CMP1002 - Object Oriented Programming  
2016-2017 Spring Semester  
Term Project

**Project Description : Class Reservation System**

* You are expected to implement a class reservation and exam scheduling system for Bahcesehir University. Assume that midterms take place only 1 week.

Attached D50x.txt files are daily programs of each class.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| D501 |  |  |  | Capacity | 45 |
| Day | Hours | | | | |
| 1 | 1 | 2 | 3 | 4 | 5 |
| 2 |  | 2 |  | 4 |  |
| 3 |  |  | 3 | 4 |  |
| 4 |  | 2 | 3 | 4 | 5 |
| 5 | 1 | 2 |  |  |  |
| 6 |  | 2 |  |  | 5 |
| 7 | 1 |  |  |  |  |
|  |  |  |  |  |  |

1 – Monday

2 – Tuesday

3 – Wednesday

4 – Thursday

5 – Friday

6 – Saturday

7 – Sunday

1 – 08:30-10:30

2 – 10:30-12:30

3 – 12:30-14:30

4 – 14:30-16:30

5 – 16:30 -18:30

* Hours and days can change from 1 to 5 and 1 to 7 respectively

* Define Classroom and Exam classes and initialize Classroom objects with the information given in txt files in the beginning of the program execution.
* You need to create a Menu.
  + Create Exam
    - Take course name and code from user
    - Take day and hour reservation request from user
    - Take number of students from user
    - Assign the minimum number of classes for the exam
      * If there is not available classroom exist, suggest another available day and hour for reservation.
    - Write all information about an exam in a file which is named as Course Code(Classrooms and date). This file must include the date (day, hour) of the exam with all classrooms.
  + Show schedule for specific classes which are entered by user.
  + List available classes of a specific hours and days.
  + List available hours of a specific class in a specific day.
  + List available days of a specific class for a specific time interval.
* If any changes occur in a schedule, update classroom file.

**BONUS :**

* Assign invigilators to corresponding exam classrooms. Every classroom requires 1 invigilator. Each invigilator has a weekly schedule that is attached in the file named as invigilator\_x.txt. According to the schedules of exams update invigilator’s weekly schedule.

**IMPORTANT NOTES**

**About Submission**

**Project Announcement date:** March 31, 2017

**Submission Deadline:** May 6, 2017 until 23:55.

**IMPORTANT:** Submissions after the deadline will NOT BE accepted! The submission system will be closed automatically.

**IMPORTANT:** Only one member should upload the project from each group.

Send all project files through itslearning platform.

Presentations will be held between May 9 - May 13.

**Project Groups**

Each project group should consist of 3 or 4 students. Groups consisting of less than 3 or more than 4 students are not accepted.

If you have difficulties in finding a group member, send an email to:

cigdem.eris@eng.bahcesehir.edu.tr

**Cheating Policy**

Cheating is strictly prohibited. It must be you own work. Do not use each other’s source code. In such case all the cheaters, including the original project, will be penalized heavily.

**Important**: Itslearning has a cheating program which detects very similar source codes automatically.