UCS2265 Fundamentals and Practice of Software Development

Project 3: Software System for University Course Registration [CO1, CO2, CO3, CO4, CO5, CO6, CO7 - K6]

Problem Statement

Develop a software system for taking care of course registration in a university. This system should have the following features:

- Each student should log into the system to register for the chosen courses in each semester.

- Once the student logs in, a list of courses that are offered in that semester should be displayed along with the information about faculty members who are teaching each section of the course.

- Assume that each core course will have 3 sections and each elective course will have two sections.

- Students can choose the courses in which they would like to register.

- Each student should register for a minimum of 4 and a maximum of 6 courses per semester.

- At the end of the registration process, the list of successfully allotted courses along with the name of the teacher for each course should be displayed. In addition, the list of waitlisted courses along with waitlist number should also be displayed.

Constraints

- A student should be able to register in a particular course only if he/she has already completed all prerequisites for that course.
- Each course can be offered by multiple faculty members.
- Every section will have a fixed strength. If the section fills up, further registration should not be allowed.
- A waitlist (10% of the class strength) will be maintained in case the allotment is not possible in the first round.
- If a student wants to add or drop any course after initial registration, it should be allowed only within the first two weeks after the semester starts.
- Students from the waitlist can be allotted their choice subsequently after the processing of drop requests.

Input

- Student-id
- Number of courses the student wishes to register for
- For each course
    - Course Code
    - Course Name
    - Name of the Faculty Member

Output

A list where each entry comprises the following:

- Course Code
- Course Name
- Name of the Faculty Member
- Allotment Status (Yes/No)
- Waitlist Number if Allotment Status is "No"