PROJECT INFORMATION FORM

1.Team No: 16

2.Project Title: AUTOMATIC TIME TABLE GENERATION

3.Team Details:

S.No.	Student I'd	Student Name
1	20EG105114	G. SAI CHARAN REDDY
2	20EG105115	G. SHIRISHA
3	20EG105135	N. SAI PRATHIBHA
4	20EG105137	P. NITISH GOUD

4.Problem Statement:

Automatic timetable generation using genetic algorithm is a project aimed at developing a computer program that can generate an optimized timetable automatically for educational institutions. The program uses genetic algorithms, which are a type of heuristic optimization algorithm based on the principles of natural selection and genetics, to generate a timetable that satisfies certain constraints and objectives. The program takes input from the user, including the number of courses, the number of classrooms, the number of teachers, and the timeslots available for scheduling. It then uses the genetic algorithm to generate a population of candidate solutions, which are evaluated based on their fitness, i.e., how well they satisfy the constraints and objectives.

The genetic algorithm then applies selection, crossover, and mutation operations to generate new candidate solutions, which are evaluated and ranked again. This process continues until a satisfactory solution is found, which is then output as the final timetable.

The objective of the project is to create an efficient and automated system for timetable generation, which can save time and effort for educational institutions. The project also aims to improve the quality of timetables generated, by considering multiple factors such as the availability of resources, avoiding conflicts, and ensuring fairness in course scheduling.

The benefits of using genetic algorithms for timetable generation include the ability to find optimal solutions in a large search space, the ability to handle complex constraints, and the ability to generate diverse and flexible timetables. Overall, the project aims to provide an effective and efficient solution for automatic timetable generation using genetic algorithms.

5.Source of Project (References) :

- **[1]** "Autonomous timetable system using genetic algorithm" by Yashaswini Sunil Chaudhari, Vnessa William Dmello,Srushti Suraj Shah, Prajaka Bhangale published in 2022 4th International Conference on Smart Systems and Inventive Technology (ICSSIT).
  [2] "Automatic Timetabling System for University Course" by Mrunmayee V. Rane, Vikram M. Apte, Vishakha N. Nerkar, Mani Roja Edinburgh, K.Y. Rajput published in 2021 International Conference on Emerging Smart Computing and Informatics (ESCI) AISSMS Institute of Information Technology, Pune, India.

6.FinalOutcome:

The final outcome of the project is a timetable generation system utilizing genetic algorithms, providing optimized and diverse timetables while considering multiple constraints and objectives for educational institutions.

7.What are parameters consider for project evaluation

- Accurate and optimized output
- The attainment of conflict resolution is essential to overall wellness

8.Development Environment:

IntelliJ Integrated Development Environment, Java version-21, JSP, MySQL, Windows OS.

Signature Team Members: **Signature of Supervisor:**

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