ORGANIZATION APPLICATIONS BY USING GRAPH THEORY

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Abstract

Graph is a set of relations. Graphs are used in different areas. By using Graph Theory softwares which organize exam and course schedules can be developed. In this study by using Graph Coloring Algorithm we developed an application that manages exam schedules.

During developing this software and algorithm we took into consideration the needs of Beykent University School of Vocational Studies.

By using Graph Coloring Algorithm coincidences can be prevented and the least number of exam sessions can be determined. We can find out Success criteria of allocating exams between dates stated in Academic Calendar.

Graph Coloring Algorithm is incapable of responding special restrictions and requirements. Therefore it must be used with other algorithms. One of these restrictions is: The course exams that are thought in different departments with some contents are must be hold at the same date and time. Some of the exams are hold in labs. Thus, at a given time more than one exam must not be allocated at the same lab.

While doing graph coloring, the courses in same color may not answer the purpose. For example fmal exams at our university cast 10 working days. It means 40 exam sessions. However coloring algoritm finds 16 colors. These 16 colors must be upplied to 40 sessions in an optimum way.

The aim of this study developing an online exam scheduling system that can organize exam schedules which tire both students and exam supervisors minimum by taking into consideration restrictions

Key Words: Graph, Exam, Organize, Algoritm, Software

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