

KING SAUD UNIVERSITY COLLEGE OF COMPUTER AND INFORMATION SCIENCES Computer Science Department		
CSC 111:Java Programming 1	Cumulative Project	1st Semester 1436-1437
Project Assignment 5 Topic: Method		

Assignment Submission: Starting on 22/11/2015 (during your lab)

Project Grading System:

The project assignment will follow the grading system as determined in the project coversheet.

5th Assignment Tasks:

Write a complete program for a system to manage students in course csc111. Students' information include **student ID**, **student name**, **score**, and **academic advisor**.

In the main method, program should enable a course clerk to complete the following tasks:

- Add a student to the set of students in the course.
- Remove a student from the set of students in the course.
- Given an academic advisor name, return the total number of students for that advisor.
- Find and print the information about a student given the student ID.
- Find information about the lowest, average, highest grade in the course.
- Print all the students.
- Print all the students with the same grade (such as A,B,C,D).
- Count the total number of students in the course.

The program should contain the following methods:

- **addStudent:** adds information of a student (Id,name,email,score,grade and advisor) to the end of lists. The method returns true if the operation is completed successfully and false otherwise: the method checks if the student is already registered or not by giving a valid student id. Also, the method should not add the student information if the lists are full.
- **findStudent:** that searches for a student . The search key is the student ID. The method returns the index of id in the list, or - 1 if it is not found.
- **removeStudent:** that replaces information of a student with asterisk (*) and numerical information with -1 given his id. The method should check if the student id already exists before removing his information. The method returns true if the operation is completed successfully and false otherwise.
- **numStudentAdvisor:** that returns the total number of students who are supervised by a specific academic advisor.
- **findStudentInfo:** that prints information (name,Id,score,grade,email and advisor) of an existing student given her id.
- **calculateGrade:** that finds and prints the lowest, highest and the average scores in the course.
- **printAll:** that prints all information (name,Id,score,grade, email and advisor) of all students.

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- **printSameGrade:** that prints names of all students with same given grade.
- **isValidID:** that checks the validity of a given id; the length of id should be 9 and should contain only digits.

Assumptions:

- Student ID is unique; no two students can have the same ID.
- Student Email should be built from the user ID.
- Student Grade should be calculated in the program.
- The number of students should not exceed 25 students in a course.
- The menu should repeat as long as the user needs.

Sample ouptput for option (print a student information)

```

      King Saud University (KSU) - Riyadh
      FALL 2015/2016
      Student Information

Student Name : Maha Ahmad
Student ID   : 430123456
Student Email : 430123456@stuedent.ksu.edu.sa
Score       : 85.0
Grade       : B
Academic Advisor : Hind Ali

```

Or:

```

Student is not found

```

General Notes:

- Choose suitable types for your data.
- Use suitable format to produce the above output.
- Use clear documentation.
- Use standards for naming constants and variables.
- Use meaningful variable names.

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- Use clear indentation.
- Avoid redundancy.
- Validate user input.
- Alert user when the list is full or empty.