



### ASSIGNMENT (9)

Write a class that defines a **Student**. Any student has four attributes: Registration Number, Name, Major, and GPA. This class also contains the following methods:

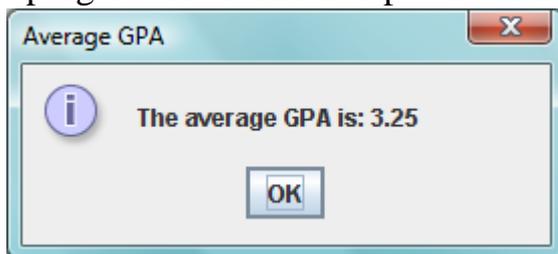
- A constructor with four parameters, each of which is used to initialize an attribute.
- Four methods for setting and validating the values of these attributes.
- Four methods for getting the value of each of these attributes.
- A method that returns a *String* which contains all data of a student.

#### **In the main function:**

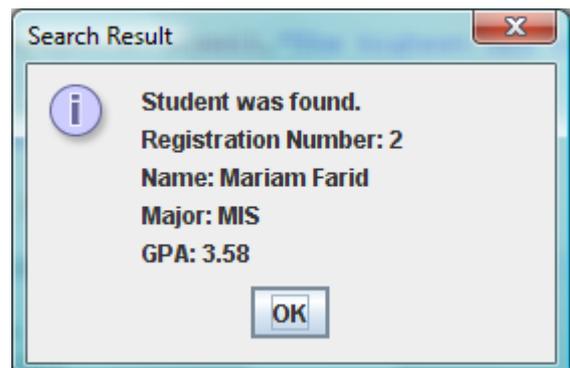
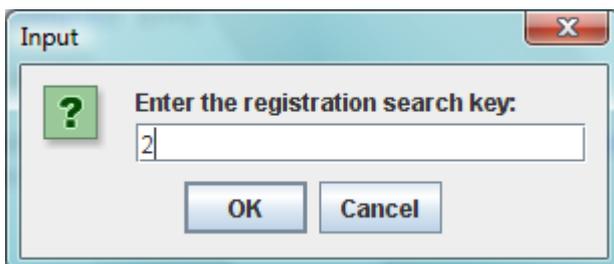
- Define an array of five **Students**.
- Using the constructor, initialize the data of all **Students** by setting their names to “AAA”, their majors to “Ecommerce”, their GPAs to 0.0, while their registration numbers are set sequentially (from 1 to 5).
- The program asks the user to enter the *Name*, *Major* and *GPA* of each of the five students (note: their registration numbers are not entered, and they are left to their default values). Use the following data as an example:

Mostafa Ali	Mariam Farid	Noha Omar	Ahmed Ramy	Karim Emad
Ecommerce	MIS	Finance	Ecommerce	Marketing
3.45	3.58	2.41	3.87	2.94

- The program calculates and prints the average GPA of the students.



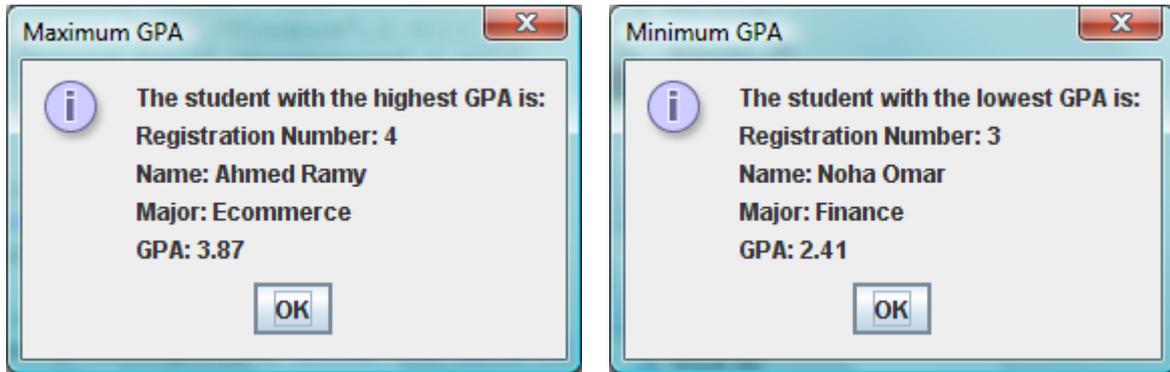
- Then, the program asks the user to enter a registration number and starts searching for that student. If the student was found, the program prints all his/her data. If not, the program prints an appropriate message.





**ARAB ACADEMY FOR SCIENCE & TECHNOLOGY**  
**COURSE: APPLICATIONS IN COMPUTER PROGRAMMING**  
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- The program compares the students' GPAs, and then prints the data of the student having the highest GPA as well as the lowest one.



- The program sorts the students in a descending order according to their GPAs, and then prints the data of the sorted students, such as follows:

