CENG206 – Project – Course Planner

(to be implemented in JavaScript**,** due: 27/04/2021@23:55)

As you recall, at the beginning of the semester we explained that one of the goals of the CENG206 Programming Languages course is to increase your ability to learn new languages. In this project, you will learn a new language, JavaScript, and implement a small project. In addition to JavaScript, you will learn some basics of HTML and CSS in the project. You will find some supplementary materials, such as a tutorial and Lab recitation, about JavaScript in Aybuzem. You can also get benefits from any other source on the Web.

This is a group assignment. You are going to work with your project group as announced in the Aybuzem. If your teammate does not collaborate with you properly or takes advantage of you, please report me by e-mail, these emails will remain hidden. We can apply peer grading according to your feedback. Your feedback is important and necessary. Therefore, the student who did not do anything in the project gets a lower grade or 0 depending on your feedback. Fairness in class depends on your responsible behavior. It is our and your responsibility to maintain fairness in the class.

Assignment:

In this project, you will implement an automatic course planner for a curriculum semester of a department. In the curriculum, there are several courses for each year of the curriculum. Your program will assign a classroom and a time slot for each course in the curriculum. Courses in the same year should not be intersected with each other (i.e., see CENG Spring curriculum). There are several classrooms with varying capacities and courses with varying registered students. In addition, for each weekday there are 2 time slots available, morning and afternoon, to place a course in a classroom. So, there are in total 10-time slots available to place a course (5 weekdays*2 time slots).

In the department curriculum, there are some service courses that are given by another department at the university. The time slot of these courses is fixed and predefined. Therefore, you **cannot** assign different time slots for those courses other than the requested time slot. Furthermore, some instructors may not be available for some time slots. Thus, your program should respect these busy time slots for the respective courses. All these constraints should be taken from a file and/or from GUI in a webpage. You should not assume anything prior and not use any hard-coded parameter/value in your code.

In the end, your program will show the course schedule for the department on the webpage. In this schedule, there should not be any intersection between courses for a year of the curriculum and respect all constraints. If your program cannot find any possible schedule it will print an error message "There is no way to make a schedule for the department." Then, you may suggest the user to increasing the number of classrooms via GUI, to find a course schedule successfully.

Report

1. A small report which contains the pseudocode (at most 20 lines) of your algorithm and your class diagrams and class interactions. We will test your programs. Only successfully working programs can take points. For pseudocode examples: https://www.geeksforgeeks.org/what-is-pseudocode-a-complete-tutorial/
2. You should add screenshots of your project in your project report. It should also include screenshots after you add or remove some classrooms.
3. There is no one standard for the GUI/webpage design, it is up to your imagination. Do not copy and paste from another website or group. GUI should take necessary inputs from the user; you should upload the files from the user and read them in your program. Additionally, you may ask the user to enter all details one by one. After finding the course schedule, your program must show it on the screen neatly with some nice colors.

Format of the files

a. Courses.csv contains all courses in the curriculum. Each line has 8 items separated by ';', from left to right; code of the course, name of the course, the year of the semester, credit, C: compulsory or E: Elective, D: department or S: service, number of students, name of the instructor.

CENG114	Computer Programming II	1	5	C	D	95	OGR.GOR. YUSUF EVREN AYKAC
CHEM101	GENERAL CHEMISTRY	1	5	C	S	110	DOC.DR. NURAY CELEBI
CENG342	Parallel Programming I	3	5	E	D	45	DR. OGR. UYESI FAHREDDIN SUKRU TORUN

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b. Service.csv contains the time slot of service courses. Format of it as follows:

CHEM101;Tuesday;Morning
MATH102;Monday;Afternoon
…

c. Busy.csv contains the busy time slots for the respective instructor. You cannot assign a course to the specified time slot. That is, for example, CENG104 should not be placed on Tuesday Morning according to the below file.

OGR.GOR. YUSUF EVREN AYKAC;Tuesday;Morning
DOC.DR. NURAY CELEBI;Tuesday;Afternoon
DOC.DR. NURAY CELEBI;Friday;Afternoon
DR. OGR. UYESI FAHREDDIN SUKRU TORUN;Monday;Morning

d. Classroom.csv contains the classroom id and the capacity of the classroom.

B403 100
C501 60
B503 120
C408 52

***You must upload your report together with all related source codes in a zip file.**

****For each group, only one student will upload the zip file to Aybuzem.**