

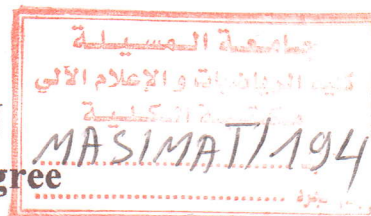
PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA
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MOHAMED BOUDIAF UNIVERSITY - M'SILA
FACULTY OF MATHEMATICS AND
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SUBJECT

**Organization and resolution of the container storage
problem in container terminal**

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ملخص : الهدف من هذا العمل هو تحقيق برنامج للعثور على أفضل تنظيم لتخزين الحاويات، والتي تهدف أيضا إلى تحسين سعة التخزين. إنه يقدم قدرا كبيرا من الخدمة و يساهم في تسهيل عملية التخزين، و من بين الأساليب المختلفة لحل مشاكل التخزين في الميناء فقد إختارنا احد الخوارزمية المتبعة في حل مشاكل التحسين التوافقي و هي "فرع وقص" لحل هذه المشكلة. البيانات هي: مساحة رصيف الميناء، مساحة ساحة التخزين والحاويات وأنواعها. النتائج المتحصل عليها هي: عدد فتحات الحرة وموقع الحاويات في محطات الميناء وفي ساحة التخزين. و نتيجة عملنا هذا تتجسد في برنامج " البحث عن خطة التخزين الأمثل لمحطة الحاويات مع أفضل تنظيم " الذي قمنا ببرمجته باستعمال لغة البرمجة فيزيال بازيك.

كلمات المفاتيح :

محطات الميناء، التحسين التوافقي ، فرع وقص، الحاويات، رصيف الميناء ، ساحة التخزين ، فيزيال بازيك.

Abstract : The objective of this work is the realization of a software to find the best organization of containers storage, which also aims to optimize the storage capacity. It presents a great deal of work on port terminals, and different methods of solving storage problems. A combinatorial optimization algorithm "Branch and Cut" has been used to solve this problem. The data are: surface of quay studied the surface of the storage yard, containers and their types. The results obtained are: the number of free slots and the location of containers in dock and in yard. A contribution in this work is a software named "Search For Optimal storage plan Of Container Terminal With A Best Organization" produced by the Visual Basic language.

Keywords : Port Terminals, Combinatorial Optimization, Branch And Cut, Containers, Quay, Yard, Visual Basic.

Résumé : L'objectif de ce travail est la réalisation d'un logiciel qui permet de trouver la meilleure organisation de stockage des conteneurs, qui vise par ailleurs à optimiser la capacité de stockage. On présente une grande partie du travail sur les terminaux portuaires, et les différentes méthodes de résolution des problèmes de stockage. Un algorithme d'optimisation combinatoire « Coupe et Branchement » a été utilisé pour résoudre ce problème. Les données sont : la surface de quai étudié, la surface de la cour du stockage, les conteneurs et leurs types. Les résultats obtenus sont : le nombre de fentes libre et l'emplacement des conteneurs dans le quai et dans la cour du stockage. Une contribution dans ce travail est un logiciel nommé « Rechercher d'un plan de stockage optimale du terminal à conteneurs avec une meilleure Organisation » réalisé par le langage de Visual Basic.

Mots-clés : Terminaux Portuaires, Optimisation Combinatoire, Coupe et Branchement, Conteneurs, Quai, Cour du Stockage, Visual Basic.