Mini Project | DAA-IT252

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Domain : *Genetic Algorithms*

Title : *Solving the Academic Timetable Problem Thinking on Student Needs*

Abstract : *The assembling process of an academic timetable structure is one of hardest scholar planning tasks. A well done schedule requires considerable time, because of many factors involved (e.g. professor availability, courses and their workload, students and classrooms). Based on related researches, it is possible to claim that in the most of the institutions, the solution is done by manual work, which requires more time and effort.*

Although the search for the best solution is infeasible, it is possible to find near optimal solutions using heuristics. Most current solutions provide answers optimizing administrative factors, i.e. considering mainly the factors related to the disciplines, classrooms and professors, not considering students needs, e.g. reducing time gaps between non-consecutive classes. In this work, we focus on the timetable improvement for the students and assess our results using real data from a Brazilian university.

Algorithm Used: *Genetic Algorithm*

I/P: *(i) the available schedule of each professor,*

(ii) the disciplines that will be offered,

(iii) the student needs,

(iv) how many classes the course will have in a week

(v) classrooms availability

O/P: *Timetable of the entire week*