1100]	[1,10]	[3230,32304]	0.076	0.012	-3214.8	-1077.1	87.464 %	0.0631
10	30	6	[1033,1100]	[1,10]	[6460,32304]	0.075	0.015	-5738.2	-2624.2	82.161 %	0.0424
10	30	6	[1033,1100]	[5,10]	[3230,32306]	0.085	0.020	-2738.6	-558.5	87.508 %	0.0673
10	30	6	[1033,1100]	[5,10]	[6460,32306]	0.068	0.014	-6453.5	-3605.2	82.807 %	0.0619
10	30	6	[1033,1100]	[1,30]	[3231,32314]	0.094	0.013	-3176.7	-569.5	85.671 %	0.0481
10	30	6	[1033,1100]	[1,30]	[6462,32314]	0.095	0.018	-6367.4	-3736.8	84.275 %	0.0677
10	30	6	[1033,1100]	[15,30]	[3232,32322]	0.082	0.014	-3148.2	33.6	81.283 %	0.0423
10	30	6	[1033,1100]	[15,30]	[6464,32322]	0.081	0.013	-6297.6	-3867.5	84.619 %	0.0618
10	30	6	[1066,1100]	[1,10]	[3281,32819]	0.073	0.014	-3056.7	-760.0	87.059 %	0.0770
10	30	6	[1066,1100]	[1,10]	[6562,32819]	0.072	0.020	-5922.6	-3291.4	84.543 %	0.0654
10	30	6	[1066,1100]	[5,10]	[3282,32821]	0.067	0.019	-2965.7	-190.6	84.155 %	0.0615
10	30	6	[1066,1100]	[5,10]	[6564,32821]	0.064	0.016	-6397.8	-3713.5	83.575 %	0.0442
10	30	6	[1066,1100]	[1,30]	[3283,32830]	0.093	0.013	-2852.6	-355.7	85.612 %	0.0599
10	30	6	[1066,1100]	[1,30]	[6566,32830]	0.093	0.014	-6129.2	-2879.4	81.359 %	0.0663
10	30	6	[1066,1100]	[15,30]	[3283,32837]	0.083	0.014	-3379.5	-802.9	85.401 %	0.0665
10	30	6	[1066,1100]	[15,30]	[6566,32837]	0.082	0.013	-6426.5	-2946.1	79.207 %	0.0406

Tiempo Promedio Total H_2: 0.081 seg.

Tiempo Promedio Total H_1: 0.015 seg.

Rendimiento Promedio Total: 83.788 %

Tabla de Experimentos

$n : 50, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	6	[1000,1100]	[1,10]	[5303,53030]	0.201	0.026	-4650.4	1486.1	80.236 %	0.0314
10	50	6	[1000,1100]	[1,10]	[10606,53030]	0.195	0.024	-10429.5	-4896.0	79.488 %	0.0344
10	50	6	[1000,1100]	[5,10]	[5303,53032]	0.185	0.026	-5813.0	-899.2	82.876 %	0.0505
10	50	6	[1000,1100]	[5,10]	[10606,53032]	0.207	0.025	-10037.4	-5479.2	83.483 %	0.0826
10	50	6	[1000,1100]	[1,30]	[5304,53040]	0.252	0.022	-5236.2	-396.9	83.670 %	0.0415
10	50	6	[1000,1100]	[1,30]	[10608,53040]	0.245	0.024	-10167.1	-4627.0	80.438 %	0.0401
10	50	6	[1000,1100]	[15,30]	[5304,53047]	0.220	0.023	-5436.1	18.0	81.279 %	0.0351
10	50	6	[1000,1100]	[15,30]	[10608,53047]	0.218	0.021	-9932.1	-4642.3	80.854 %	0.0394
10	50	6	[1033,1100]	[1,10]	[5383,53838]	0.193	0.026	-4975.2	767.0	80.969 %	0.0340
10	50	6	[1033,1100]	[1,10]	[10766,53838]	0.197	0.027	-11586.6	-5696.6	78.687 %	0.0306
10	50	6	[1033,1100]	[5,10]	[5384,53840]	0.181	0.022	-5024.8	254.7	82.368 %	0.0324
10	50	6	[1033,1100]	[5,10]	[10768,53840]	0.184	0.023	-10292.0	-5801.0	83.680 %	0.0708
10	50	6	[1033,1100]	[1,30]	[5384,53848]	0.238	0.023	-5004.4	277.5	82.939 %	0.0375
10	50	6	[1033,1100]	[1,30]	[10768,53848]	0.229	0.021	-10717.6	-5285.3	81.040 %	0.0353
10	50	6	[1033,1100]	[15,30]	[5385,53855]	0.211	0.026	-5231.5	388.8	81.043 %	0.0451
10	50	6	[1033,1100]	[15,30]	[10770,53855]	0.208	0.021	-10432.5	-5223.0	80.312 %	0.0459
10	50	6	[1066,1100]	[1,10]	[5469,54696]	0.200	0.023	-5111.3	725.6	80.890 %	0.0370
10	50	6	[1066,1100]	[1,10]	[10938,54696]	0.194	0.023	-10841.0	-5204.5	79.152 %	0.0361
10	50	6	[1066,1100]	[5,10]	[5469,54698]	0.176	0.023	-5152.9	-696.0	84.567 %	0.0639
10	50	6	[1066,1100]	[5,10]	[10938,54698]	0.193	0.022	-10795.8	-6113.5	82.981 %	0.0679
10	50	6	[1066,1100]	[1,30]	[5470,54706]	0.233	0.022	-5407.6	460.6	81.401 %	0.0226
10	50	6	[1066,1100]	[1,30]	[10940,54706]	0.247	0.025	-10478.4	-4538.2	79.343 %	0.0320
10	50	6	[1066,1100]	[15,30]	[5471,54713]	0.206	0.025	-6284.1	-500.3	80.691 %	0.0478
10	50	6	[1066,1100]	[15,30]	[10942,54713]	0.207	0.022	-10968.1	-4440.0	76.945 %	0.0405

Tiempo Promedio Total H_2: 0.209 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 81.222 %

Tabla de Experimentos

$n : 100, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	6	[1000,1100]	[1,10]	[10605,106055]	1.131	0.066	-11122.8	615.9	80.033 %	0.0186
10	100	6	[1000,1100]	[1,10]	[21210,106055]	1.046	0.062	-21081.1	-8030.1	76.475 %	0.0280
10	100	6	[1000,1100]	[5,10]	[10605,106057]	0.982	0.063	-10994.0	926.9	79.990 %	0.0304
10	100	6	[1000,1100]	[5,10]	[21210,106057]	0.986	0.062	-20900.7	-9396.2	79.072 %	0.0385
10	100	6	[1000,1100]	[1,30]	[10606,106065]	1.220	0.061	-10495.8	1389.8	79.507 %	0.0235
10	100	6	[1000,1100]	[1,30]	[21212,106065]	1.183	0.060	-20616.9	-8410.4	77.825 %	0.0239
10	100	6	[1000,1100]	[15,30]	[10607,106072]	1.077	0.062	-10473.6	1886.6	79.148 %	0.0401
10	100	6	[1000,1100]	[15,30]	[21214,106072]	1.096	0.063	-20905.1	-8698.6	77.365 %	0.0365
10	100	6	[1033,1100]	[1,10]	[10767,107671]	1.015	0.065	-11065.7	1851.8	79.010 %	0.0152
10	100	6	[1033,1100]	[1,10]	[21534,107671]	1.059	0.063	-21713.9	-8270.9	76.130 %	0.0202
10	100	6	[1033,1100]	[5,10]	[10767,107673]	0.982	0.063	-10471.2	1217.4	80.626 %	0.0239
10	100	6	[1033,1100]	[5,10]	[21534,107673]	0.972	0.065	-21426.5	-10402.4	79.531 %	0.0265
10	100	6	[1033,1100]	[1,30]	[10768,107681]	1.190	0.060	-10546.7	2604.2	78.074 %	0.0197
10	100	6	[1033,1100]	[1,30]	[21536,107681]	1.237	0.062	-21080.2	-7748.4	75.715 %	0.0346
10	100	6	[1033,1100]	[15,30]	[10768,107688]	1.073	0.062	-10653.4	1908.4	79.591 %	0.0312
10	100	6	[1033,1100]	[15,30]	[21536,107688]	1.103	0.061	-21562.8	-8295.7	76.936 %	0.0228
10	100	6	[1066,1100]	[1,10]	[10938,109388]	1.000	0.063	-10445.0	2960.3	79.090 %	0.0309
10	100	6	[1066,1100]	[1,10]	[21876,109388]	1.013	0.062	-21814.4	-9230.2	77.933 %	0.0309
10	100	6	[1066,1100]	[5,10]	[10939,109390]	0.969	0.061	-10625.1	-441.8	83.301 %	0.0392
10	100	6	[1066,1100]	[5,10]	[21878,109390]	0.969	0.065	-21768.0	-11769.6	81.928 %	0.0644
10	100	6	[1066,1100]	[1,30]	[10939,109398]	1.249	0.061	-10862.7	1979.0	80.245 %	0.0410
10	100	6	[1066,1100]	[1,30]	[21878,109398]	1.188	0.060	-21269.7	-8142.6	76.954 %	0.0372
10	100	6	[1066,1100]	[15,30]	[10940,109405]	1.060	0.061	-11175.2	2353.9	78.257 %	0.0323
10	100	6	[1066,1100]	[15,30]	[21880,109405]	1.063	0.064	-21849.6	-9052.2	77.212 %	0.0375

Tiempo Promedio Total H_2: 1.078 seg.

Tiempo Promedio Total H_1: 0.062 seg.

Rendimiento Promedio Total: 78.748 %

Tabla de Experimentos

$n : 200, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	6	[1000,1100]	[1,10]	[21210,212105]	7.040	0.208	-21206.8	4935.9	78.538 %	0.0175
10	200	6	[1000,1100]	[1,10]	[42420,212105]	6.920	0.206	-42590.5	-15480.6	75.849 %	0.0273
10	200	6	[1000,1100]	[5,10]	[21210,212107]	6.820	0.206	-21138.4	3444.6	79.559 %	0.0191
10	200	6	[1000,1100]	[5,10]	[42420,212107]	6.796	0.208	-42199.8	-17004.3	77.150 %	0.0199
10	200	6	[1000,1100]	[1,30]	[21211,212115]	7.810	0.200	-21124.4	7761.0	76.950 %	0.0250
10	200	6	[1000,1100]	[1,30]	[42422,212115]	7.879	0.198	-42378.5	-16207.6	76.642 %	0.0278
10	200	6	[1000,1100]	[15,30]	[21212,212122]	7.217	0.199	-20904.4	6687.1	77.252 %	0.0181
10	200	6	[1000,1100]	[15,30]	[42424,212122]	7.044	0.198	-42517.7	-17483.0	77.818 %	0.0279
10	200	6	[1033,1100]	[1,10]	[21533,215337]	6.975	0.200	-21389.6	5450.9	78.318 %	0.0123
10	200	6	[1033,1100]	[1,10]	[43066,215337]	6.989	0.208	-42934.9	-14936.5	75.518 %	0.0169
10	200	6	[1033,1100]	[5,10]	[21533,215339]	6.842	0.214	-20928.9	3458.9	80.206 %	0.0212
10	200	6	[1033,1100]	[5,10]	[43066,215339]	6.805	0.207	-42975.1	-17112.1	76.722 %	0.0215
10	200	6	[1033,1100]	[1,30]	[21534,215347]	7.706	0.204	-20982.0	6925.7	77.517 %	0.0207
10	200	6	[1033,1100]	[1,30]	[43068,215347]	7.735	0.199	-42775.2	-12890.7	74.281 %	0.0131
10	200	6	[1033,1100]	[15,30]	[21535,215354]	7.206	0.198	-21312.6	6018.2	77.850 %	0.0188
10	200	6	[1033,1100]	[15,30]	[43070,215354]	7.263	0.200	-42516.2	-16847.0	77.328 %	0.0179
10	200	6	[1066,1100]	[1,10]	[21877,218771]	6.905	0.204	-21639.2	6252.8	77.968 %	0.0188
10	200	6	[1066,1100]	[1,10]	[43754,218771]	6.825	0.202	-43517.5	-16325.0	76.527 %	0.0243
10	200	6	[1066,1100]	[5,10]	[21877,218773]	6.724	0.208	-21830.2	3815.1	79.172 %	0.0236
10	200	6	[1066,1100]	[5,10]	[43754,218773]	6.659	0.207	-43535.5	-19509.0	78.386 %	0.0318
10	200	6	[1066,1100]	[1,30]	[21878,218781]	7.919	0.199	-22143.1	5569.2	77.561 %	0.0248
10	200	6	[1066,1100]	[1,30]	[43756,218781]	7.568	0.198	-43885.4	-13862.2	74.290 %	0.0206
10	200	6	[1066,1100]	[15,30]	[21878,218788]	7.172	0.202	-21490.4	6245.5	78.552 %	0.0228
10	200	6	[1066,1100]	[15,30]	[43756,218788]	7.339	0.202	-43696.4	-16814.6	76.575 %	0.0250

Tiempo Promedio Total H_2: 7.173 seg.

Tiempo Promedio Total H_1: 0.203 seg.

Rendimiento Promedio Total: 77.355 %

Tabla de Experimentos

$n : 300, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	6	[1000,1100]	[1,10]	[31815,318155]	22.904	0.437	-31424.9	7355.7	78.661 %	0.0207
10	300	6	[1000,1100]	[1,10]	[63630,318155]	22.771	0.437	-63334.6	-20089.5	74.393 %	0.0176
10	300	6	[1000,1100]	[5,10]	[31815,318157]	22.471	0.447	-31983.7	6351.7	78.851 %	0.0170
10	300	6	[1000,1100]	[5,10]	[63630,318157]	22.329	0.451	-63110.1	-25888.4	77.341 %	0.0231
10	300	6	[1000,1100]	[1,30]	[31816,318165]	24.195	0.428	-31362.6	12505.8	76.805 %	0.0204
10	300	6	[1000,1100]	[1,30]	[63632,318165]	24.291	0.425	-63355.8	-17753.5	73.659 %	0.0136
10	300	6	[1000,1100]	[15,30]	[31817,318172]	23.128	0.433	-31525.9	9352.2	77.603 %	0.0268
10	300	6	[1000,1100]	[15,30]	[63634,318172]	23.239	0.430	-63085.0	-20196.5	74.806 %	0.0192
10	300	6	[1033,1100]	[1,10]	[32300,323003]	22.707	0.442	-32545.2	8240.2	78.186 %	0.0282
10	300	6	[1033,1100]	[1,10]	[64600,323003]	22.471	0.432	-64752.3	-20740.1	74.556 %	0.0124
10	300	6	[1033,1100]	[5,10]	[32300,323005]	22.403	0.518	-32002.1	6736.7	79.097 %	0.0262
10	300	6	[1033,1100]	[5,10]	[64600,323005]	22.407	0.445	-64196.6	-25039.3	76.680 %	0.0221
10	300	6	[1033,1100]	[1,30]	[32301,323013]	24.321	0.427	-32517.5	8495.3	78.058 %	0.0221
10	300	6	[1033,1100]	[1,30]	[64602,323013]	24.242	0.444	-64158.5	-18727.9	73.936 %	0.0174
10	300	6	[1033,1100]	[15,30]	[32302,323020]	23.108	0.428	-32194.1	10310.2	77.300 %	0.0215
10	300	6	[1033,1100]	[15,30]	[64604,323020]	23.936	0.427	-64105.7	-20378.8	74.812 %	0.0175
10	300	6	[1066,1100]	[1,10]	[32815,328154]	22.636	0.433	-32955.8	11259.6	76.708 %	0.0163
10	300	6	[1066,1100]	[1,10]	[65630,328154]	22.647	0.444	-65241.8	-20690.8	74.794 %	0.0127
10	300	6	[1066,1100]	[5,10]	[32815,328156]	21.932	0.448	-32799.9	8996.0	78.093 %	0.0158
10	300	6	[1066,1100]	[5,10]	[65630,328156]	21.846	0.451	-66430.1	-23640.6	75.296 %	0.0140
10	300	6	[1066,1100]	[1,30]	[32816,328164]	24.016	0.446	-32951.4	12807.9	76.448 %	0.0155
10	300	6	[1066,1100]	[1,30]	[65632,328164]	23.995	0.424	-65466.8	-21145.1	74.788 %	0.0195
10	300	6	[1066,1100]	[15,30]	[32817,328171]	22.962	0.435	-32788.6	11699.9	76.985 %	0.0135
10	300	6	[1066,1100]	[15,30]	[65634,328171]	23.598	0.493	-65286.5	-21125.7	74.546 %	0.0213

Tiempo Promedio Total H_2: 23.106 seg.

Tiempo Promedio Total H_1: 0.443 seg.

Rendimiento Promedio Total: 76.350 %

Tabla de Experimentos

$n : 500, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	6	[1000,1100]	[1,10]	[53025,530255]	107.544	1.149	-52765.2	15971.2	77.842 %	0.0214
10	500	6	[1000,1100]	[1,10]	[106050,530255]	107.171	1.164	-105723.6	-36498.4	75.560 %	0.0083
10	500	6	[1000,1100]	[5,10]	[53025,530257]	106.914	1.283	-52534.4	15395.6	77.908 %	0.0102
10	500	6	[1000,1100]	[5,10]	[106050,530257]	106.621	1.373	-105589.4	-37110.2	75.646 %	0.0113
10	500	6	[1000,1100]	[1,30]	[53026,530265]	111.408	1.125	-52759.8	24563.1	75.530 %	0.0096
10	500	6	[1000,1100]	[1,30]	[106052,530265]	112.339	1.127	-105898.8	-28633.5	73.554 %	0.0147
10	500	6	[1000,1100]	[15,30]	[53027,530272]	108.615	1.143	-53297.9	19034.3	76.748 %	0.0162
10	500	6	[1000,1100]	[15,30]	[106054,530272]	108.145	1.142	-106302.4	-31075.4	74.141 %	0.0138
10	500	6	[1033,1100]	[1,10]	[53833,538335]	106.837	1.148	-54163.3	21719.9	76.133 %	0.0106
10	500	6	[1033,1100]	[1,10]	[107666,538335]	106.411	1.152	-107491.7	-35003.8	75.081 %	0.0145
10	500	6	[1033,1100]	[5,10]	[53833,538337]	106.310	1.210	-54340.6	14549.2	77.897 %	0.0114
10	500	6	[1033,1100]	[5,10]	[107666,538337]	105.873	1.178	-107487.2	-37775.2	75.512 %	0.0124
10	500	6	[1033,1100]	[1,30]	[53834,538345]	111.440	1.150	-53336.7	23591.5	75.960 %	0.0099
10	500	6	[1033,1100]	[1,30]	[107668,538345]	111.151	1.199	-107579.4	-28992.0	73.142 %	0.0115
10	500	6	[1033,1100]	[15,30]	[53835,538352]	107.315	1.150	-54058.9	20533.6	76.467 %	0.0099
10	500	6	[1033,1100]	[15,30]	[107670,538352]	109.181	1.135	-107114.0	-32338.1	74.591 %	0.0150
10	500	6	[1066,1100]	[1,10]	[54692,546920]	106.267	1.160	-54924.7	19435.8	77.008 %	0.0138
10	500	6	[1066,1100]	[1,10]	[109384,546920]	106.943	1.151	-109163.7	-31329.5	73.872 %	0.0093
10	500	6	[1066,1100]	[5,10]	[54692,546922]	104.064	1.188	-54620.1	15543.2	77.671 %	0.0115
10	500	6	[1066,1100]	[5,10]	[109384,546922]	105.517	1.198	-108906.9	-38774.7	75.863 %	0.0132
10	500	6	[1066,1100]	[1,30]	[54693,546930]	110.169	1.122	-54514.5	22244.8	76.046 %	0.0131
10	500	6	[1066,1100]	[1,30]	[109386,546930]	110.554	1.128	-109523.5	-27974.5	72.414 %	0.0113
10	500	6	[1066,1100]	[15,30]	[54693,546937]	108.343	1.129	-54772.1	21188.2	76.369 %	0.0082
10	500	6	[1066,1100]	[15,30]	[109386,546937]	107.512	1.155	-109043.8	-35200.7	74.789 %	0.0111

Tiempo Promedio Total H_2: 108.027 seg.

Tiempo Promedio Total H_1: 1.169 seg.

Rendimiento Promedio Total: 75.656 %

Tabla de Experimentos

$n : 750, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	6	[1000,1100]	[1,10]	[79538,795380]	375.081	2.522	-79797.1	31650.2	76.352 %	0.0114
10	750	6	[1000,1100]	[1,10]	[159076,795380]	377.253	2.528	-158861.3	-50883.3	74.648 %	0.0123
10	750	6	[1000,1100]	[5,10]	[79538,795382]	374.753	2.593	-79477.9	25848.9	77.468 %	0.0075
10	750	6	[1000,1100]	[5,10]	[159076,795382]	373.364	2.580	-158702.0	-53837.8	75.162 %	0.0075
10	750	6	[1000,1100]	[1,30]	[79539,795390]	386.326	2.449	-79195.7	33865.5	75.995 %	0.0140
10	750	6	[1000,1100]	[1,30]	[159078,795390]	384.619	2.469	-158812.3	-42158.9	73.277 %	0.0085
10	750	6	[1000,1100]	[15,30]	[79539,795397]	379.701	2.502	-78994.6	34272.4	76.032 %	0.0131
10	750	6	[1000,1100]	[15,30]	[159078,795397]	380.227	2.489	-158534.0	-44329.8	73.650 %	0.0105
10	750	6	[1033,1100]	[1,10]	[80750,807500]	376.008	2.539	-80699.2	31265.8	76.468 %	0.0116
10	750	6	[1033,1100]	[1,10]	[161500,807500]	376.176	2.502	-161288.7	-47585.3	73.904 %	0.0121
10	750	6	[1033,1100]	[5,10]	[80750,807502]	372.088	2.595	-80349.9	26557.4	77.110 %	0.0103
10	750	6	[1033,1100]	[5,10]	[161500,807502]	371.188	2.582	-161077.6	-55390.9	75.358 %	0.0104
10	750	6	[1033,1100]	[1,30]	[80751,807510]	384.791	2.451	-80668.8	39701.3	75.133 %	0.0042
10	750	6	[1033,1100]	[1,30]	[161502,807510]	382.939	2.456	-161562.0	-44692.6	73.502 %	0.0086
10	750	6	[1033,1100]	[15,30]	[80751,807517]	377.574	2.473	-80790.1	33671.1	75.865 %	0.0116
10	750	6	[1033,1100]	[15,30]	[161502,807517]	377.712	2.494	-161478.8	-42532.1	73.142 %	0.0091
10	750	6	[1066,1100]	[1,10]	[82037,820377]	370.168	2.522	-82041.2	34770.3	75.979 %	0.0092
10	750	6	[1066,1100]	[1,10]	[164074,820377]	371.144	2.515	-164106.3	-48232.1	73.820 %	0.0087
10	750	6	[1066,1100]	[5,10]	[82037,820379]	371.291	2.593	-81871.7	24857.7	77.466 %	0.0107
10	750	6	[1066,1100]	[5,10]	[164074,820379]	369.767	2.606	-163554.1	-55890.7	74.945 %	0.0052
10	750	6	[1066,1100]	[1,30]	[82038,820387]	383.010	2.457	-81849.3	39320.4	75.200 %	0.0078
10	750	6	[1066,1100]	[1,30]	[164076,820387]	379.725	2.451	-163965.0	-43848.9	73.334 %	0.0128
10	750	6	[1066,1100]	[15,30]	[82039,820394]	373.744	2.505	-81487.4	34077.0	75.921 %	0.0103
10	750	6	[1066,1100]	[15,30]	[164078,820394]	377.489	2.484	-163709.0	-47205.4	73.749 %	0.0107

Tiempo Promedio Total H_2: 376.922 seg.

Tiempo Promedio Total H_1: 2.515 seg.

Rendimiento Promedio Total: 75.145 %

Tabla de Experimentos

$n : 1000, m : 6, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	6	[1000,1100]	[1,10]	[106050,1060505]	921.965	4.692	-105739.1	42379.5	76.299 %	0.0102
10	1000	6	[1000,1100]	[1,10]	[212100,1060505]	923.188	4.631	-211907.1	-61790.1	73.703 %	0.0091
10	1000	6	[1000,1100]	[5,10]	[106050,1060507]	920.906	4.805	-105986.0	31737.0	77.736 %	0.0075
10	1000	6	[1000,1100]	[5,10]	[212100,1060507]	920.617	4.822	-211572.8	-70480.9	75.100 %	0.0047
10	1000	6	[1000,1100]	[1,30]	[106051,1060515]	945.676	4.563	-105676.4	49970.9	75.380 %	0.0088
10	1000	6	[1000,1100]	[1,30]	[212102,1060515]	944.719	4.555	-211832.4	-51293.4	72.554 %	0.0079
10	1000	6	[1000,1100]	[15,30]	[106052,1060522]	931.087	4.602	-106179.7	48373.3	75.566 %	0.0066
10	1000	6	[1000,1100]	[15,30]	[212104,1060522]	929.892	4.642	-211787.7	-61363.5	73.935 %	0.0113
10	1000	6	[1033,1100]	[1,10]	[107666,1076665]	923.299	4.637	-107688.7	43678.1	76.451 %	0.0084
10	1000	6	[1033,1100]	[1,10]	[215332,1076665]	924.463	4.746	-214981.1	-62357.3	73.828 %	0.0083
10	1000	6	[1033,1100]	[5,10]	[107666,1076667]	919.040	4.795	-107401.4	35707.8	77.207 %	0.0062
10	1000	6	[1033,1100]	[5,10]	[215332,1076667]	914.095	4.837	-214605.9	-74742.2	75.499 %	0.0108
10	1000	6	[1033,1100]	[1,30]	[107667,1076675]	940.596	4.512	-107268.0	54045.5	74.785 %	0.0094
10	1000	6	[1033,1100]	[1,30]	[215334,1076675]	942.468	4.615	-214724.7	-54219.2	72.811 %	0.0087
10	1000	6	[1033,1100]	[15,30]	[107668,1076682]	926.606	4.613	-107738.9	46879.2	75.819 %	0.0098
10	1000	6	[1033,1100]	[15,30]	[215336,1076682]	926.424	4.600	-215486.1	-61859.1	73.796 %	0.0128
10	1000	6	[1066,1100]	[1,10]	[109383,1093835]	916.668	4.643	-109816.5	44934.8	76.091 %	0.0138
10	1000	6	[1066,1100]	[1,10]	[218766,1093835]	913.265	4.656	-219259.3	-64898.2	73.730 %	0.0077
10	1000	6	[1066,1100]	[5,10]	[109383,1093837]	914.673	4.815	-109129.4	33994.0	77.646 %	0.0092
10	1000	6	[1066,1100]	[5,10]	[218766,1093837]	913.067	4.822	-218318.8	-74597.2	75.311 %	0.0055
10	1000	6	[1066,1100]	[1,30]	[109384,1093845]	931.347	4.541	-108863.6	52776.3	75.502 %	0.0095
10	1000	6	[1066,1100]	[1,30]	[218768,1093845]	943.468	4.563	-218916.1	-56673.6	72.756 %	0.0086
10	1000	6	[1066,1100]	[15,30]	[109385,1093852]	922.260	4.586	-109672.9	50082.4	75.259 %	0.0081
10	1000	6	[1066,1100]	[15,30]	[218770,1093852]	920.201	4.614	-218552.7	-65131.9	74.016 %	0.0111

Tiempo Promedio Total H_2: 926.250 seg.

Tiempo Promedio Total H_1: 4.663 seg.

Rendimiento Promedio Total: 75.032 %

Tabla de Experimentos

$n : 10, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	10	[1000,1100]	[1,10]	[1061,10610]	0.033	0.014	-1141.7	-1136.0	99.861 %	0.0032
10	10	10	[1000,1100]	[1,10]	[2122,10610]	0.028	0.012	-1582.7	-1578.8	99.933 %	0.0020
10	10	10	[1000,1100]	[5,10]	[1061,10612]	0.021	0.010	-984.9	-976.7	99.825 %	0.0036
10	10	10	[1000,1100]	[5,10]	[2122,10612]	0.022	0.008	-1805.4	-1800.9	99.917 %	0.0025
10	10	10	[1000,1100]	[1,30]	[1062,10620]	0.023	0.009	-850.9	-850.9	100.000 %	0.0000
10	10	10	[1000,1100]	[1,30]	[2124,10620]	0.028	0.008	-2050.8	-2046.2	99.900 %	0.0020
10	10	10	[1000,1100]	[15,30]	[1062,10627]	0.025	0.010	-984.1	-980.9	99.945 %	0.0016
10	10	10	[1000,1100]	[15,30]	[2124,10627]	0.023	0.009	-1999.7	-1999.7	100.000 %	0.0000
10	10	10	[1033,1100]	[1,10]	[1077,10771]	0.020	0.008	-910.6	-908.4	99.959 %	0.0012
10	10	10	[1033,1100]	[1,10]	[2154,10771]	0.022	0.009	-2203.0	-2203.0	100.000 %	0.0000
10	10	10	[1033,1100]	[5,10]	[1077,10773]	0.022	0.004	-675.7	-673.8	99.966 %	0.0010
10	10	10	[1033,1100]	[5,10]	[2154,10773]	0.019	0.007	-1778.6	-1778.6	100.000 %	0.0000
10	10	10	[1033,1100]	[1,30]	[1078,10781]	0.026	0.009	-1171.5	-1171.5	100.000 %	0.0000
10	10	10	[1033,1100]	[1,30]	[2156,10781]	0.024	0.008	-1807.9	-1807.1	99.986 %	0.0004
10	10	10	[1033,1100]	[15,30]	[1078,10788]	0.031	0.010	-1057.1	-1056.7	99.993 %	0.0002
10	10	10	[1033,1100]	[15,30]	[2156,10788]	0.026	0.012	-1603.2	-1601.6	99.959 %	0.0012
10	10	10	[1066,1100]	[1,10]	[1094,10943]	0.022	0.009	-1292.0	-1292.0	100.000 %	0.0000
10	10	10	[1066,1100]	[1,10]	[2188,10943]	0.026	0.011	-1873.5	-1873.5	100.000 %	0.0000
10	10	10	[1066,1100]	[5,10]	[1094,10945]	0.028	0.012	-1140.0	-1139.9	99.998 %	0.0001
10	10	10	[1066,1100]	[5,10]	[2188,10945]	0.028	0.011	-1753.5	-1752.5	99.979 %	0.0006
10	10	10	[1066,1100]	[1,30]	[1095,10953]	0.026	0.007	-722.7	-719.4	99.932 %	0.0016
10	10	10	[1066,1100]	[1,30]	[2190,10953]	0.027	0.008	-1816.3	-1813.3	99.938 %	0.0019
10	10	10	[1066,1100]	[15,30]	[1096,10960]	0.066	0.018	-1097.3	-1095.5	99.966 %	0.0010
10	10	10	[1066,1100]	[15,30]	[2192,10960]	0.029	0.015	-1949.2	-1948.2	99.982 %	0.0005

Tiempo Promedio Total H_2: 0.027 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 99.960 %

Tabla de Experimentos

$n : 20, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	10	[1000,1100]	[1,10]	[2121,21215]	0.044	0.011	-2869.8	-2064.7	91.785 %	0.0351
10	20	10	[1000,1100]	[1,10]	[4242,21215]	0.051	0.011	-3917.7	-3378.4	94.367 %	0.0414
10	20	10	[1000,1100]	[5,10]	[2121,21217]	0.046	0.009	-2482.5	-1770.0	93.498 %	0.0438
10	20	10	[1000,1100]	[5,10]	[4242,21217]	0.048	0.014	-4234.0	-3685.7	94.107 %	0.0532
10	20	10	[1000,1100]	[1,30]	[2122,21225]	0.057	0.010	-1735.6	-1210.9	95.030 %	0.0403
10	20	10	[1000,1100]	[1,30]	[4244,21225]	0.059	0.011	-3818.2	-3092.1	92.411 %	0.0447
10	20	10	[1000,1100]	[15,30]	[2123,21232]	0.053	0.010	-1843.2	-1139.5	93.824 %	0.0406
10	20	10	[1000,1100]	[15,30]	[4246,21232]	0.099	0.030	-4158.5	-3401.5	91.448 %	0.0487
10	20	10	[1033,1100]	[1,10]	[2153,21538]	0.049	0.011	-1736.2	-937.5	92.673 %	0.0268
10	20	10	[1033,1100]	[1,10]	[4306,21538]	0.050	0.011	-4126.1	-3548.0	94.477 %	0.0464
10	20	10	[1033,1100]	[5,10]	[2154,21540]	0.071	0.015	-2146.0	-1455.1	93.477 %	0.0414
10	20	10	[1033,1100]	[5,10]	[4308,21540]	0.044	0.010	-4439.1	-3793.7	93.277 %	0.0445
10	20	10	[1033,1100]	[1,30]	[2154,21548]	0.054	0.011	-1928.5	-1347.8	94.809 %	0.0414
10	20	10	[1033,1100]	[1,30]	[4308,21548]	0.058	0.016	-4162.7	-3565.6	93.854 %	0.0466
10	20	10	[1033,1100]	[15,30]	[2155,21555]	0.054	0.010	-1647.1	-928.4	93.326 %	0.0419
10	20	10	[1033,1100]	[15,30]	[4310,21555]	0.051	0.010	-3595.1	-3109.8	94.969 %	0.0514
10	20	10	[1066,1100]	[1,10]	[2188,21881]	0.049	0.012	-2118.8	-1508.0	94.191 %	0.0490
10	20	10	[1066,1100]	[1,10]	[4376,21881]	0.052	0.011	-3925.3	-3389.9	94.309 %	0.0479
10	20	10	[1066,1100]	[5,10]	[2188,21883]	0.045	0.011	-1662.2	-1130.7	94.870 %	0.0459
10	20	10	[1066,1100]	[5,10]	[4376,21883]	0.044	0.010	-3964.9	-3559.1	95.815 %	0.0459
10	20	10	[1066,1100]	[1,30]	[2189,21891]	0.058	0.013	-1819.6	-999.4	92.362 %	0.0391
10	20	10	[1066,1100]	[1,30]	[4378,21891]	0.058	0.012	-3972.0	-3303.6	93.567 %	0.0434
10	20	10	[1066,1100]	[15,30]	[2189,21898]	0.053	0.011	-2079.6	-1632.8	95.936 %	0.0453
10	20	10	[1066,1100]	[15,30]	[4378,21898]	0.056	0.011	-3945.0	-3366.3	94.437 %	0.0469

Tiempo Promedio Total H_2: 0.054 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 93.868 %

Tabla de Experimentos

$n : 30, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	10	[1000,1100]	[1,10]	[3182,31820]	0.087	0.013	-2937.0	-1784.5	92.599 %	0.0353
10	30	10	[1000,1100]	[1,10]	[6364,31820]	0.087	0.014	-6288.8	-5077.3	91.599 %	0.0423
10	30	10	[1000,1100]	[5,10]	[3182,31822]	0.079	0.015	-3440.8	-1936.7	90.769 %	0.0376
10	30	10	[1000,1100]	[5,10]	[6364,31822]	0.076	0.014	-5939.7	-5241.1	94.655 %	0.0504
10	30	10	[1000,1100]	[1,30]	[3183,31830]	0.110	0.019	-3170.1	-1500.4	89.722 %	0.0270
10	30	10	[1000,1100]	[1,30]	[6366,31830]	0.107	0.017	-5629.9	-4271.1	90.696 %	0.0534
10	30	10	[1000,1100]	[15,30]	[3183,31837]	0.126	0.022	-2754.2	-1310.5	90.810 %	0.0527
10	30	10	[1000,1100]	[15,30]	[6366,31837]	0.092	0.015	-6138.3	-4722.6	90.219 %	0.0442
10	30	10	[1033,1100]	[1,10]	[3230,32304]	0.091	0.018	-3401.6	-2169.7	92.531 %	0.0404
10	30	10	[1033,1100]	[1,10]	[6460,32304]	0.092	0.016	-6428.9	-4670.7	87.416 %	0.0364
10	30	10	[1033,1100]	[5,10]	[3230,32306]	0.085	0.018	-3431.6	-1807.8	90.135 %	0.0401
10	30	10	[1033,1100]	[5,10]	[6460,32306]	0.081	0.014	-6317.4	-5000.3	91.222 %	0.0519
10	30	10	[1033,1100]	[1,30]	[3231,32314]	0.118	0.018	-2696.6	-1660.9	93.817 %	0.0366
10	30	10	[1033,1100]	[1,30]	[6462,32314]	0.111	0.015	-6104.5	-4357.6	88.610 %	0.0453
10	30	10	[1033,1100]	[15,30]	[3232,32322]	0.093	0.013	-2979.3	-1777.2	92.397 %	0.0427
10	30	10	[1033,1100]	[15,30]	[6464,32322]	0.099	0.016	-6503.0	-5396.9	91.853 %	0.0532
10	30	10	[1066,1100]	[1,10]	[3281,32819]	0.083	0.015	-3317.9	-2557.5	95.541 %	0.0486
10	30	10	[1066,1100]	[1,10]	[6562,32819]	0.081	0.016	-6244.4	-4745.6	89.466 %	0.0319
10	30	10	[1066,1100]	[5,10]	[3282,32821]	0.077	0.014	-2953.3	-1713.9	92.660 %	0.0366
10	30	10	[1066,1100]	[5,10]	[6564,32821]	0.073	0.015	-6732.2	-5628.4	92.227 %	0.0534
10	30	10	[1066,1100]	[1,30]	[3283,32830]	0.128	0.018	-3223.4	-1502.8	89.946 %	0.0227
10	30	10	[1066,1100]	[1,30]	[6566,32830]	0.108	0.015	-6160.9	-4842.4	91.794 %	0.0405
10	30	10	[1066,1100]	[15,30]	[3283,32837]	0.088	0.015	-3627.6	-2300.2	92.317 %	0.0398
10	30	10	[1066,1100]	[15,30]	[6566,32837]	0.093	0.016	-6641.0	-5079.7	90.175 %	0.0268

Tiempo Promedio Total H_2: 0.094 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 91.382 %

Tabla de Experimentos

$n : 50, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	10	[1000,1100]	[1,10]	[5303,53030]	0.217	0.026	-5644.8	-3356.7	91.083 %	0.0455
10	50	10	[1000,1100]	[1,10]	[10606,53030]	0.211	0.023	-10408.4	-8244.7	90.876 %	0.0313
10	50	10	[1000,1100]	[5,10]	[5303,53032]	0.195	0.021	-5801.7	-3298.9	90.702 %	0.0522
10	50	10	[1000,1100]	[5,10]	[10606,53032]	0.232	0.025	-10128.2	-7577.0	90.093 %	0.0535
10	50	10	[1000,1100]	[1,30]	[5304,53040]	0.257	0.025	-5429.5	-2429.9	89.123 %	0.0286
10	50	10	[1000,1100]	[1,30]	[10608,53040]	0.267	0.022	-10263.6	-6850.4	86.459 %	0.0158
10	50	10	[1000,1100]	[15,30]	[5304,53047]	0.233	0.025	-5642.4	-2979.3	90.151 %	0.0262
10	50	10	[1000,1100]	[15,30]	[10608,53047]	0.243	0.023	-10265.1	-7460.2	88.606 %	0.0356
10	50	10	[1033,1100]	[1,10]	[5383,53838]	0.208	0.025	-5556.7	-2535.3	89.056 %	0.0288
10	50	10	[1033,1100]	[1,10]	[10766,53838]	0.217	0.026	-10288.0	-7301.9	88.217 %	0.0371
10	50	10	[1033,1100]	[5,10]	[5384,53840]	0.198	0.023	-4724.9	-2093.6	90.790 %	0.0373
10	50	10	[1033,1100]	[5,10]	[10768,53840]	0.194	0.026	-10110.9	-7459.3	89.635 %	0.0353
10	50	10	[1033,1100]	[1,30]	[5384,53848]	0.273	0.026	-5317.0	-2917.1	91.314 %	0.0447
10	50	10	[1033,1100]	[1,30]	[10768,53848]	0.270	0.024	-10714.9	-8192.5	89.656 %	0.0364
10	50	10	[1033,1100]	[15,30]	[5385,53855]	0.228	0.025	-5827.8	-3664.3	91.783 %	0.0449
10	50	10	[1033,1100]	[15,30]	[10770,53855]	0.230	0.023	-10714.2	-7606.3	87.580 %	0.0308
10	50	10	[1066,1100]	[1,10]	[5469,54696]	0.200	0.024	-5386.5	-2407.7	88.896 %	0.0293
10	50	10	[1066,1100]	[1,10]	[10938,54696]	0.201	0.022	-10892.5	-7732.9	87.662 %	0.0400
10	50	10	[1066,1100]	[5,10]	[5469,54698]	0.189	0.026	-5393.2	-2651.7	90.154 %	0.0277
10	50	10	[1066,1100]	[5,10]	[10938,54698]	0.188	0.023	-10388.8	-7472.1	88.180 %	0.0419
10	50	10	[1066,1100]	[1,30]	[5470,54706]	0.248	0.028	-5258.2	-1710.1	87.595 %	0.0327
10	50	10	[1066,1100]	[1,30]	[10940,54706]	0.291	0.022	-10620.0	-7784.0	89.019 %	0.0438
10	50	10	[1066,1100]	[15,30]	[5471,54713]	0.221	0.025	-5288.6	-2033.5	88.463 %	0.0359
10	50	10	[1066,1100]	[15,30]	[10942,54713]	0.237	0.025	-10834.2	-8321.3	89.563 %	0.0472

Tiempo Promedio Total H_2: 0.227 seg.

Tiempo Promedio Total H_1: 0.024 seg.

Rendimiento Promedio Total: 89.361 %

Tabla de Experimentos

$n : 100, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	10	[1000,1100]	[1,10]	[10605,106055]	1.094	0.064	-10309.5	-4258.8	89.083 %	0.0296
10	100	10	[1000,1100]	[1,10]	[21210,106055]	1.037	0.063	-20994.0	-14961.5	87.664 %	0.0332
10	100	10	[1000,1100]	[5,10]	[10605,106057]	1.010	0.064	-10588.3	-5588.3	90.510 %	0.0392
10	100	10	[1000,1100]	[5,10]	[21210,106057]	1.023	0.066	-21280.9	-14780.1	86.710 %	0.0338
10	100	10	[1000,1100]	[1,30]	[10606,106065]	1.288	0.062	-10754.8	-5143.5	89.509 %	0.0257
10	100	10	[1000,1100]	[1,30]	[21212,106065]	1.235	0.062	-21897.5	-15582.4	86.729 %	0.0291
10	100	10	[1000,1100]	[15,30]	[10607,106072]	1.112	0.064	-10462.7	-4298.7	88.575 %	0.0284
10	100	10	[1000,1100]	[15,30]	[21214,106072]	1.110	0.064	-20860.5	-13977.7	86.058 %	0.0210
10	100	10	[1033,1100]	[1,10]	[10767,107671]	1.029	0.063	-10164.8	-4165.0	88.913 %	0.0216
10	100	10	[1033,1100]	[1,10]	[21534,107671]	1.044	0.062	-21602.0	-15484.2	87.724 %	0.0393
10	100	10	[1033,1100]	[5,10]	[10767,107673]	0.987	0.076	-10657.1	-3897.7	87.612 %	0.0185
10	100	10	[1033,1100]	[5,10]	[21534,107673]	1.011	0.064	-21649.4	-15524.9	87.788 %	0.0430
10	100	10	[1033,1100]	[1,30]	[10768,107681]	1.209	0.063	-11234.2	-4375.3	87.299 %	0.0297
10	100	10	[1033,1100]	[1,30]	[21536,107681]	1.234	0.061	-21275.0	-15209.6	88.064 %	0.0265
10	100	10	[1033,1100]	[15,30]	[10768,107688]	1.100	0.062	-10609.0	-2894.6	86.351 %	0.0155
10	100	10	[1033,1100]	[15,30]	[21536,107688]	1.093	0.064	-21168.5	-14367.3	86.466 %	0.0313
10	100	10	[1066,1100]	[1,10]	[10938,109388]	0.988	0.063	-10851.4	-3984.4	87.742 %	0.0321
10	100	10	[1066,1100]	[1,10]	[21876,109388]	0.981	0.064	-22201.4	-15160.4	86.403 %	0.0250
10	100	10	[1066,1100]	[5,10]	[10939,109390]	1.000	0.064	-11099.1	-5640.8	90.371 %	0.0408
10	100	10	[1066,1100]	[5,10]	[21878,109390]	0.971	0.068	-21497.6	-15185.4	87.598 %	0.0316
10	100	10	[1066,1100]	[1,30]	[10939,109398]	1.164	0.063	-10913.7	-3800.9	87.082 %	0.0236
10	100	10	[1066,1100]	[1,30]	[21878,109398]	1.271	0.061	-21526.7	-14603.1	86.324 %	0.0214
10	100	10	[1066,1100]	[15,30]	[10940,109405]	1.051	0.069	-10962.2	-3888.0	87.524 %	0.0245
10	100	10	[1066,1100]	[15,30]	[21880,109405]	1.066	0.064	-21377.2	-14334.6	86.424 %	0.0306

Tiempo Promedio Total H_2: 1.088 seg.

Tiempo Promedio Total H_1: 0.064 seg.

Rendimiento Promedio Total: 87.689 %

Tabla de Experimentos

$n : 200, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	10	[1000,1100]	[1,10]	[21210,212105]	7.040	0.204	-20842.2	-5161.6	86.011 %	0.0216
10	200	10	[1000,1100]	[1,10]	[42420,212105]	7.077	0.204	-42042.4	-27168.6	85.082 %	0.0229
10	200	10	[1000,1100]	[5,10]	[21210,212107]	6.890	0.210	-20692.4	-6060.8	86.616 %	0.0211
10	200	10	[1000,1100]	[5,10]	[42420,212107]	6.861	0.211	-42221.1	-26928.5	84.568 %	0.0153
10	200	10	[1000,1100]	[1,30]	[21211,212115]	7.720	0.201	-21413.2	-6029.1	86.279 %	0.0232
10	200	10	[1000,1100]	[1,30]	[42422,212115]	7.852	0.201	-42578.8	-27527.8	85.141 %	0.0234
10	200	10	[1000,1100]	[15,30]	[21212,212122]	7.145	0.205	-20854.1	-6859.1	87.359 %	0.0307
10	200	10	[1000,1100]	[15,30]	[42424,212122]	7.748	0.206	-42591.1	-26695.0	83.963 %	0.0140
10	200	10	[1033,1100]	[1,10]	[21533,215337]	6.931	0.207	-21496.4	-7236.9	87.103 %	0.0175
10	200	10	[1033,1100]	[1,10]	[43066,215337]	7.030	0.207	-42733.4	-28316.9	85.906 %	0.0216
10	200	10	[1033,1100]	[5,10]	[21533,215339]	6.840	0.208	-21867.0	-6095.0	85.913 %	0.0106
10	200	10	[1033,1100]	[5,10]	[43066,215339]	6.786	0.218	-43115.5	-29782.9	86.790 %	0.0284
10	200	10	[1033,1100]	[1,30]	[21534,215347]	8.033	0.201	-21445.0	-5652.7	86.041 %	0.0197
10	200	10	[1033,1100]	[1,30]	[43068,215347]	7.481	0.204	-43324.3	-28466.3	85.373 %	0.0217
10	200	10	[1033,1100]	[15,30]	[21535,215354]	7.202	0.209	-21593.7	-6152.9	86.330 %	0.0136
10	200	10	[1033,1100]	[15,30]	[43070,215354]	7.140	0.204	-42592.6	-27007.7	84.743 %	0.0224
10	200	10	[1066,1100]	[1,10]	[21877,218771]	6.717	0.215	-21793.5	-7576.1	87.482 %	0.0223
10	200	10	[1066,1100]	[1,10]	[43754,218771]	7.103	0.235	-43807.5	-28397.1	85.026 %	0.0228
10	200	10	[1066,1100]	[5,10]	[21877,218773]	7.074	0.226	-21763.0	-8188.8	88.072 %	0.0177
10	200	10	[1066,1100]	[5,10]	[43754,218773]	6.692	0.214	-43171.9	-29810.9	86.834 %	0.0197
10	200	10	[1066,1100]	[1,30]	[21878,218781]	7.566	0.205	-21957.4	-6604.6	86.399 %	0.0146
10	200	10	[1066,1100]	[1,30]	[43756,218781]	7.563	0.199	-43385.5	-27310.2	84.650 %	0.0171
10	200	10	[1066,1100]	[15,30]	[21878,218788]	7.082	0.203	-21174.8	-4334.0	85.593 %	0.0227
10	200	10	[1066,1100]	[15,30]	[43756,218788]	7.059	0.205	-43328.4	-26318.0	83.630 %	0.0223

Tiempo Promedio Total H_2: 7.193 seg.

Tiempo Promedio Total H_1: 0.208 seg.

Rendimiento Promedio Total: 85.871 %

Tabla de Experimentos

$n : 300, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	10	[1000,1100]	[1,10]	[31815,318155]	22.709	0.434	-32118.5	-9288.2	86.452 %	0.0181
10	300	10	[1000,1100]	[1,10]	[63630,318155]	22.527	0.435	-63273.7	-39169.6	83.913 %	0.0172
10	300	10	[1000,1100]	[5,10]	[31815,318157]	22.382	0.444	-31360.9	-9353.4	86.842 %	0.0132
10	300	10	[1000,1100]	[5,10]	[63630,318157]	22.362	0.455	-63461.1	-40355.3	84.600 %	0.0209
10	300	10	[1000,1100]	[1,30]	[31816,318165]	24.575	0.425	-31558.5	-7369.1	85.863 %	0.0172
10	300	10	[1000,1100]	[1,30]	[63632,318165]	24.477	0.423	-63508.8	-38565.0	83.630 %	0.0203
10	300	10	[1000,1100]	[15,30]	[31817,318172]	22.955	0.429	-32435.4	-9260.8	86.043 %	0.0178
10	300	10	[1000,1100]	[15,30]	[63634,318172]	23.101	0.431	-63426.7	-38511.9	83.751 %	0.0215
10	300	10	[1033,1100]	[1,10]	[32300,323003]	22.680	0.438	-32209.7	-8559.5	85.754 %	0.0179
10	300	10	[1033,1100]	[1,10]	[64600,323003]	22.473	0.444	-64446.9	-42308.5	85.418 %	0.0282
10	300	10	[1033,1100]	[5,10]	[32300,323005]	22.748	0.508	-31744.5	-9584.0	86.852 %	0.0149
10	300	10	[1033,1100]	[5,10]	[64600,323005]	21.938	0.448	-64321.5	-40073.6	83.964 %	0.0100
10	300	10	[1033,1100]	[1,30]	[32301,323013]	23.900	0.425	-32456.3	-5908.8	84.644 %	0.0132
10	300	10	[1033,1100]	[1,30]	[64602,323013]	24.257	0.428	-64098.0	-39865.7	84.108 %	0.0177
10	300	10	[1033,1100]	[15,30]	[32302,323020]	23.005	0.429	-32102.6	-8903.3	86.248 %	0.0163
10	300	10	[1033,1100]	[15,30]	[64604,323020]	22.687	0.428	-64683.6	-39638.3	83.891 %	0.0107
10	300	10	[1066,1100]	[1,10]	[32815,328154]	21.944	0.439	-32836.0	-7833.9	85.279 %	0.0146
10	300	10	[1066,1100]	[1,10]	[65630,328154]	22.061	0.432	-65279.8	-40985.7	84.321 %	0.0272
10	300	10	[1066,1100]	[5,10]	[32815,328156]	21.422	0.443	-32486.0	-11282.5	87.741 %	0.0159
10	300	10	[1066,1100]	[5,10]	[65630,328156]	21.722	0.446	-65406.3	-42366.4	85.221 %	0.0190
10	300	10	[1066,1100]	[1,30]	[32816,328164]	23.441	0.427	-32370.5	-6050.7	84.982 %	0.0132
10	300	10	[1066,1100]	[1,30]	[65632,328164]	23.283	0.421	-65052.3	-40129.8	84.096 %	0.0156
10	300	10	[1066,1100]	[15,30]	[32817,328171]	22.654	0.431	-32416.9	-8068.4	85.754 %	0.0154
10	300	10	[1066,1100]	[15,30]	[65634,328171]	22.112	0.428	-65763.7	-40833.4	84.126 %	0.0158

Tiempo Promedio Total H_2: 22.809 seg.

Tiempo Promedio Total H_1: 0.437 seg.

Rendimiento Promedio Total: 85.145 %

Tabla de Experimentos

$n : 500, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	10	[1000,1100]	[1,10]	[53025,530255]	105.519	1.160	-53174.8	-10166.8	84.853 %	0.0141
10	500	10	[1000,1100]	[1,10]	[106050,530255]	107.584	1.158	-105493.5	-63767.8	83.726 %	0.0141
10	500	10	[1000,1100]	[5,10]	[53025,530257]	105.715	1.182	-52773.0	-12985.0	85.856 %	0.0097
10	500	10	[1000,1100]	[5,10]	[106050,530257]	105.108	1.197	-105728.0	-68444.0	85.076 %	0.0125
10	500	10	[1000,1100]	[1,30]	[53026,530265]	110.611	1.134	-52732.6	-7979.6	84.031 %	0.0113
10	500	10	[1000,1100]	[1,30]	[106052,530265]	109.638	1.137	-105845.4	-62725.6	83.202 %	0.0090
10	500	10	[1000,1100]	[15,30]	[53027,530272]	106.731	1.147	-52877.6	-7960.3	83.893 %	0.0094
10	500	10	[1000,1100]	[15,30]	[106054,530272]	107.376	1.153	-106168.8	-64170.4	83.470 %	0.0127
10	500	10	[1033,1100]	[1,10]	[53833,538335]	106.339	1.164	-53584.0	-11185.7	85.211 %	0.0091
10	500	10	[1033,1100]	[1,10]	[107666,538335]	105.479	1.153	-108016.4	-63179.8	82.840 %	0.0099
10	500	10	[1033,1100]	[5,10]	[53833,538337]	104.008	1.186	-53584.7	-15677.5	86.648 %	0.0165
10	500	10	[1033,1100]	[5,10]	[107666,538337]	104.383	1.198	-107038.6	-67721.4	84.547 %	0.0094
10	500	10	[1033,1100]	[1,30]	[53834,538345]	108.725	1.136	-53824.3	-8766.0	84.450 %	0.0120
10	500	10	[1033,1100]	[1,30]	[107668,538345]	110.465	1.133	-107309.1	-61462.0	82.430 %	0.0173
10	500	10	[1033,1100]	[15,30]	[53835,538352]	106.876	1.146	-53514.8	-10946.2	85.190 %	0.0124
10	500	10	[1033,1100]	[15,30]	[107670,538352]	107.087	1.144	-107189.6	-63473.3	83.081 %	0.0136
10	500	10	[1066,1100]	[1,10]	[54692,546920]	104.011	1.175	-54568.7	-11764.9	85.232 %	0.0102
10	500	10	[1066,1100]	[1,10]	[109384,546920]	104.043	1.163	-109192.2	-66753.1	83.775 %	0.0148
10	500	10	[1066,1100]	[5,10]	[54692,546922]	101.228	1.205	-54432.9	-15589.9	86.327 %	0.0166
10	500	10	[1066,1100]	[5,10]	[109384,546922]	103.185	1.187	-109026.4	-67997.7	84.426 %	0.0159
10	500	10	[1066,1100]	[1,30]	[54693,546930]	108.279	1.128	-54675.2	-10220.8	84.724 %	0.0164
10	500	10	[1066,1100]	[1,30]	[109386,546930]	107.232	1.157	-109407.9	-63768.5	82.667 %	0.0115
10	500	10	[1066,1100]	[15,30]	[54693,546937]	103.212	1.154	-54291.1	-11586.8	85.158 %	0.0137
10	500	10	[1066,1100]	[15,30]	[109386,546937]	104.562	1.146	-109374.7	-65134.2	83.352 %	0.0070

Tiempo Promedio Total H_2: 106.142 seg.

Tiempo Promedio Total H_1: 1.160 seg.

Rendimiento Promedio Total: 84.340 %

Tabla de Experimentos

$n : 750, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	10	[1000,1100]	[1,10]	[79538,795380]	373.786	2.547	-79699.9	-14721.2	84.660 %	0.0083
10	750	10	[1000,1100]	[1,10]	[159076,795380]	373.390	2.547	-159104.3	-97158.2	83.706 %	0.0087
10	750	10	[1000,1100]	[5,10]	[79538,795382]	372.556	2.584	-79392.5	-19797.7	85.714 %	0.0102
10	750	10	[1000,1100]	[5,10]	[159076,795382]	371.135	2.606	-158630.9	-98476.7	84.149 %	0.0096
10	750	10	[1000,1100]	[1,30]	[79539,795390]	382.620	2.467	-79158.9	-12431.0	84.206 %	0.0112
10	750	10	[1000,1100]	[1,30]	[159078,795390]	384.729	2.489	-158859.9	-90767.2	82.266 %	0.0095
10	750	10	[1000,1100]	[15,30]	[79539,795397]	376.639	2.477	-79165.3	-13232.4	84.480 %	0.0113
10	750	10	[1000,1100]	[15,30]	[159078,795397]	374.999	2.474	-158619.4	-93365.8	82.969 %	0.0112
10	750	10	[1033,1100]	[1,10]	[80750,807500]	371.653	2.553	-80647.8	-12937.8	84.343 %	0.0065
10	750	10	[1033,1100]	[1,10]	[161500,807500]	369.913	2.528	-161077.0	-93333.5	82.603 %	0.0088
10	750	10	[1033,1100]	[5,10]	[80750,807502]	370.604	2.607	-80039.6	-19971.5	85.788 %	0.0150
10	750	10	[1033,1100]	[5,10]	[161500,807502]	369.857	2.599	-161441.3	-99309.5	83.786 %	0.0090
10	750	10	[1033,1100]	[1,30]	[80751,807510]	380.519	2.459	-80334.2	-11618.1	84.142 %	0.0096
10	750	10	[1033,1100]	[1,30]	[161502,807510]	381.187	2.461	-161329.1	-93455.1	82.586 %	0.0116
10	750	10	[1033,1100]	[15,30]	[80751,807517]	373.618	2.499	-80306.6	-14793.3	84.692 %	0.0130
10	750	10	[1033,1100]	[15,30]	[161502,807517]	373.838	2.482	-161156.5	-91198.7	82.158 %	0.0091
10	750	10	[1066,1100]	[1,10]	[82037,820377]	364.855	2.525	-81597.7	-15424.8	84.852 %	0.0145
10	750	10	[1066,1100]	[1,10]	[164074,820377]	364.888	2.514	-163434.8	-98470.9	83.726 %	0.0132
10	750	10	[1066,1100]	[5,10]	[82037,820379]	362.611	2.582	-82105.3	-19732.7	85.508 %	0.0092
10	750	10	[1066,1100]	[5,10]	[164074,820379]	364.280	2.581	-164136.0	-102965.6	84.140 %	0.0137
10	750	10	[1066,1100]	[1,30]	[82038,820387]	376.080	2.465	-82038.9	-11780.4	84.030 %	0.0091
10	750	10	[1066,1100]	[1,30]	[164076,820387]	374.879	2.464	-163915.0	-93205.2	82.321 %	0.0109
10	750	10	[1066,1100]	[15,30]	[82039,820394]	367.096	2.492	-82174.9	-13777.1	84.360 %	0.0087
10	750	10	[1066,1100]	[15,30]	[164078,820394]	369.702	2.488	-164111.9	-97226.2	83.317 %	0.0159

Tiempo Promedio Total H_2: 372.726 seg.

Tiempo Promedio Total H_1: 2.520 seg.

Rendimiento Promedio Total: 83.938 %

Tabla de Experimentos

$n : 1000, m : 10, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	10	[1000,1100]	[1,10]	[106050,1060505]	927.228	4.587	-105998.1	-19314.0	84.687 %	0.0064
10	1000	10	[1000,1100]	[1,10]	[212100,1060505]	937.788	4.683	-212149.0	-123944.5	82.749 %	0.0061
10	1000	10	[1000,1100]	[5,10]	[106050,1060507]	937.281	4.929	-105787.4	-23727.7	85.367 %	0.0102
10	1000	10	[1000,1100]	[5,10]	[212100,1060507]	939.283	4.786	-211626.7	-130020.6	83.789 %	0.0039
10	1000	10	[1000,1100]	[1,30]	[106051,1060515]	958.351	4.509	-106371.0	-16854.3	84.241 %	0.0059
10	1000	10	[1000,1100]	[1,30]	[212102,1060515]	963.277	4.499	-211784.9	-119503.8	82.000 %	0.0096
10	1000	10	[1000,1100]	[15,30]	[106052,1060522]	945.925	4.674	-105537.7	-15228.4	84.175 %	0.0050
10	1000	10	[1000,1100]	[15,30]	[212104,1060522]	954.021	4.681	-212287.6	-121811.9	82.472 %	0.0098
10	1000	10	[1033,1100]	[1,10]	[107666,1076665]	928.367	4.636	-107188.2	-21117.8	85.009 %	0.0122
10	1000	10	[1033,1100]	[1,10]	[215332,1076665]	930.035	4.614	-215620.9	-125746.5	82.758 %	0.0066
10	1000	10	[1033,1100]	[5,10]	[107666,1076667]	919.662	4.730	-107412.5	-23484.6	85.253 %	0.0118
10	1000	10	[1033,1100]	[5,10]	[215332,1076667]	921.423	4.973	-215087.4	-130709.8	83.557 %	0.0069
10	1000	10	[1033,1100]	[1,30]	[107667,1076675]	939.142	4.495	-107599.6	-13280.1	83.694 %	0.0066
10	1000	10	[1033,1100]	[1,30]	[215334,1076675]	935.273	4.724	-215373.0	-126287.9	82.949 %	0.0122
10	1000	10	[1033,1100]	[15,30]	[107668,1076682]	916.189	4.569	-107123.2	-14755.5	83.893 %	0.0084
10	1000	10	[1033,1100]	[15,30]	[215336,1076682]	918.414	4.531	-215271.1	-120233.1	81.916 %	0.0058
10	1000	10	[1066,1100]	[1,10]	[109383,1093835]	898.654	4.613	-109308.5	-16536.2	84.199 %	0.0057
10	1000	10	[1066,1100]	[1,10]	[218766,1093835]	885.212	4.554	-218570.9	-126806.7	82.713 %	0.0063
10	1000	10	[1066,1100]	[5,10]	[109383,1093837]	901.211	4.769	-109329.9	-22884.9	85.169 %	0.0090
10	1000	10	[1066,1100]	[5,10]	[218766,1093837]	899.327	4.748	-218424.8	-134758.2	83.878 %	0.0113
10	1000	10	[1066,1100]	[1,30]	[109384,1093845]	928.000	4.501	-109016.3	-18393.8	84.413 %	0.0085
10	1000	10	[1066,1100]	[1,30]	[218768,1093845]	927.110	4.751	-218144.4	-126133.5	82.656 %	0.0097
10	1000	10	[1066,1100]	[15,30]	[109385,1093852]	908.750	4.537	-108825.0	-18153.9	84.534 %	0.0075
10	1000	10	[1066,1100]	[15,30]	[218770,1093852]	906.826	4.570	-218657.6	-123160.9	82.006 %	0.0110

Tiempo Promedio Total H_2: 926.114 seg.

Tiempo Promedio Total H_1: 4.653 seg.

Rendimiento Promedio Total: 83.670 %

Tabla de Experimentos

$n : 10, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	20	[1000,1100]	[1,10]	[1061,10610]	0.041	0.037	-807.7	-807.7	100.000 %	0.0000
10	10	20	[1000,1100]	[1,10]	[2122,10610]	0.025	0.010	-1926.4	-1926.4	100.000 %	0.0000
10	10	20	[1000,1100]	[5,10]	[1061,10612]	0.021	0.009	-629.7	-629.7	100.000 %	0.0000
10	10	20	[1000,1100]	[5,10]	[2122,10612]	0.025	0.008	-2076.3	-2076.3	100.000 %	0.0000
10	10	20	[1000,1100]	[1,30]	[1062,10620]	0.027	0.011	-1027.2	-1027.2	100.000 %	0.0000
10	10	20	[1000,1100]	[1,30]	[2124,10620]	0.026	0.010	-2017.7	-2017.7	100.000 %	0.0000
10	10	20	[1000,1100]	[15,30]	[1062,10627]	0.025	0.010	-492.8	-492.8	100.000 %	0.0000
10	10	20	[1000,1100]	[15,30]	[2124,10627]	0.021	0.010	-1416.9	-1416.9	100.000 %	0.0000
10	10	20	[1033,1100]	[1,10]	[1077,10771]	0.022	0.010	-982.7	-982.7	100.000 %	0.0000
10	10	20	[1033,1100]	[1,10]	[2154,10771]	0.023	0.010	-1746.3	-1746.3	100.000 %	0.0000
10	10	20	[1033,1100]	[5,10]	[1077,10773]	0.024	0.008	-996.1	-996.1	100.000 %	0.0000
10	10	20	[1033,1100]	[5,10]	[2154,10773]	0.024	0.010	-1818.4	-1818.4	100.000 %	0.0000
10	10	20	[1033,1100]	[1,30]	[1078,10781]	0.030	0.012	-759.5	-759.5	100.000 %	0.0000
10	10	20	[1033,1100]	[1,30]	[2156,10781]	0.041	0.017	-1861.1	-1861.1	100.000 %	0.0000
10	10	20	[1033,1100]	[15,30]	[1078,10788]	0.029	0.013	-1271.1	-1271.1	100.000 %	0.0000
10	10	20	[1033,1100]	[15,30]	[2156,10788]	0.047	0.017	-1694.8	-1694.8	100.000 %	0.0000
10	10	20	[1066,1100]	[1,10]	[1094,10943]	0.036	0.012	-848.1	-848.1	100.000 %	0.0000
10	10	20	[1066,1100]	[1,10]	[2188,10943]	0.025	0.009	-1767.4	-1767.4	100.000 %	0.0000
10	10	20	[1066,1100]	[5,10]	[1094,10945]	0.022	0.007	-1005.7	-1005.7	100.000 %	0.0000
10	10	20	[1066,1100]	[5,10]	[2188,10945]	0.023	0.010	-1712.3	-1712.3	100.000 %	0.0000
10	10	20	[1066,1100]	[1,30]	[1095,10953]	0.032	0.014	-663.4	-663.4	100.000 %	0.0000
10	10	20	[1066,1100]	[1,30]	[2190,10953]	0.029	0.009	-1938.6	-1938.6	100.000 %	0.0000
10	10	20	[1066,1100]	[15,30]	[1096,10960]	0.024	0.010	-743.2	-743.2	100.000 %	0.0000
10	10	20	[1066,1100]	[15,30]	[2192,10960]	0.024	0.011	-1556.3	-1556.3	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.028 seg.

Tiempo Promedio Total H_1: 0.012 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 20, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	20	[1000,1100]	[1,10]	[2121,21215]	0.058	0.014	-1634.6	-1630.7	99.963 %	0.0009
10	20	20	[1000,1100]	[1,10]	[4242,21215]	0.058	0.013	-3918.1	-3918.1	100.000 %	0.0000
10	20	20	[1000,1100]	[5,10]	[2121,21217]	0.051	0.014	-1773.6	-1773.6	100.000 %	0.0000
10	20	20	[1000,1100]	[5,10]	[4242,21217]	0.055	0.014	-4135.2	-4128.1	99.923 %	0.0020
10	20	20	[1000,1100]	[1,30]	[2122,21225]	0.069	0.013	-1765.2	-1764.2	99.989 %	0.0003
10	20	20	[1000,1100]	[1,30]	[4244,21225]	0.074	0.015	-3916.6	-3910.1	99.924 %	0.0016
10	20	20	[1000,1100]	[15,30]	[2123,21232]	0.097	0.019	-2475.7	-2475.7	100.000 %	0.0000
10	20	20	[1000,1100]	[15,30]	[4246,21232]	0.069	0.014	-3910.0	-3899.3	99.886 %	0.0022
10	20	20	[1033,1100]	[1,10]	[2153,21538]	0.056	0.014	-2192.5	-2192.5	100.000 %	0.0000
10	20	20	[1033,1100]	[1,10]	[4306,21538]	0.059	0.012	-4201.2	-4198.3	99.975 %	0.0007
10	20	20	[1033,1100]	[5,10]	[2154,21540]	0.058	0.015	-2422.0	-2422.0	100.000 %	0.0000
10	20	20	[1033,1100]	[5,10]	[4308,21540]	0.053	0.013	-4266.0	-4266.0	100.000 %	0.0000
10	20	20	[1033,1100]	[1,30]	[2154,21548]	0.078	0.012	-2341.1	-2337.3	99.966 %	0.0010
10	20	20	[1033,1100]	[1,30]	[4308,21548]	0.071	0.017	-3972.5	-3972.5	100.000 %	0.0000
10	20	20	[1033,1100]	[15,30]	[2155,21555]	0.063	0.011	-1664.7	-1664.7	100.000 %	0.0000
10	20	20	[1033,1100]	[15,30]	[4310,21555]	0.062	0.012	-3933.8	-3933.8	100.000 %	0.0000
10	20	20	[1066,1100]	[1,10]	[2188,21881]	0.052	0.015	-2340.7	-2340.7	100.000 %	0.0000
10	20	20	[1066,1100]	[1,10]	[4376,21881]	0.093	0.011	-4103.4	-4103.4	100.000 %	0.0000
10	20	20	[1066,1100]	[5,10]	[2188,21883]	0.049	0.012	-1620.0	-1619.7	99.997 %	0.0001
10	20	20	[1066,1100]	[5,10]	[4376,21883]	0.046	0.015	-4229.7	-4227.8	99.977 %	0.0007
10	20	20	[1066,1100]	[1,30]	[2189,21891]	0.092	0.019	-1925.6	-1922.6	99.970 %	0.0007
10	20	20	[1066,1100]	[1,30]	[4378,21891]	0.063	0.013	-3983.9	-3982.7	99.988 %	0.0002
10	20	20	[1066,1100]	[15,30]	[2189,21898]	0.059	0.011	-1741.9	-1740.0	99.981 %	0.0004
10	20	20	[1066,1100]	[15,30]	[4378,21898]	0.061	0.014	-4213.8	-4213.8	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.064 seg.

Tiempo Promedio Total H_1: 0.014 seg.

Rendimiento Promedio Total: 99.981 %

Tabla de Experimentos

$n : 30, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	20	[1000,1100]	[1,10]	[3182,31820]	0.126	0.020	-3434.2	-2940.8	96.803 %	0.0322
10	30	20	[1000,1100]	[1,10]	[6364,31820]	0.113	0.017	-6009.4	-5614.2	97.042 %	0.0366
10	30	20	[1000,1100]	[5,10]	[3182,31822]	0.110	0.018	-2789.2	-2461.3	97.971 %	0.0270
10	30	20	[1000,1100]	[5,10]	[6364,31822]	0.100	0.016	-6496.6	-6200.4	97.579 %	0.0351
10	30	20	[1000,1100]	[1,30]	[3183,31830]	0.137	0.019	-3127.0	-2614.8	96.757 %	0.0268
10	30	20	[1000,1100]	[1,30]	[6366,31830]	0.210	0.022	-5963.2	-5289.6	94.887 %	0.0293
10	30	20	[1000,1100]	[15,30]	[3183,31837]	0.137	0.018	-2859.7	-2502.3	97.735 %	0.0275
10	30	20	[1000,1100]	[15,30]	[6366,31837]	0.116	0.019	-6029.7	-5731.0	97.872 %	0.0289
10	30	20	[1033,1100]	[1,10]	[3230,32304]	0.111	0.019	-2968.7	-2482.8	96.685 %	0.0334
10	30	20	[1033,1100]	[1,10]	[6460,32304]	0.103	0.018	-6481.9	-5915.1	95.795 %	0.0321
10	30	20	[1033,1100]	[5,10]	[3230,32306]	0.093	0.017	-2998.9	-2379.0	96.092 %	0.0321
10	30	20	[1033,1100]	[5,10]	[6460,32306]	0.095	0.017	-6126.9	-5814.7	97.643 %	0.0303
10	30	20	[1033,1100]	[1,30]	[3231,32314]	0.130	0.015	-3225.9	-3021.9	98.717 %	0.0238
10	30	20	[1033,1100]	[1,30]	[6462,32314]	0.136	0.017	-6249.6	-5776.8	96.614 %	0.0329
10	30	20	[1033,1100]	[15,30]	[3232,32322]	0.120	0.017	-3445.7	-2987.6	96.925 %	0.0301
10	30	20	[1033,1100]	[15,30]	[6464,32322]	0.118	0.016	-6346.5	-5956.0	97.119 %	0.0320
10	30	20	[1066,1100]	[1,10]	[3281,32819]	0.106	0.021	-3735.8	-3289.1	97.186 %	0.0321
10	30	20	[1066,1100]	[1,10]	[6562,32819]	0.103	0.021	-6149.3	-5693.7	96.728 %	0.0341
10	30	20	[1066,1100]	[5,10]	[3282,32821]	0.091	0.019	-3067.3	-2672.7	97.478 %	0.0312
10	30	20	[1066,1100]	[5,10]	[6564,32821]	0.088	0.021	-6119.9	-5486.1	95.693 %	0.0353
10	30	20	[1066,1100]	[1,30]	[3283,32830]	0.130	0.017	-3140.3	-2557.2	96.199 %	0.0322
10	30	20	[1066,1100]	[1,30]	[6566,32830]	0.156	0.020	-6018.6	-5799.3	98.370 %	0.0265
10	30	20	[1066,1100]	[15,30]	[3283,32837]	0.113	0.020	-2947.3	-2604.7	97.810 %	0.0305
10	30	20	[1066,1100]	[15,30]	[6566,32837]	0.108	0.020	-6197.1	-5744.7	96.705 %	0.0359

Tiempo Promedio Total H_2: 0.119 seg.

Tiempo Promedio Total H_1: 0.019 seg.

Rendimiento Promedio Total: 97.017 %

Tabla de Experimentos

$n : 50, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	20	[1000,1100]	[1,10]	[5303,53030]	0.255	0.029	-4829.5	-3534.0	94.896 %	0.0274
10	50	20	[1000,1100]	[1,10]	[10606,53030]	0.287	0.027	-10559.6	-9422.5	94.944 %	0.0237
10	50	20	[1000,1100]	[5,10]	[5303,53032]	0.304	0.028	-4933.3	-4310.4	97.455 %	0.0270
10	50	20	[1000,1100]	[5,10]	[10606,53032]	0.243	0.027	-10560.0	-9472.5	95.228 %	0.0255
10	50	20	[1000,1100]	[1,30]	[5304,53040]	0.319	0.029	-5438.7	-4541.0	96.236 %	0.0257
10	50	20	[1000,1100]	[1,30]	[10608,53040]	0.338	0.026	-10209.5	-8856.8	93.829 %	0.0268
10	50	20	[1000,1100]	[15,30]	[5304,53047]	0.288	0.026	-5726.1	-4895.4	96.685 %	0.0251
10	50	20	[1000,1100]	[15,30]	[10608,53047]	0.280	0.024	-10705.1	-9779.3	95.775 %	0.0279
10	50	20	[1033,1100]	[1,10]	[5383,53838]	0.279	0.027	-5569.6	-4520.1	95.932 %	0.0261
10	50	20	[1033,1100]	[1,10]	[10766,53838]	0.259	0.027	-10916.1	-9989.1	95.911 %	0.0253
10	50	20	[1033,1100]	[5,10]	[5384,53840]	0.233	0.026	-5985.0	-4674.4	94.876 %	0.0246
10	50	20	[1033,1100]	[5,10]	[10768,53840]	0.225	0.027	-10416.4	-9669.6	96.805 %	0.0323
10	50	20	[1033,1100]	[1,30]	[5384,53848]	0.313	0.026	-5104.6	-3936.3	95.400 %	0.0268
10	50	20	[1033,1100]	[1,30]	[10768,53848]	0.340	0.024	-10396.9	-9618.8	96.537 %	0.0290
10	50	20	[1033,1100]	[15,30]	[5385,53855]	0.273	0.027	-5378.9	-4611.0	96.879 %	0.0252
10	50	20	[1033,1100]	[15,30]	[10770,53855]	0.276	0.029	-10682.2	-9987.3	96.816 %	0.0201
10	50	20	[1066,1100]	[1,10]	[5469,54696]	0.220	0.027	-5816.6	-4864.8	96.328 %	0.0191
10	50	20	[1066,1100]	[1,10]	[10938,54696]	0.236	0.028	-10515.7	-9645.5	96.345 %	0.0350
10	50	20	[1066,1100]	[5,10]	[5469,54698]	0.223	0.028	-5434.6	-4524.5	96.482 %	0.0184
10	50	20	[1066,1100]	[5,10]	[10938,54698]	0.200	0.030	-10503.2	-9403.2	95.377 %	0.0281
10	50	20	[1066,1100]	[1,30]	[5470,54706]	0.328	0.026	-4780.6	-3939.3	96.788 %	0.0185
10	50	20	[1066,1100]	[1,30]	[10940,54706]	0.303	0.023	-10965.4	-9667.5	94.474 %	0.0319
10	50	20	[1066,1100]	[15,30]	[5471,54713]	0.266	0.027	-5234.0	-4594.2	97.399 %	0.0269
10	50	20	[1066,1100]	[15,30]	[10942,54713]	0.251	0.026	-10529.0	-9306.7	94.896 %	0.0256

Tiempo Promedio Total H_2: 0.272 seg.

Tiempo Promedio Total H_1: 0.027 seg.

Rendimiento Promedio Total: 95.929 %

Tabla de Experimentos

$n : 100, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	20	[1000,1100]	[1,10]	[10605,106055]	1.160	0.066	-10678.5	-8426.2	95.503 %	0.0216
10	100	20	[1000,1100]	[1,10]	[21210,106055]	1.098	0.068	-20972.5	-18309.3	94.139 %	0.0212
10	100	20	[1000,1100]	[5,10]	[10605,106057]	1.123	0.067	-10820.6	-8470.8	95.305 %	0.0224
10	100	20	[1000,1100]	[5,10]	[21210,106057]	1.078	0.071	-20632.9	-17811.5	93.911 %	0.0260
10	100	20	[1000,1100]	[1,30]	[10606,106065]	1.367	0.067	-10760.0	-8692.4	95.955 %	0.0298
10	100	20	[1000,1100]	[1,30]	[21212,106065]	1.318	0.069	-20815.0	-18003.9	93.913 %	0.0161
10	100	20	[1000,1100]	[15,30]	[10607,106072]	1.227	0.068	-10318.8	-8392.5	96.017 %	0.0132
10	100	20	[1000,1100]	[15,30]	[21214,106072]	1.251	0.066	-21237.5	-18018.3	92.945 %	0.0140
10	100	20	[1033,1100]	[1,10]	[10767,107671]	1.077	0.067	-10575.1	-8167.1	95.234 %	0.0157
10	100	20	[1033,1100]	[1,10]	[21534,107671]	1.128	0.069	-21796.6	-19229.9	94.401 %	0.0268
10	100	20	[1033,1100]	[5,10]	[10767,107673]	1.033	0.071	-10707.6	-8123.4	94.850 %	0.0240
10	100	20	[1033,1100]	[5,10]	[21534,107673]	1.043	0.067	-21026.4	-18513.3	94.739 %	0.0225
10	100	20	[1033,1100]	[1,30]	[10768,107681]	1.344	0.068	-10762.7	-7956.9	94.674 %	0.0124
10	100	20	[1033,1100]	[1,30]	[21536,107681]	1.321	0.067	-21625.7	-18706.1	93.644 %	0.0173
10	100	20	[1033,1100]	[15,30]	[10768,107688]	1.177	0.069	-10323.6	-7320.7	94.094 %	0.0220
10	100	20	[1033,1100]	[15,30]	[21536,107688]	1.196	0.066	-21215.6	-17970.3	93.189 %	0.0188
10	100	20	[1066,1100]	[1,10]	[10938,109388]	0.981	0.068	-10909.9	-8553.7	95.423 %	0.0218
10	100	20	[1066,1100]	[1,10]	[21876,109388]	0.993	0.068	-21449.8	-18642.0	94.206 %	0.0196
10	100	20	[1066,1100]	[5,10]	[10939,109390]	0.936	0.070	-11245.4	-8683.1	95.014 %	0.0199
10	100	20	[1066,1100]	[5,10]	[21878,109390]	0.974	0.068	-22438.3	-19631.0	93.976 %	0.0237
10	100	20	[1066,1100]	[1,30]	[10939,109398]	1.289	0.065	-10978.9	-8508.3	95.148 %	0.0187
10	100	20	[1066,1100]	[1,30]	[21878,109398]	1.371	0.066	-21412.0	-18584.6	94.140 %	0.0240
10	100	20	[1066,1100]	[15,30]	[10940,109405]	1.122	0.071	-10595.5	-7526.0	94.111 %	0.0222
10	100	20	[1066,1100]	[15,30]	[21880,109405]	1.066	0.069	-21489.0	-18564.0	93.879 %	0.0240

Tiempo Promedio Total H_2: 1.153 seg.

Tiempo Promedio Total H_1: 0.068 seg.

Rendimiento Promedio Total: 94.517 %

Tabla de Experimentos

$n : 200, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	20	[1000,1100]	[1,10]	[21210,212105]	7.129	0.220	-21096.1	-14817.2	93.817 %	0.0157
10	200	20	[1000,1100]	[1,10]	[42420,212105]	7.415	0.221	-42003.5	-35201.7	92.550 %	0.0089
10	200	20	[1000,1100]	[5,10]	[21210,212107]	7.109	0.223	-21389.2	-15682.1	94.299 %	0.0183
10	200	20	[1000,1100]	[5,10]	[42420,212107]	7.177	0.219	-41799.0	-35013.8	92.727 %	0.0157
10	200	20	[1000,1100]	[1,30]	[21211,212115]	7.774	0.214	-21876.9	-16029.9	94.223 %	0.0152
10	200	20	[1000,1100]	[1,30]	[42422,212115]	7.663	0.209	-42434.0	-36168.0	93.070 %	0.0264
10	200	20	[1000,1100]	[15,30]	[21212,212122]	7.391	0.242	-21017.1	-14840.6	93.954 %	0.0171
10	200	20	[1000,1100]	[15,30]	[42424,212122]	7.279	0.219	-42394.3	-35534.9	92.592 %	0.0237
10	200	20	[1033,1100]	[1,10]	[21533,215337]	6.958	0.217	-21230.6	-14897.8	93.888 %	0.0209
10	200	20	[1033,1100]	[1,10]	[43066,215337]	6.859	0.217	-42499.6	-36686.5	93.632 %	0.0178
10	200	20	[1033,1100]	[5,10]	[21533,215339]	7.004	0.226	-21258.6	-16441.0	95.162 %	0.0219
10	200	20	[1033,1100]	[5,10]	[43066,215339]	6.807	0.230	-43048.8	-36679.1	93.147 %	0.0175
10	200	20	[1033,1100]	[1,30]	[21534,215347]	7.646	0.211	-21082.5	-14525.0	93.689 %	0.0199
10	200	20	[1033,1100]	[1,30]	[43068,215347]	7.623	0.210	-42703.7	-36040.5	93.007 %	0.0203
10	200	20	[1033,1100]	[15,30]	[21535,215354]	7.163	0.211	-21022.7	-15278.8	94.420 %	0.0153
10	200	20	[1033,1100]	[15,30]	[43070,215354]	7.419	0.214	-42861.6	-36513.4	93.207 %	0.0243
10	200	20	[1066,1100]	[1,10]	[21877,218771]	6.847	0.213	-21751.9	-14643.8	93.340 %	0.0137
10	200	20	[1066,1100]	[1,10]	[43754,218771]	7.182	0.253	-43830.7	-37303.8	93.148 %	0.0110
10	200	20	[1066,1100]	[5,10]	[21877,218773]	6.079	0.221	-22220.2	-16270.2	94.259 %	0.0177
10	200	20	[1066,1100]	[5,10]	[43754,218773]	6.026	0.216	-43886.8	-37702.7	93.352 %	0.0074
10	200	20	[1066,1100]	[1,30]	[21878,218781]	7.274	0.210	-21713.5	-15407.7	93.979 %	0.0222
10	200	20	[1066,1100]	[1,30]	[43756,218781]	7.342	0.217	-43499.0	-36291.6	92.265 %	0.0142
10	200	20	[1066,1100]	[15,30]	[21878,218788]	6.670	0.214	-21851.3	-14713.5	93.387 %	0.0166
10	200	20	[1066,1100]	[15,30]	[43756,218788]	6.730	0.211	-43396.3	-36768.6	92.854 %	0.0134

Tiempo Promedio Total H_2: 7.107 seg.

Tiempo Promedio Total H_1: 0.219 seg.

Rendimiento Promedio Total: 93.499 %

Tabla de Experimentos

$n : 300, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	20	[1000,1100]	[1,10]	[31815,318155]	22.733	0.477	-31670.5	-21317.4	93.366 %	0.0146
10	300	20	[1000,1100]	[1,10]	[63630,318155]	23.479	0.463	-63030.8	-52485.3	92.428 %	0.0192
10	300	20	[1000,1100]	[5,10]	[31815,318157]	22.885	0.475	-31261.6	-21841.8	93.893 %	0.0136
10	300	20	[1000,1100]	[5,10]	[63630,318157]	22.826	0.483	-63068.4	-53827.2	93.268 %	0.0099
10	300	20	[1000,1100]	[1,30]	[31816,318165]	24.549	0.464	-32160.4	-20497.0	92.328 %	0.0113
10	300	20	[1000,1100]	[1,30]	[63632,318165]	24.727	0.461	-63482.9	-52961.6	92.466 %	0.0145
10	300	20	[1000,1100]	[15,30]	[31817,318172]	23.786	0.475	-31525.6	-21373.0	93.239 %	0.0124
10	300	20	[1000,1100]	[15,30]	[63634,318172]	23.488	0.479	-63460.5	-53400.2	92.691 %	0.0160
10	300	20	[1033,1100]	[1,10]	[32300,323003]	22.376	0.470	-32062.5	-22017.0	93.557 %	0.0124
10	300	20	[1033,1100]	[1,10]	[64600,323003]	22.670	0.466	-64249.5	-52528.4	91.657 %	0.0098
10	300	20	[1033,1100]	[5,10]	[32300,323005]	22.791	0.505	-32522.1	-25165.2	95.247 %	0.0199
10	300	20	[1033,1100]	[5,10]	[64600,323005]	22.458	0.483	-64488.7	-53051.2	91.790 %	0.0136
10	300	20	[1033,1100]	[1,30]	[32301,323013]	24.734	0.495	-32652.4	-21268.2	92.750 %	0.0077
10	300	20	[1033,1100]	[1,30]	[64602,323013]	24.171	0.456	-64167.3	-53048.7	92.033 %	0.0103
10	300	20	[1033,1100]	[15,30]	[32302,323020]	23.988	0.472	-31889.6	-20089.7	92.536 %	0.0068
10	300	20	[1033,1100]	[15,30]	[64604,323020]	23.143	0.460	-64176.7	-53003.5	92.019 %	0.0131
10	300	20	[1066,1100]	[1,10]	[32815,328154]	20.981	0.469	-32789.4	-20511.1	92.315 %	0.0088
10	300	20	[1066,1100]	[1,10]	[65630,328154]	20.871	0.524	-64988.8	-55579.3	93.340 %	0.0155
10	300	20	[1066,1100]	[5,10]	[32815,328156]	19.853	0.484	-32820.2	-24178.6	94.461 %	0.0150
10	300	20	[1066,1100]	[5,10]	[65630,328156]	20.763	0.504	-65252.0	-55938.9	93.348 %	0.0181
10	300	20	[1066,1100]	[1,30]	[32816,328164]	23.279	0.460	-32497.9	-22136.5	93.483 %	0.0145
10	300	20	[1066,1100]	[1,30]	[65632,328164]	23.478	0.458	-65485.8	-53676.0	91.786 %	0.0149
10	300	20	[1066,1100]	[15,30]	[32817,328171]	21.716	0.465	-32406.9	-21230.8	93.001 %	0.0110
10	300	20	[1066,1100]	[15,30]	[65634,328171]	21.640	0.460	-65303.8	-54929.4	92.823 %	0.0152

Tiempo Promedio Total H_2: 22.808 seg.

Tiempo Promedio Total H_1: 0.475 seg.

Rendimiento Promedio Total: 92.909 %

Tabla de Experimentos

$n : 500, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	20	[1000,1100]	[1,10]	[53025,530255]	107.136	1.195	-52647.7	-33106.3	92.385 %	0.0102
10	500	20	[1000,1100]	[1,10]	[106050,530255]	108.123	1.209	-105737.1	-87855.6	92.254 %	0.0131
10	500	20	[1000,1100]	[5,10]	[53025,530257]	104.792	1.227	-53518.0	-37710.9	93.861 %	0.0174
10	500	20	[1000,1100]	[5,10]	[106050,530257]	104.369	1.217	-105865.0	-89126.1	92.778 %	0.0145
10	500	20	[1000,1100]	[1,30]	[53026,530265]	111.945	1.152	-52954.4	-31865.2	92.020 %	0.0068
10	500	20	[1000,1100]	[1,30]	[106052,530265]	110.591	1.167	-105636.0	-85737.7	91.421 %	0.0126
10	500	20	[1000,1100]	[15,30]	[53027,530272]	107.088	1.185	-53114.6	-32794.0	92.162 %	0.0062
10	500	20	[1000,1100]	[15,30]	[106054,530272]	108.521	1.169	-105933.9	-88626.8	92.434 %	0.0146
10	500	20	[1033,1100]	[1,10]	[53833,538335]	104.559	1.183	-54172.0	-35278.2	92.830 %	0.0090
10	500	20	[1033,1100]	[1,10]	[107666,538335]	103.822	1.179	-107939.6	-90515.2	92.571 %	0.0162
10	500	20	[1033,1100]	[5,10]	[53833,538337]	103.069	1.211	-53471.6	-35708.9	93.228 %	0.0108
10	500	20	[1033,1100]	[5,10]	[107666,538337]	103.117	1.230	-107093.9	-87877.2	91.911 %	0.0097
10	500	20	[1033,1100]	[1,30]	[53834,538345]	108.285	1.161	-53477.0	-34062.0	92.526 %	0.0060
10	500	20	[1033,1100]	[1,30]	[107668,538345]	109.311	1.177	-107632.0	-87545.6	91.605 %	0.0118
10	500	20	[1033,1100]	[15,30]	[53835,538352]	104.746	1.165	-53962.6	-33465.8	92.146 %	0.0075
10	500	20	[1033,1100]	[15,30]	[107670,538352]	105.377	1.165	-107499.1	-86930.2	91.359 %	0.0106
10	500	20	[1066,1100]	[1,10]	[54692,546920]	96.967	1.181	-54604.7	-33327.1	92.187 %	0.0061
10	500	20	[1066,1100]	[1,10]	[109384,546920]	97.046	1.184	-109409.8	-89316.1	91.508 %	0.0093
10	500	20	[1066,1100]	[5,10]	[54692,546922]	97.285	1.217	-54534.0	-36509.1	93.238 %	0.0103
10	500	20	[1066,1100]	[5,10]	[109384,546922]	96.719	1.221	-109001.5	-90065.1	91.965 %	0.0105
10	500	20	[1066,1100]	[1,30]	[54693,546930]	105.250	1.167	-54978.3	-33964.8	92.182 %	0.0093
10	500	20	[1066,1100]	[1,30]	[109386,546930]	103.224	1.154	-109531.0	-88895.3	91.267 %	0.0096
10	500	20	[1066,1100]	[15,30]	[54693,546937]	99.851	1.193	-54377.2	-35232.5	92.881 %	0.0165
10	500	20	[1066,1100]	[15,30]	[109386,546937]	101.151	1.166	-109099.5	-86995.4	90.837 %	0.0070

Tiempo Promedio Total H_2: 104.264 seg.

Tiempo Promedio Total H_1: 1.186 seg.

Rendimiento Promedio Total: 92.231 %

Tabla de Experimentos

$n : 750, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	20	[1000,1100]	[1,10]	[79538,795380]	377.587	2.527	-79571.7	-51709.1	92.743 %	0.0039
10	750	20	[1000,1100]	[1,10]	[159076,795380]	377.008	2.507	-158765.7	-128974.7	91.534 %	0.0081
10	750	20	[1000,1100]	[5,10]	[79538,795382]	376.210	2.763	-79603.7	-50562.2	92.487 %	0.0072
10	750	20	[1000,1100]	[5,10]	[159076,795382]	378.035	2.631	-158678.8	-129443.5	91.523 %	0.0095
10	750	20	[1000,1100]	[1,30]	[79539,795390]	391.678	2.528	-79143.5	-47610.6	91.896 %	0.0053
10	750	20	[1000,1100]	[1,30]	[159078,795390]	396.651	2.461	-158448.7	-128222.5	91.274 %	0.0107
10	750	20	[1000,1100]	[15,30]	[79539,795397]	388.220	2.525	-79518.5	-49079.4	92.211 %	0.0060
10	750	20	[1000,1100]	[15,30]	[159078,795397]	389.917	2.478	-158611.5	-126476.3	90.825 %	0.0079
10	750	20	[1033,1100]	[1,10]	[80750,807500]	374.027	2.535	-80554.4	-51151.9	92.562 %	0.0116
10	750	20	[1033,1100]	[1,10]	[161500,807500]	369.037	2.583	-161192.4	-130760.7	91.477 %	0.0111
10	750	20	[1033,1100]	[5,10]	[80750,807502]	371.366	2.580	-80695.0	-52281.2	92.820 %	0.0060
10	750	20	[1033,1100]	[5,10]	[161500,807502]	373.029	2.633	-161435.4	-131718.8	91.514 %	0.0107
10	750	20	[1033,1100]	[1,30]	[80751,807510]	386.366	2.452	-80785.4	-48828.7	91.965 %	0.0089
10	750	20	[1033,1100]	[1,30]	[161502,807510]	384.802	2.478	-161317.7	-131402.2	91.514 %	0.0131
10	750	20	[1033,1100]	[15,30]	[80751,807517]	378.519	2.522	-80675.0	-48274.1	91.786 %	0.0101
10	750	20	[1033,1100]	[15,30]	[161502,807517]	380.119	2.541	-161015.8	-129191.2	91.061 %	0.0095
10	750	20	[1066,1100]	[1,10]	[82037,820377]	355.717	2.792	-81821.6	-51609.8	92.432 %	0.0042
10	750	20	[1066,1100]	[1,10]	[164074,820377]	360.073	2.537	-163757.0	-132411.6	91.305 %	0.0073
10	750	20	[1066,1100]	[5,10]	[82037,820379]	358.206	2.648	-82427.9	-55141.7	93.072 %	0.0099
10	750	20	[1066,1100]	[5,10]	[164074,820379]	361.779	3.026	-163615.5	-135276.6	92.047 %	0.0115
10	750	20	[1066,1100]	[1,30]	[82038,820387]	373.208	2.481	-81330.8	-49637.8	92.198 %	0.0066
10	750	20	[1066,1100]	[1,30]	[164076,820387]	381.582	2.515	-163697.6	-130645.8	90.803 %	0.0117
10	750	20	[1066,1100]	[15,30]	[82039,820394]	365.663	2.529	-81946.9	-48855.2	91.774 %	0.0057
10	750	20	[1066,1100]	[15,30]	[164078,820394]	361.138	2.536	-163749.6	-131278.1	90.983 %	0.0090

Tiempo Promedio Total H_2: 375.414 seg.

Tiempo Promedio Total H_1: 2.575 seg.

Rendimiento Promedio Total: 91.825 %

Tabla de Experimentos

$n : 1000, m : 20, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	20	[1000,1100]	[1,10]	[106050,1060505]	962.321	4.842	-105757.7	-64962.2	92.128 %	0.0048
10	1000	20	[1000,1100]	[1,10]	[212100,1060505]	966.239	4.877	-211637.7	-170443.0	91.103 %	0.0047
10	1000	20	[1000,1100]	[5,10]	[106050,1060507]	955.031	5.042	-105825.3	-65382.0	92.150 %	0.0052
10	1000	20	[1000,1100]	[5,10]	[212100,1060507]	953.643	5.363	-211507.7	-172579.9	91.647 %	0.0069
10	1000	20	[1000,1100]	[1,30]	[106051,1060515]	973.337	4.738	-106300.9	-64320.4	91.863 %	0.0076
10	1000	20	[1000,1100]	[1,30]	[212102,1060515]	983.280	4.615	-212403.3	-170837.6	91.105 %	0.0075
10	1000	20	[1000,1100]	[15,30]	[106052,1060522]	960.274	4.756	-105707.7	-64264.9	91.971 %	0.0077
10	1000	20	[1000,1100]	[15,30]	[212104,1060522]	951.706	4.711	-211649.2	-168665.7	90.777 %	0.0063
10	1000	20	[1033,1100]	[1,10]	[107666,1076665]	930.695	4.754	-107776.0	-66491.7	92.093 %	0.0082
10	1000	20	[1033,1100]	[1,10]	[215332,1076665]	920.397	4.808	-215586.7	-175065.3	91.380 %	0.0094
10	1000	20	[1033,1100]	[5,10]	[107666,1076667]	914.630	4.839	-107924.2	-67944.4	92.391 %	0.0063
10	1000	20	[1033,1100]	[5,10]	[215332,1076667]	914.179	5.377	-215829.2	-177052.6	91.713 %	0.0095
10	1000	20	[1033,1100]	[1,30]	[107667,1076675]	945.034	4.875	-107702.7	-64580.2	91.819 %	0.0091
10	1000	20	[1033,1100]	[1,30]	[215334,1076675]	934.518	4.545	-214960.4	-171969.9	90.877 %	0.0086
10	1000	20	[1033,1100]	[15,30]	[107668,1076682]	923.212	4.584	-107284.7	-63225.0	91.676 %	0.0054
10	1000	20	[1033,1100]	[15,30]	[215336,1076682]	912.850	4.633	-215298.3	-172783.6	90.981 %	0.0081
10	1000	20	[1066,1100]	[1,10]	[109383,1093835]	870.298	4.692	-109178.1	-67395.8	92.165 %	0.0081
10	1000	20	[1066,1100]	[1,10]	[218766,1093835]	867.094	4.717	-219012.7	-176350.1	91.094 %	0.0079
10	1000	20	[1066,1100]	[5,10]	[109383,1093837]	859.357	4.835	-109177.3	-68607.8	92.433 %	0.0062
10	1000	20	[1066,1100]	[5,10]	[218766,1093837]	857.978	4.826	-218988.5	-179077.2	91.696 %	0.0070
10	1000	20	[1066,1100]	[1,30]	[109384,1093845]	902.613	4.585	-109587.4	-63488.5	91.459 %	0.0069
10	1000	20	[1066,1100]	[1,30]	[218768,1093845]	906.299	4.559	-218331.4	-174230.7	90.910 %	0.0069
10	1000	20	[1066,1100]	[15,30]	[109385,1093852]	885.298	4.875	-108816.8	-65915.0	91.880 %	0.0060
10	1000	20	[1066,1100]	[15,30]	[218770,1093852]	880.216	4.718	-218248.2	-174825.6	90.982 %	0.0099

Tiempo Promedio Total H_2: 922.104 seg.

Tiempo Promedio Total H_1: 4.799 seg.

Rendimiento Promedio Total: 91.596 %

Tabla de Experimentos

$n : 10, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	10	50	[1000,1100]	[1,10]	[1061,10610]	0.027	0.011	-802.8	-802.8	100.000 %	0.0000
10	10	50	[1000,1100]	[1,10]	[2122,10610]	0.024	0.007	-1908.5	-1908.5	100.000 %	0.0000
10	10	50	[1000,1100]	[5,10]	[1061,10612]	0.024	0.011	-1022.5	-1022.5	100.000 %	0.0000
10	10	50	[1000,1100]	[5,10]	[2122,10612]	0.026	0.021	-1965.7	-1965.7	100.000 %	0.0000
10	10	50	[1000,1100]	[1,30]	[1062,10620]	0.031	0.010	-965.0	-965.0	100.000 %	0.0000
10	10	50	[1000,1100]	[1,30]	[2124,10620]	0.029	0.012	-1881.5	-1881.5	100.000 %	0.0000
10	10	50	[1000,1100]	[15,30]	[1062,10627]	0.033	0.011	-1101.5	-1101.5	100.000 %	0.0000
10	10	50	[1000,1100]	[15,30]	[2124,10627]	0.032	0.013	-1705.5	-1705.5	100.000 %	0.0000
10	10	50	[1033,1100]	[1,10]	[1077,10771]	0.023	0.011	-1204.7	-1204.7	100.000 %	0.0000
10	10	50	[1033,1100]	[1,10]	[2154,10771]	0.021	0.008	-1699.8	-1699.8	100.000 %	0.0000
10	10	50	[1033,1100]	[5,10]	[1077,10773]	0.020	0.009	-891.0	-891.0	100.000 %	0.0000
10	10	50	[1033,1100]	[5,10]	[2154,10773]	0.025	0.010	-2020.4	-2020.4	100.000 %	0.0000
10	10	50	[1033,1100]	[1,30]	[1078,10781]	0.027	0.009	-1314.6	-1314.6	100.000 %	0.0000
10	10	50	[1033,1100]	[1,30]	[2156,10781]	0.027	0.009	-1783.2	-1783.2	100.000 %	0.0000
10	10	50	[1033,1100]	[15,30]	[1078,10788]	0.026	0.010	-978.6	-978.6	100.000 %	0.0000
10	10	50	[1033,1100]	[15,30]	[2156,10788]	0.029	0.013	-1445.7	-1445.7	100.000 %	0.0000
10	10	50	[1066,1100]	[1,10]	[1094,10943]	0.022	0.008	-622.9	-622.9	100.000 %	0.0000
10	10	50	[1066,1100]	[1,10]	[2188,10943]	0.026	0.012	-1665.9	-1665.9	100.000 %	0.0000
10	10	50	[1066,1100]	[5,10]	[1094,10945]	0.024	0.009	-912.8	-912.8	100.000 %	0.0000
10	10	50	[1066,1100]	[5,10]	[2188,10945]	0.022	0.010	-1980.9	-1980.9	100.000 %	0.0000
10	10	50	[1066,1100]	[1,30]	[1095,10953]	0.028	0.008	-1065.6	-1065.6	100.000 %	0.0000
10	10	50	[1066,1100]	[1,30]	[2190,10953]	0.027	0.009	-1739.4	-1739.4	100.000 %	0.0000
10	10	50	[1066,1100]	[15,30]	[1096,10960]	0.027	0.009	-800.6	-800.6	100.000 %	0.0000
10	10	50	[1066,1100]	[15,30]	[2192,10960]	0.022	0.007	-1890.6	-1890.6	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.026 seg.

Tiempo Promedio Total H_1: 0.010 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 20, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	20	50	[1000,1100]	[1,10]	[2121,21215]	0.062	0.015	-2340.6	-2340.6	100.000 %	0.0000
10	20	50	[1000,1100]	[1,10]	[4242,21215]	0.061	0.012	-3843.6	-3843.6	100.000 %	0.0000
10	20	50	[1000,1100]	[5,10]	[2121,21217]	0.052	0.012	-1865.1	-1865.1	100.000 %	0.0000
10	20	50	[1000,1100]	[5,10]	[4242,21217]	0.051	0.013	-4200.5	-4200.5	100.000 %	0.0000
10	20	50	[1000,1100]	[1,30]	[2122,21225]	0.068	0.012	-1808.6	-1808.6	100.000 %	0.0000
10	20	50	[1000,1100]	[1,30]	[4244,21225]	0.080	0.017	-3979.2	-3979.2	100.000 %	0.0000
10	20	50	[1000,1100]	[15,30]	[2123,21232]	0.078	0.031	-1793.5	-1793.5	100.000 %	0.0000
10	20	50	[1000,1100]	[15,30]	[4246,21232]	0.060	0.016	-3692.2	-3692.2	100.000 %	0.0000
10	20	50	[1033,1100]	[1,10]	[2153,21538]	0.060	0.016	-1869.5	-1869.5	100.000 %	0.0000
10	20	50	[1033,1100]	[1,10]	[4306,21538]	0.058	0.018	-3616.4	-3616.4	100.000 %	0.0000
10	20	50	[1033,1100]	[5,10]	[2154,21540]	0.054	0.015	-1653.9	-1653.9	100.000 %	0.0000
10	20	50	[1033,1100]	[5,10]	[4308,21540]	0.049	0.019	-4020.1	-4020.1	100.000 %	0.0000
10	20	50	[1033,1100]	[1,30]	[2154,21548]	0.068	0.015	-2087.3	-2087.3	100.000 %	0.0000
10	20	50	[1033,1100]	[1,30]	[4308,21548]	0.070	0.014	-3983.9	-3983.9	100.000 %	0.0000
10	20	50	[1033,1100]	[15,30]	[2155,21555]	0.059	0.016	-1835.8	-1835.8	100.000 %	0.0000
10	20	50	[1033,1100]	[15,30]	[4310,21555]	0.056	0.015	-4226.4	-4226.4	100.000 %	0.0000
10	20	50	[1066,1100]	[1,10]	[2188,21881]	0.057	0.017	-2245.8	-2245.8	100.000 %	0.0000
10	20	50	[1066,1100]	[1,10]	[4376,21881]	0.054	0.018	-4226.2	-4226.2	100.000 %	0.0000
10	20	50	[1066,1100]	[5,10]	[2188,21883]	0.047	0.014	-2262.3	-2262.3	100.000 %	0.0000
10	20	50	[1066,1100]	[5,10]	[4376,21883]	0.044	0.013	-3590.4	-3590.4	100.000 %	0.0000
10	20	50	[1066,1100]	[1,30]	[2189,21891]	0.068	0.015	-1841.7	-1841.7	100.000 %	0.0000
10	20	50	[1066,1100]	[1,30]	[4378,21891]	0.074	0.017	-4482.7	-4482.7	100.000 %	0.0000
10	20	50	[1066,1100]	[15,30]	[2189,21898]	0.061	0.016	-1901.6	-1901.6	100.000 %	0.0000
10	20	50	[1066,1100]	[15,30]	[4378,21898]	0.065	0.015	-3903.3	-3903.3	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.061 seg.

Tiempo Promedio Total H_1: 0.016 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 30, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	30	50	[1000,1100]	[1,10]	[3182,31820]	0.109	0.019	-3295.3	-3295.3	100.000 %	0.0000
10	30	50	[1000,1100]	[1,10]	[6364,31820]	0.113	0.021	-6213.8	-6213.8	100.000 %	0.0000
10	30	50	[1000,1100]	[5,10]	[3182,31822]	0.099	0.021	-3388.9	-3388.9	100.000 %	0.0000
10	30	50	[1000,1100]	[5,10]	[6364,31822]	0.103	0.019	-6369.8	-6369.8	100.000 %	0.0000
10	30	50	[1000,1100]	[1,30]	[3183,31830]	0.172	0.026	-3284.7	-3284.7	100.000 %	0.0000
10	30	50	[1000,1100]	[1,30]	[6366,31830]	0.155	0.021	-6755.2	-6755.2	100.000 %	0.0000
10	30	50	[1000,1100]	[15,30]	[3183,31837]	0.134	0.022	-2838.0	-2838.0	100.000 %	0.0000
10	30	50	[1000,1100]	[15,30]	[6366,31837]	0.125	0.017	-6052.7	-6052.7	100.000 %	0.0000
10	30	50	[1033,1100]	[1,10]	[3230,32304]	0.108	0.020	-2623.1	-2623.1	100.000 %	0.0000
10	30	50	[1033,1100]	[1,10]	[6460,32304]	0.104	0.018	-6539.0	-6539.0	100.000 %	0.0000
10	30	50	[1033,1100]	[5,10]	[3230,32306]	0.101	0.021	-2963.8	-2963.8	100.000 %	0.0000
10	30	50	[1033,1100]	[5,10]	[6460,32306]	0.096	0.021	-5874.0	-5874.0	100.000 %	0.0000
10	30	50	[1033,1100]	[1,30]	[3231,32314]	0.127	0.019	-3266.5	-3266.5	100.000 %	0.0000
10	30	50	[1033,1100]	[1,30]	[6462,32314]	0.142	0.021	-6548.1	-6548.1	100.000 %	0.0000
10	30	50	[1033,1100]	[15,30]	[3232,32322]	0.130	0.020	-2989.8	-2989.8	100.000 %	0.0000
10	30	50	[1033,1100]	[15,30]	[6464,32322]	0.118	0.019	-5938.0	-5938.0	100.000 %	0.0000
10	30	50	[1066,1100]	[1,10]	[3281,32819]	0.090	0.020	-2952.5	-2952.5	100.000 %	0.0000
10	30	50	[1066,1100]	[1,10]	[6562,32819]	0.097	0.020	-6386.8	-6386.8	100.000 %	0.0000
10	30	50	[1066,1100]	[5,10]	[3282,32821]	0.103	0.018	-3477.8	-3477.8	100.000 %	0.0000
10	30	50	[1066,1100]	[5,10]	[6564,32821]	0.081	0.022	-6654.8	-6654.8	100.000 %	0.0000
10	30	50	[1066,1100]	[1,30]	[3283,32830]	0.127	0.020	-2950.9	-2950.9	100.000 %	0.0000
10	30	50	[1066,1100]	[1,30]	[6566,32830]	0.142	0.020	-6314.3	-6314.3	100.000 %	0.0000
10	30	50	[1066,1100]	[15,30]	[3283,32837]	0.108	0.022	-2755.3	-2755.3	100.000 %	0.0000
10	30	50	[1066,1100]	[15,30]	[6566,32837]	0.115	0.021	-6146.0	-6146.0	100.000 %	0.0000

Tiempo Promedio Total H_2: 0.117 seg.

Tiempo Promedio Total H_1: 0.020 seg.

Rendimiento Promedio Total: 100.000 %

Tabla de Experimentos

$n : 50, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	50	50	[1000,1100]	[1,10]	[5303,53030]	0.258	0.031	-4771.5	-4771.5	100.000 %	0.0000
10	50	50	[1000,1100]	[1,10]	[10606,53030]	0.295	0.032	-10296.0	-10291.8	99.981 %	0.0006
10	50	50	[1000,1100]	[5,10]	[5303,53032]	0.291	0.036	-4758.0	-4758.0	100.000 %	0.0000
10	50	50	[1000,1100]	[5,10]	[10606,53032]	0.249	0.033	-10111.1	-10109.8	99.994 %	0.0002
10	50	50	[1000,1100]	[1,30]	[5304,53040]	0.351	0.030	-5247.7	-5247.7	100.000 %	0.0000
10	50	50	[1000,1100]	[1,30]	[10608,53040]	0.418	0.040	-10234.0	-10224.3	99.956 %	0.0008
10	50	50	[1000,1100]	[15,30]	[5304,53047]	0.291	0.032	-5521.7	-5521.7	100.000 %	0.0000
10	50	50	[1000,1100]	[15,30]	[10608,53047]	0.308	0.034	-11098.8	-11098.8	100.000 %	0.0000
10	50	50	[1033,1100]	[1,10]	[5383,53838]	0.240	0.034	-5064.5	-5061.9	99.990 %	0.0003
10	50	50	[1033,1100]	[1,10]	[10766,53838]	0.272	0.034	-10799.0	-10799.0	100.000 %	0.0000
10	50	50	[1033,1100]	[5,10]	[5384,53840]	0.216	0.035	-5218.2	-5218.2	100.000 %	0.0000
10	50	50	[1033,1100]	[5,10]	[10768,53840]	0.207	0.032	-10445.7	-10445.7	100.000 %	0.0000
10	50	50	[1033,1100]	[1,30]	[5384,53848]	0.343	0.034	-5509.6	-5509.0	99.997 %	0.0001
10	50	50	[1033,1100]	[1,30]	[10768,53848]	0.338	0.030	-10285.6	-10285.6	100.000 %	0.0000
10	50	50	[1033,1100]	[15,30]	[5385,53855]	0.320	0.035	-5498.9	-5498.9	100.000 %	0.0000
10	50	50	[1033,1100]	[15,30]	[10770,53855]	0.266	0.032	-10837.9	-10833.9	99.981 %	0.0005
10	50	50	[1066,1100]	[1,10]	[5469,54696]	0.230	0.036	-5095.0	-5095.0	100.000 %	0.0000
10	50	50	[1066,1100]	[1,10]	[10938,54696]	0.200	0.035	-10373.5	-10373.5	100.000 %	0.0000
10	50	50	[1066,1100]	[5,10]	[5469,54698]	0.161	0.031	-5087.4	-5087.4	100.000 %	0.0000
10	50	50	[1066,1100]	[5,10]	[10938,54698]	0.181	0.033	-11148.7	-11148.7	100.000 %	0.0000
10	50	50	[1066,1100]	[1,30]	[5470,54706]	0.334	0.031	-5667.6	-5666.0	99.994 %	0.0001
10	50	50	[1066,1100]	[1,30]	[10940,54706]	0.334	0.033	-10837.1	-10837.1	100.000 %	0.0000
10	50	50	[1066,1100]	[15,30]	[5471,54713]	0.247	0.031	-5282.6	-5280.2	99.991 %	0.0003
10	50	50	[1066,1100]	[15,30]	[10942,54713]	0.256	0.042	-10305.4	-10304.6	99.996 %	0.0001

Tiempo Promedio Total H_2: 0.275 seg.

Tiempo Promedio Total H_1: 0.034 seg.

Rendimiento Promedio Total: 99.995 %

Tabla de Experimentos

$n : 100, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	100	50	[1000,1100]	[1,10]	[10605,106055]	1.299	0.083	-10983.1	-10360.7	98.697 %	0.0093
10	100	50	[1000,1100]	[1,10]	[21210,106055]	1.264	0.077	-20733.7	-20037.2	98.378 %	0.0082
10	100	50	[1000,1100]	[5,10]	[10605,106057]	1.173	0.080	-10334.6	-9624.8	98.580 %	0.0093
10	100	50	[1000,1100]	[5,10]	[21210,106057]	1.204	0.084	-20708.4	-20066.2	98.500 %	0.0111
10	100	50	[1000,1100]	[1,30]	[10606,106065]	1.543	0.078	-10155.9	-9491.5	98.653 %	0.0089
10	100	50	[1000,1100]	[1,30]	[21212,106065]	1.612	0.077	-21524.1	-21104.3	99.062 %	0.0110
10	100	50	[1000,1100]	[15,30]	[10607,106072]	1.334	0.079	-10590.6	-9993.6	98.748 %	0.0101
10	100	50	[1000,1100]	[15,30]	[21214,106072]	1.362	0.087	-20707.0	-20228.5	98.916 %	0.0104
10	100	50	[1033,1100]	[1,10]	[10767,107671]	1.134	0.080	-11312.2	-10734.8	98.843 %	0.0096
10	100	50	[1033,1100]	[1,10]	[21534,107671]	1.123	0.078	-21374.7	-20925.2	99.014 %	0.0099
10	100	50	[1033,1100]	[5,10]	[10767,107673]	1.019	0.081	-10663.3	-9882.1	98.395 %	0.0078
10	100	50	[1033,1100]	[5,10]	[21534,107673]	1.125	0.083	-21617.2	-20728.6	97.986 %	0.0072
10	100	50	[1033,1100]	[1,30]	[10768,107681]	1.461	0.077	-11332.6	-10506.4	98.362 %	0.0069
10	100	50	[1033,1100]	[1,30]	[21536,107681]	1.480	0.079	-21280.6	-20469.1	98.145 %	0.0079
10	100	50	[1033,1100]	[15,30]	[10768,107688]	1.266	0.080	-10569.7	-9870.8	98.591 %	0.0093
10	100	50	[1033,1100]	[15,30]	[21536,107688]	1.201	0.083	-21248.0	-20698.9	98.738 %	0.0116
10	100	50	[1066,1100]	[1,10]	[10938,109388]	0.908	0.080	-10619.9	-10034.9	98.841 %	0.0097
10	100	50	[1066,1100]	[1,10]	[21876,109388]	0.986	0.077	-21786.1	-21000.2	98.247 %	0.0097
10	100	50	[1066,1100]	[5,10]	[10939,109390]	0.816	0.084	-10828.2	-10350.7	99.076 %	0.0094
10	100	50	[1066,1100]	[5,10]	[21878,109390]	0.852	0.084	-21276.6	-20549.0	98.397 %	0.0092
10	100	50	[1066,1100]	[1,30]	[10939,109398]	1.338	0.076	-10522.8	-9928.3	98.799 %	0.0101
10	100	50	[1066,1100]	[1,30]	[21878,109398]	1.311	0.083	-21704.5	-21025.1	98.423 %	0.0109
10	100	50	[1066,1100]	[15,30]	[10940,109405]	1.059	0.077	-10696.4	-9955.6	98.575 %	0.0089
10	100	50	[1066,1100]	[15,30]	[21880,109405]	1.079	0.080	-21630.8	-20672.7	97.915 %	0.0068

Tiempo Promedio Total H_2: 1.206 seg.

Tiempo Promedio Total H_1: 0.080 seg.

Rendimiento Promedio Total: 98.578 %

Tabla de Experimentos

$n : 200, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	200	50	[1000,1100]	[1,10]	[21210,212105]	6.954	0.234	-20966.6	-19017.6	98.024 %	0.0119
10	200	50	[1000,1100]	[1,10]	[42420,212105]	6.830	0.235	-42323.4	-39844.7	97.117 %	0.0073
10	200	50	[1000,1100]	[5,10]	[21210,212107]	6.602	0.252	-20925.6	-19232.1	98.268 %	0.0113
10	200	50	[1000,1100]	[5,10]	[42420,212107]	6.698	0.240	-42611.3	-40332.3	97.370 %	0.0063
10	200	50	[1000,1100]	[1,30]	[21211,212115]	7.637	0.231	-20657.8	-19362.6	98.673 %	0.0090
10	200	50	[1000,1100]	[1,30]	[42422,212115]	7.383	0.228	-42146.9	-39944.8	97.502 %	0.0107
10	200	50	[1000,1100]	[15,30]	[21212,212122]	6.918	0.229	-20996.0	-18898.6	97.861 %	0.0092
10	200	50	[1000,1100]	[15,30]	[42424,212122]	6.951	0.231	-42305.1	-40729.0	98.181 %	0.0102
10	200	50	[1033,1100]	[1,10]	[21533,215337]	6.133	0.242	-21431.9	-19947.6	98.484 %	0.0116
10	200	50	[1033,1100]	[1,10]	[43066,215337]	6.026	0.233	-42647.6	-40794.1	97.911 %	0.0134
10	200	50	[1033,1100]	[5,10]	[21533,215339]	6.057	0.239	-21184.3	-19568.5	98.355 %	0.0083
10	200	50	[1033,1100]	[5,10]	[43066,215339]	5.935	0.235	-42561.8	-40228.4	97.386 %	0.0100
10	200	50	[1033,1100]	[1,30]	[21534,215347]	7.155	0.229	-21084.6	-18983.4	97.908 %	0.0093
10	200	50	[1033,1100]	[1,30]	[43068,215347]	6.994	0.231	-42597.5	-40217.6	97.312 %	0.0105
10	200	50	[1033,1100]	[15,30]	[21535,215354]	6.433	0.231	-21391.3	-19719.0	98.328 %	0.0108
10	200	50	[1033,1100]	[15,30]	[43070,215354]	6.393	0.229	-43285.6	-40963.7	97.366 %	0.0088
10	200	50	[1066,1100]	[1,10]	[21877,218771]	5.025	0.230	-21460.6	-19472.3	98.049 %	0.0111
10	200	50	[1066,1100]	[1,10]	[43754,218771]	5.132	0.233	-43120.2	-40674.6	97.304 %	0.0124
10	200	50	[1066,1100]	[5,10]	[21877,218773]	4.756	0.236	-21771.3	-19910.3	98.123 %	0.0083
10	200	50	[1066,1100]	[5,10]	[43754,218773]	4.721	0.247	-43498.8	-41312.1	97.591 %	0.0075
10	200	50	[1066,1100]	[1,30]	[21878,218781]	6.387	0.230	-21482.8	-19453.8	97.971 %	0.0060
10	200	50	[1066,1100]	[1,30]	[43756,218781]	6.455	0.226	-43270.2	-41035.9	97.504 %	0.0082
10	200	50	[1066,1100]	[15,30]	[21878,218788]	5.492	0.236	-21903.4	-19248.2	97.355 %	0.0054
10	200	50	[1066,1100]	[15,30]	[43756,218788]	5.461	0.231	-43732.0	-41477.3	97.504 %	0.0075

Tiempo Promedio Total H_2: 6.272 seg.

Tiempo Promedio Total H_1: 0.234 seg.

Rendimiento Promedio Total: 97.810 %

Tabla de Experimentos

$n : 300, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	300	50	[1000,1100]	[1,10]	[31815,318155]	20.650	0.481	-31758.7	-28699.6	97.901 %	0.0101
10	300	50	[1000,1100]	[1,10]	[63630,318155]	19.824	0.480	-63296.1	-60412.4	97.797 %	0.0088
10	300	50	[1000,1100]	[5,10]	[31815,318157]	19.779	0.496	-31397.2	-28133.3	97.766 %	0.0070
10	300	50	[1000,1100]	[5,10]	[63630,318157]	20.204	0.491	-63191.3	-59515.1	97.238 %	0.0107
10	300	50	[1000,1100]	[1,30]	[31816,318165]	22.451	0.477	-31726.7	-28392.4	97.709 %	0.0072
10	300	50	[1000,1100]	[1,30]	[63632,318165]	22.053	0.469	-63633.1	-59760.1	97.024 %	0.0099
10	300	50	[1000,1100]	[15,30]	[31817,318172]	21.068	0.470	-31383.9	-28145.7	97.787 %	0.0071
10	300	50	[1000,1100]	[15,30]	[63634,318172]	21.323	0.469	-63439.6	-59963.8	97.359 %	0.0088
10	300	50	[1033,1100]	[1,10]	[32300,323003]	18.892	0.478	-32050.4	-28388.3	97.521 %	0.0068
10	300	50	[1033,1100]	[1,10]	[64600,323003]	18.506	0.477	-65040.0	-61857.9	97.634 %	0.0093
10	300	50	[1033,1100]	[5,10]	[32300,323005]	18.325	0.502	-32087.4	-29419.9	98.205 %	0.0102
10	300	50	[1033,1100]	[5,10]	[64600,323005]	18.898	0.485	-64632.8	-60975.0	97.240 %	0.0085
10	300	50	[1033,1100]	[1,30]	[32301,323013]	21.059	0.470	-32508.5	-29562.2	98.015 %	0.0093
10	300	50	[1033,1100]	[1,30]	[64602,323013]	20.982	0.466	-64382.9	-61258.0	97.646 %	0.0092
10	300	50	[1033,1100]	[15,30]	[32302,323020]	19.232	0.470	-31959.1	-28197.1	97.462 %	0.0077
10	300	50	[1033,1100]	[15,30]	[64604,323020]	19.044	0.472	-64366.4	-60786.8	97.360 %	0.0093
10	300	50	[1066,1100]	[1,10]	[32815,328154]	15.272	0.482	-32726.9	-29342.9	97.783 %	0.0057
10	300	50	[1066,1100]	[1,10]	[65630,328154]	15.298	0.480	-64979.4	-61345.3	97.306 %	0.0069
10	300	50	[1066,1100]	[5,10]	[32815,328156]	15.078	0.488	-32592.1	-28719.4	97.470 %	0.0070
10	300	50	[1066,1100]	[5,10]	[65630,328156]	14.465	0.498	-65144.5	-62013.5	97.716 %	0.0057
10	300	50	[1066,1100]	[1,30]	[32816,328164]	18.939	0.469	-33161.0	-29492.8	97.597 %	0.0092
10	300	50	[1066,1100]	[1,30]	[65632,328164]	19.306	0.475	-65358.1	-61368.6	97.047 %	0.0068
10	300	50	[1066,1100]	[15,30]	[32817,328171]	16.364	0.472	-32739.2	-29976.0	98.172 %	0.0090
10	300	50	[1066,1100]	[15,30]	[65634,328171]	16.361	0.473	-65408.3	-61998.4	97.477 %	0.0100

Tiempo Promedio Total H_2: 18.891 seg.

Tiempo Promedio Total H_1: 0.479 seg.

Rendimiento Promedio Total: 97.593 %

Tabla de Experimentos

$n : 500, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	500	50	[1000,1100]	[1,10]	[53025,530255]	97.128	1.405	-53000.7	-46813.6	97.510 %	0.0092
10	500	50	[1000,1100]	[1,10]	[106050,530255]	95.235	1.257	-106151.4	-98778.7	96.671 %	0.0058
10	500	50	[1000,1100]	[5,10]	[53025,530257]	96.313	1.271	-52948.1	-46883.3	97.506 %	0.0047
10	500	50	[1000,1100]	[5,10]	[106050,530257]	90.942	1.246	-105850.2	-98921.9	96.856 %	0.0062
10	500	50	[1000,1100]	[1,30]	[53026,530265]	100.125	1.193	-52495.9	-45532.2	97.172 %	0.0059
10	500	50	[1000,1100]	[1,30]	[106052,530265]	102.322	1.199	-105753.2	-98104.4	96.495 %	0.0079
10	500	50	[1000,1100]	[15,30]	[53027,530272]	97.354	1.198	-52674.7	-45567.7	97.130 %	0.0049
10	500	50	[1000,1100]	[15,30]	[106054,530272]	96.253	1.203	-106148.8	-100154.6	97.261 %	0.0099
10	500	50	[1033,1100]	[1,10]	[53833,538335]	88.522	1.217	-53760.4	-47886.6	97.643 %	0.0066
10	500	50	[1033,1100]	[1,10]	[107666,538335]	89.113	1.243	-107309.2	-101095.9	97.193 %	0.0085
10	500	50	[1033,1100]	[5,10]	[53833,538337]	85.876	1.316	-54035.4	-49365.4	98.087 %	0.0095
10	500	50	[1033,1100]	[5,10]	[107666,538337]	87.449	1.257	-107677.6	-100907.6	96.969 %	0.0052
10	500	50	[1033,1100]	[1,30]	[53834,538345]	96.183	1.407	-53396.2	-45582.1	96.901 %	0.0041
10	500	50	[1033,1100]	[1,30]	[107668,538345]	94.340	1.197	-107517.5	-101192.9	97.117 %	0.0111
10	500	50	[1033,1100]	[15,30]	[53835,538352]	90.389	1.273	-53187.8	-47205.3	97.568 %	0.0074
10	500	50	[1033,1100]	[15,30]	[107670,538352]	89.811	1.196	-107498.0	-100475.1	96.845 %	0.0083
10	500	50	[1066,1100]	[1,10]	[54692,546920]	74.442	1.209	-54863.5	-48661.5	97.561 %	0.0081
10	500	50	[1066,1100]	[1,10]	[109384,546920]	73.543	1.217	-109258.6	-101502.2	96.635 %	0.0077
10	500	50	[1066,1100]	[5,10]	[54692,546922]	68.934	1.271	-55061.1	-50143.5	98.063 %	0.0082
10	500	50	[1066,1100]	[5,10]	[109384,546922]	72.097	1.241	-109088.7	-102617.7	97.153 %	0.0069
10	500	50	[1066,1100]	[1,30]	[54693,546930]	84.583	1.234	-54538.5	-48325.9	97.535 %	0.0079
10	500	50	[1066,1100]	[1,30]	[109386,546930]	86.005	1.248	-108880.3	-101606.4	96.768 %	0.0076
10	500	50	[1066,1100]	[15,30]	[54693,546937]	76.094	1.202	-54254.2	-46813.5	97.086 %	0.0072
10	500	50	[1066,1100]	[15,30]	[109386,546937]	77.212	1.196	-109071.7	-101951.2	96.893 %	0.0064

Tiempo Promedio Total H_2: 87.928 seg.

Tiempo Promedio Total H_1: 1.246 seg.

Rendimiento Promedio Total: 97.192 %

Tabla de Experimentos

$n : 750, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	750	50	[1000,1100]	[1,10]	[79538,795380]	332.428	2.677	-79288.2	-68189.3	97.023 %	0.0052
10	750	50	[1000,1100]	[1,10]	[159076,795380]	334.244	2.655	-159233.6	-148602.9	96.755 %	0.0084
10	750	50	[1000,1100]	[5,10]	[79538,795382]	330.972	2.748	-79257.3	-69451.6	97.313 %	0.0051
10	750	50	[1000,1100]	[5,10]	[159076,795382]	327.772	2.726	-158843.6	-149879.0	97.244 %	0.0083
10	750	50	[1000,1100]	[1,30]	[79539,795390]	347.480	2.584	-79544.6	-69324.1	97.225 %	0.0093
10	750	50	[1000,1100]	[1,30]	[159078,795390]	340.235	2.628	-158836.3	-148486.9	96.858 %	0.0083
10	750	50	[1000,1100]	[15,30]	[79539,795397]	333.071	2.612	-79335.9	-69110.3	97.204 %	0.0063
10	750	50	[1000,1100]	[15,30]	[159078,795397]	337.640	2.650	-159111.2	-148369.3	96.737 %	0.0068
10	750	50	[1033,1100]	[1,10]	[80750,807500]	310.129	2.664	-81635.6	-69396.3	96.758 %	0.0032
10	750	50	[1033,1100]	[1,10]	[161500,807500]	304.650	2.634	-161861.2	-151341.7	96.843 %	0.0051
10	750	50	[1033,1100]	[5,10]	[80750,807502]	306.108	2.826	-81010.9	-69601.4	96.931 %	0.0026
10	750	50	[1033,1100]	[5,10]	[161500,807502]	304.218	2.715	-161392.4	-150797.9	96.817 %	0.0054
10	750	50	[1033,1100]	[1,30]	[80751,807510]	322.073	2.578	-80473.2	-69322.7	97.045 %	0.0058
10	750	50	[1033,1100]	[1,30]	[161502,807510]	330.958	2.605	-161685.3	-150573.4	96.707 %	0.0074
10	750	50	[1033,1100]	[15,30]	[80751,807517]	318.998	2.642	-80795.4	-69625.7	97.027 %	0.0047
10	750	50	[1033,1100]	[15,30]	[161502,807517]	320.376	2.622	-161203.5	-150335.7	96.747 %	0.0065
10	750	50	[1066,1100]	[1,10]	[82037,820377]	261.755	2.662	-81807.3	-71041.0	97.155 %	0.0052
10	750	50	[1066,1100]	[1,10]	[164074,820377]	268.677	2.666	-163862.2	-153099.2	96.839 %	0.0049
10	750	50	[1066,1100]	[5,10]	[82037,820379]	263.209	2.727	-81904.4	-73372.3	97.742 %	0.0073
10	750	50	[1066,1100]	[5,10]	[164074,820379]	258.618	2.706	-164283.0	-155448.1	97.389 %	0.0085
10	750	50	[1066,1100]	[1,30]	[82038,820387]	298.127	2.599	-81837.9	-69976.8	96.909 %	0.0044
10	750	50	[1066,1100]	[1,30]	[164076,820387]	297.537	2.582	-164083.3	-152774.4	96.670 %	0.0063
10	750	50	[1066,1100]	[15,30]	[82039,820394]	278.561	2.663	-81537.0	-70132.7	97.032 %	0.0057
10	750	50	[1066,1100]	[15,30]	[164078,820394]	273.993	2.602	-163637.4	-154684.2	97.330 %	0.0082

Tiempo Promedio Total H_2: 308.410 seg.

Tiempo Promedio Total H_1: 2.657 seg.

Rendimiento Promedio Total: 97.012 %

Tabla de Experimentos

$n : 1000, m : 50, p_{max} : 1100$

N. Instancias	n	$\|M\|$	p_j	r_j	d_j	$Seg.^{H_2}$	$Seg.^{H_1}$	L_{max}^{H2}	L_{max}^{H1}	Rendimiento Prom.	σ
10	1000	50	[1000,1100]	[1,10]	[106050,1060505]	844.566	4.802	-105938.9	-90324.6	96.857 %	0.0062
10	1000	50	[1000,1100]	[1,10]	[212100,1060505]	842.626	4.903	-212008.6	-197661.0	96.711 %	0.0047
10	1000	50	[1000,1100]	[5,10]	[106050,1060507]	841.503	4.949	-105864.1	-92726.4	97.326 %	0.0044
10	1000	50	[1000,1100]	[5,10]	[212100,1060507]	845.020	4.921	-211993.9	-199022.2	97.025 %	0.0057
10	1000	50	[1000,1100]	[1,30]	[106051,1060515]	869.013	4.705	-106321.0	-92926.9	97.295 %	0.0049
10	1000	50	[1000,1100]	[1,30]	[212102,1060515]	873.106	4.732	-212276.4	-198311.2	96.816 %	0.0067
10	1000	50	[1000,1100]	[15,30]	[106052,1060522]	860.469	4.828	-105825.1	-90683.8	96.929 %	0.0025
10	1000	50	[1000,1100]	[15,30]	[212104,1060522]	848.665	4.719	-212452.6	-196986.2	96.493 %	0.0052
10	1000	50	[1033,1100]	[1,10]	[107666,1076665]	796.360	4.740	-107689.2	-92402.6	96.927 %	0.0062
10	1000	50	[1033,1100]	[1,10]	[215332,1076665]	789.274	4.742	-214684.7	-199865.7	96.674 %	0.0035
10	1000	50	[1033,1100]	[5,10]	[107666,1076667]	778.862	5.111	-107336.3	-93422.4	97.210 %	0.0040
10	1000	50	[1033,1100]	[5,10]	[215332,1076667]	780.746	4.920	-214943.0	-201593.7	97.025 %	0.0052
10	1000	50	[1033,1100]	[1,30]	[107667,1076675]	810.325	4.836	-107877.3	-93079.9	97.042 %	0.0048
10	1000	50	[1033,1100]	[1,30]	[215334,1076675]	811.697	4.539	-214960.0	-198655.8	96.349 %	0.0056
10	1000	50	[1033,1100]	[15,30]	[107668,1076682]	782.569	4.664	-107009.2	-92619.6	97.112 %	0.0053
10	1000	50	[1033,1100]	[15,30]	[215336,1076682]	784.299	4.663	-215138.3	-199981.4	96.631 %	0.0074
10	1000	50	[1066,1100]	[1,10]	[109383,1093835]	666.707	4.706	-109267.1	-92484.7	96.718 %	0.0035
10	1000	50	[1066,1100]	[1,10]	[218766,1093835]	667.173	4.697	-218723.1	-203701.2	96.706 %	0.0044
10	1000	50	[1066,1100]	[5,10]	[109383,1093837]	654.714	4.803	-109141.2	-94981.4	97.221 %	0.0045
10	1000	50	[1066,1100]	[5,10]	[218766,1093837]	658.042	4.762	-219076.4	-204361.5	96.739 %	0.0047
10	1000	50	[1066,1100]	[1,30]	[109384,1093845]	722.207	4.519	-109368.3	-93321.3	96.850 %	0.0050
10	1000	50	[1066,1100]	[1,30]	[218768,1093845]	725.756	4.602	-218722.4	-202856.6	96.515 %	0.0064
10	1000	50	[1066,1100]	[15,30]	[109385,1093852]	680.207	4.626	-109156.4	-92831.9	96.775 %	0.0063
10	1000	50	[1066,1100]	[15,30]	[218770,1093852]	682.405	4.629	-218852.4	-203931.8	96.696 %	0.0033

Tiempo Promedio Total H_2: 775.680 seg.

Tiempo Promedio Total H_1: 4.755 seg.

Rendimiento Promedio Total: 96.860 %

Cuernavaca, Morelos a 27 de octubre del 2022.

DR. AUGUSTO RENATO PÉREZ MAYO
SECRETARIO DE INVESTIGACIÓN Y POSGRADO DE LA FCAeI
PRESENTE

En mi carácter de revisor de Tesis, hago de su conocimiento que he leído con interés la tesis para obtener el grado de la **Maestría en Optimización y Cómputo Aplicado**, del estudiante **Emanuel Salinas Carrasco**, con matrícula **10034124**, con el título **HEURÍSTICA PARA RESOLVER EL PROBLEMA DE ATENCIÓN A CLIENTES EN UNA SUCURSAL BANCARIA** por lo cual, me permito informarle que después de una revisión cuidadosa de dicha tesis, concluyo que el trabajo se caracteriza por el establecimiento de objetivos académicos pertinentes y una metodología adecuada para su logro. Además, construye una estructura coherente y bien documentada, por lo cual considero que los resultados obtenidos contribuyen al conocimiento del tema tratado.

Con base en los argumentos precedentes me permito expresar mi **VOTO APROBATORIO** por lo que de mi parte no existe inconveniente para que el estudiante continúe con los trámites que esta Secretaría de Investigación y Posgrado tenga establecidos para obtener el grado mencionado.

Atentamente
Por una humanidad culta
Una universidad de excelencia

Dr. Federico Alonso Pecina
Profesor- investigador
Facultad de Contaduría, Administración e Informática

Se expide el presente documento firmado electrónicamente de conformidad con el ACUERDO GENERAL PARA LA CONTINUIDAD DEL FUNCIONAMIENTO DE LA UNIVERSIDAD AUTÓNOMA DEL ESTADO DE MORELOS DURANTE LA EMERGENCIA SANITARIA PROVOCADA POR EL VIRUS SARS-COV2 (COVID-19) emitido el 27 de abril del 2020.

El presente documento cuenta con la firma electrónica UAEM del funcionario universitario competente, amparada por un certificado vigente a la fecha de su elaboración y es válido de conformidad con los LINEAMIENTOS EN MATERIA DE FIRMA ELECTRÓNICA PARA LA UNIVERSIDAD AUTÓNOMA DE ESTADO DE MORELOS emitidos el 13 de noviembre del 2019 mediante circular No. 32.

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Cuernavaca, Morelos a 7 de Octubre del 2022.

DR. AUGUSTO RENATO PÉREZ MAYO
SECRETARIO DE INVESTIGACIÓN Y POSGRADO DE LA FCAeI
PRESENTE

En mi carácter de revisor de Tesis, hago de su conocimiento que he leído con interés la tesis para obtener el grado de la **Maestría en Optimización y Cómputo Aplicado**, del estudiante **Emanuel Salinas Carrasco**, con matrícula **10034124**, con el título **HEURÍSTICA PARA RESOLVER EL PROBLEMA DE ATENCIÓN A CLIENTES EN UNA SUCURSAL BANCARIA** por lo cual, me permito informarle que después de una revisión cuidadosa de dicha tesis, concluyo que el trabajo se caracteriza por el establecimiento de objetivos académicos pertinentes y una metodología adecuada para su logro. Además, construye una estructura coherente y bien documentada, por lo cual considero que los resultados obtenidos contribuyen al conocimiento del tema tratado.

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Atentamente
Por una humanidad culta
Una universidad de excelencia

Dr. Martín Heriberto Cruz Rosales
Profesor- investigador
Facultad de Contaduría, Administración e Informática

Se expide el presente documento firmado electrónicamente de conformidad con el ACUERDO GENERAL PARA LA CONTINUIDAD DEL FUNCIONAMIENTO DE LA UNIVERSIDAD AUTÓNOMA DEL ESTADO DE MORELOS DURANTE LA EMERGENCIA SANITARIA PROVOCADA POR EL VIRUS SARS-COV2 (COVID-19) emitido el 27 de abril del 2020.

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Sello electrónico

MARTIN HERIBERTO CRUZ ROSALES | Fecha:2022-10-30 21:20:45 | Firmante

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Cuernavaca, Morelos a 22 de agosto del 2022.

DR. AUGUSTO RENATO PÉREZ MAYO
SECRETARIO DE INVESTIGACIÓN Y POSGRADO DE LA FCAeI
PRESENTE

En mi carácter de revisor de Tesis, hago de su conocimiento que he leído con interés la tesis para obtener el grado de la **Maestría en Optimización y Cómputo Aplicado**, del estudiante **Emanuel Salinas Carrasco**, con matrícula **10034124**, con el título **HEURÍSTICA PARA RESOLVER EL PROBLEMA DE ATENCIÓN A CLIENTES EN UNA SUCURSAL BANCARIA** por lo cual, me permito informarle que después de una revisión cuidadosa de dicha tesis, concluyo que el trabajo se caracteriza por el establecimiento de objetivos académicos pertinentes y una metodología adecuada para su logro. Además, construye una estructura coherente y bien documentada, por lo cual considero que los resultados obtenidos contribuyen al conocimiento del tema tratado.

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Atentamente
Por una humanidad culta
Una universidad de excelencia

Dr. Nodari Vakhania
Profesor- investigador
Facultad de Contaduría, Administración e Informática
Av. Universidad 1001 Chamilpa Cuernavaca Morelos, México C.P. 62209, Edificio 19
Tel. (777) 329 7917, Ext. 3038, 3039/ posgrado.fcaei@uaem.mx

Se expide el presente documento firmado electrónicamente de conformidad con el ACUERDO GENERAL PARA LA CONTINUIDAD DEL FUNCIONAMIENTO DE LA UNIVERSIDAD AUTÓNOMA DEL ESTADO DE MORELOS DURANTE LA EMERGENCIA SANITARIA PROVOCADA POR EL VIRUS SARS-COV2 (COVID-19) emitido el 27 de abril del 2020.

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NODARI VAKHANIA MAISURADZE | Fecha:2022-11-09 14:48:07 | Firmante

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Cuernavaca, Morelos a 22 de agosto del 2022.

DR. AUGUSTO RENATO PÉREZ MAYO
SECRETARIO DE INVESTIGACIÓN Y POSGRADO DE LA FCAeI
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Por una humanidad culta
Una universidad de excelencia

Dr. Martín Gerardo Martínez Rangel
Profesor- investigador
Facultad de Contaduría, Administración e Informática

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Cuernavaca, Morelos a 22 de agosto del 2022.

DR. AUGUSTO RENATO PÉREZ MAYO
SECRETARIO DE INVESTIGACIÓN Y POSGRADO DE LA FCAeI
PRESENTE

En mi carácter de revisor de Tesis, hago de su conocimiento que he leído con interés la tesis para obtener el grado de la **Maestría en Optimización y Cómputo Aplicado**, del estudiante **Emanuel Salinas Carrasco**, con matrícula **10034124**, con el título **HEURÍSTICA PARA RESOLVER EL PROBLEMA DE ATENCIÓN A CLIENTES EN UNA SUCURSAL BANCARIA** por lo cual, me permito informarle que después de una revisión cuidadosa de dicha tesis, concluyo que el trabajo se caracteriza por el establecimiento de objetivos académicos pertinentes y una metodología adecuada para su logro. Además, construye una estructura coherente y bien documentada, por lo cual considero que los resultados obtenidos contribuyen al conocimiento del tema tratado.

Con base en los argumentos precedentes me permito expresar mi **VOTO APROBATORIO** por lo que de mi parte no existe inconveniente para que el estudiante continúe con los trámites que esta Secretaría de Investigación y Posgrado tenga establecidos para obtener el grado mencionado.

Atentamente
Por una humanidad culta
Una universidad de excelencia

Dr. José Alberto Hernández Aguilar
Profesor- investigador
Facultad de Contaduría, Administración e Informática

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