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Graph-coloring for course scheduling - A comparative analysis based on course selection order

(2014) *2014 3rd International Conference on e-Technologies and Networks for Development, ICeND 2014*, art. no. 6991358, pp. 83-88. Cited 2 times.

Abstract

In this paper, the graph-coloring algorithm for scheduling courses to time-room slots is implemented using a 3-way approach that varies the selection order of courses to serve. The results are then contrasted and compared for completeness and time-efficiency. The approach utilizes Conflict Matrices that are used as input for the coloring algorithm in order to produce colored groups of compatible courses. The different sorting styles are analyzed to select the optimum approach include standard (alphabetical) such that the course with least conflicts is selected first, by Conflict-Weight and by Conflict-Weight Descending such that the course with most conflicts is selected first. © 2014 IEEE.

2-s2.0-84921374124

Document Type: Conference Paper

Publication Stage: Final

Source: Scopus