

## Project 1

Implement a Roster Management Program using the classes that you developed in homework assignments 2-6. The program should be command-line interfaced.

In Roster Management Program you will have two Modes: “Supervisor Mode” and “User Mode”.

In “Supervisor Mode” you have options to:

- 1) Create a new Roster (that will be stored in a growable array of Rosters in your main program)
- 2) Drop a Roster (selected by course number)
- 3) Display Roster information (selected by course number)
- 4) Display all Rosters (in your system)
- 5) Select a Roster to perform following operations:
  - a) Insert new Student to a Roster
  - b) Remove a Student from a Roster
  - c) Update a Student in a Roster
  - d) List all Students in one Roster in sorted order

In a “User Mode” you can only do the following:

- 1) Select a Roster to perform following operations:
  - a) Insert new Student to a Roster
  - b) Remove a Student from a Roster
  - c) Update a Student in a Roster

In Main menu you will have following options:

- A) Supervisor Mode that will be password protected. The user can be authenticated against a **database.txt** file entries which would contain user/password pair
- B) User Mode
- C) Exit

**Note:** When you start off the program the rosters must be read in from a file called **rosters.txt**. When you exit a program the rosters must be stored back to a file called **rosters.txt**. Internally in your program rosters are stored in a growable array of rosters.

**The format of the rosters.txt file is:**

```
course1-name | course1-code | number-credits | professor-name
student1 first name | student1 last name|sid|standing|credits|gpa|mm/dd/yyyy|mm/dd/yyyy
student2 first name | student2 last name|sid|standing|credits|gpa|mm/dd/yyyy|mm/dd/yyyy
end_roster|
course2-name | course2-code | number-credits | professor-name
student1 first name | student1 last name|sid|standing|credits|gpa|mm/dd/yyyy|mm/dd/yyyy
end_roster|
```

Due Date: December 5