

Mini Project: Badminton Class Slot Scheduler

Project Overview

Design a console-based application that allows users to view and book available slots for badminton classes. The application should simulate slot scheduling using an in-memory list of class batches. When a user selects a slot with availability, the system stores the booking against that user and updates the availability accordingly.

Objectives

- Apply object-oriented design to model real-world scheduling.
- Use arrays or collections to manage slot data.
- Implement booking logic using conditional statements.
- Simulate multi-user interaction without persistent storage.

Core Requirements

1. Batch Class

- Create a `Batch` class with the following attributes:
 - `slot` (String): Time period of the batch (e.g. "7 AM - 8 AM")
 - `spots` (int): Number of available spots in that batch

2. Predefined Batch List

- Hardcode an array or list of 5–6 `Batch` objects with unique time slots and varying availability.

3. User Class

- Define a `User` class with attributes:
 - `name` (String): The user's name
 - `bookedBatchIndex` (Integer or -1 if not booked): Index of the batch booked by this user

4. Booking Flow

- Display all class batches with their time slots and available spots.
- Prompt the user to select a slot.
- If spots are available in the selected batch:
 - Decrease the spot count by one.
 - Store the index of the selected batch in the user object.
- If the batch is full, display an appropriate message.
- Prevent a user from booking more than one batch.

5. Cancellation Feature

- Allow the user to cancel their booking.
- On cancellation:
 - Increase the corresponding batch's spot count by one.
 - Reset the user's booking attribute.