

Report 3 – Operations Research

Willian de Souza Soares – 2014.1.08.034

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Abstract

A new implementation on the container's problem, modeling based in a three-dimensional matrix and boolean domain.

1 The difference between approaches

The major difference between the approach described on the Report 2 and this is the usage of an three-dimensional matrix to represent the solution, modeling the objective function around having a boolean solution.

2 Results

Table 1: Results for a Integer solution, *Report 2* implementation

Instance	Profit	Gap	Optimal	Time Elapsed	Number of Ticks
00	42.92491516324943	0%	Yes	0.03s	0.50 ticks
01	91.3135124472273	0%	Yes	0.37s	43.36 ticks
02	504.24308349895546	1.41%	No	60s*	21874.30 ticks

Table 2: Results for a Integer solution, Three-Dimensional boolean solution

Instance	Profit	Gap	Optimal	Time Elapsed	Number of Ticks
00	42.92491516324943	0%	Yes	0.03s	0.57 ticks
01	91.3135124472273	0%	Yes	0.32s	43.78 ticks
02	504.24308349895546	2.72%	No	60s*	24689.29 ticks

*The instance 02 reached the time limit of 60 seconds.