[Year]

timetable generator

project title: timetable generator

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Timetable generator

Introduction

A timetable generator is a sophisticated software tool that automatically creates conflict-free schedules for classes, events, or meetings. It helps educational institutions and organizations save time, reduce manual errors, and manage resources efficiently. Our project aims to develop a simple python-based timetable generator that makes scheduling easy and effective.

Project Goals

The primary goal of a timetable generator, especially in educational settings, is to automate the process of creating conflict-free schedules for classes, events, or other activities.

* **Reduce Manual Effort**
* **Minimize Time Consumption**
* **Optimize Resource Allocation:**
* **Avoid Scheduling Conflicts**
* **Manage Constraints:**
* **User-Friendly Interfaces**

Tools & Technologies Used

* **Programming language:** Python
* **Libraries:**

1. **Tkinter:** It is python’s standard library for creating graphical user interfaces. In our project, tkinter is used so that users can enter subjects, teachers, and other details easily.
2. **Pandas:** It is a powerful python library to handle tables and data frames. In our timetable generator, pandas can store the timetable data and also export it in a user-friendly format.
3. **Constraint/or-tools (CSP solver):** Used to handle constraints like teacher availability, class timing, room limit and generate a conflict free timetable automatically.

Methodology

1. Input data: subjects, teachers, classrooms, periods.
2. Logic: apply rules to avoid teachers or room conflicts.
3. Output: generate and display a printable timetable.
4. Interface: simple GUI for input and output.

Expected output

* Easy-to-use interface.
* Proper conflict-free timetable.
* Option to save as PDF or Excel.

Conclusion

Our project makes timetable creation faster and easier for instructions. It reduces errors, saves time, and helps in better time management.