

ATILIM UNIVERSITY
DEPARTMENT OF COMPUTER ENGINEERING

COMPE 226 – DATA STRUCTURES
HOMEWORK I

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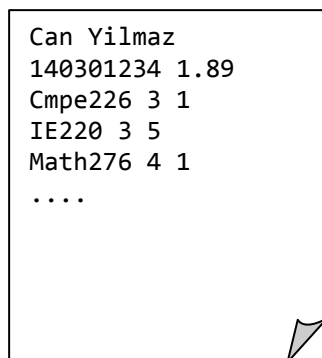
Due Date: March 28, 2017 (by midnight)

Write a C++ program (ATACS-2.0) for the **add-drop** phase of the student information system of our university. The information about **one student** will be kept in an **object** which stores the following information:

- first and last name,
- student id,
- cgpa,
- total number of credits he/she registered , and
- a **linked list** containing the information about the courses he/she registered. The course information includes the code, credit and section of the course.

The main program will perform the following:

- Input the student information from a text file into the student object where a sample text file is as follows:



```
Can Yilmaz
140301234 1.89
Cmpe226 3 1
IE220 3 5
Math276 4 1
....
```

In your program, do the following:

- Input the text file into the student object.
- During the add-drops, the student can **add** a course, **drop** a course, **change** the section of a course, **list** his/her courses or **quit** the system.
- If the student wants to add a course, check the following rules first:

- A course with the same course code in the registered course list cannot be added.
- A student can take at most 24 credits. If his/her cgpa is >2.0, he/she can register to 10 additional credits.

Sample Run:

Enter Add | Drop | Change | List | Quit: **List**

Name: Can Yilmaz ID: 140301234 CGPA: 1.89 Total Credits: 19

Registered Courses:

Cmpe226 3 1

IE220 3 5

Math276 4 1

...

Enter Add | Drop | Change | List | Quit: **Add**

Enter CourseCode, Credit and Section to be added: **TURK402 2 7**

TURK402 2 7 has been added

Enter Add | Drop | Change | List | Quit: **Add**

Enter CourseCode, Credit and Section to be added: **MATH152 5 9**

Error: Total Credit Limit is 24.

Enter Add | Drop | Change | List | Quit: **Add**

Enter CourseCode, Credit and Section to be added: **TURK402 2 5**

Error: TURK402 is already registered.

Enter Add | Drop | Change | List | Quit: **Change**

Enter CourseCode and new section: **TURK402 5**

TURK402 section has been changed to 5.

Enter Add | Drop | Change | List | Quit: **Drop**

Enter CourseCode to be deleted: **IE220**

IE220 has been deleted.

Enter Add | Drop | Change | List | Quit: **List**

Name: Can Yilmaz ID: 140301234 CGPA: 1.89 Total Credits: 18

Registered Courses:

Cmpe226 3 1

Math276 4 1

TURK402 2 5

...

Enter Add | Drop | Change | List | Quit: **Quit**

Thank you for using ATACS-2.0.

Note:

- Use the linked list header file in your program
- Upload both your program and your header file to Moodle
- Write your name and student id in your files as a comment.