**Department of Computer Science**

**CSC215 – Procedural Programming**

**Lab Exam Version (C)**

**The structure 'Student' contains the following data members:**

* **ID:** an integer.
* **fullName:** a structure that has the following data members(char first\_name[20]; char last\_name[20];).
* **major:** a char to declare the student major (c: computer science, m: math, e: engineering) .
* **GPA:** a double.
* **semester:** an integer, that specify in which semester this student is currently studying (1-10)

1. Write the following program:

// include the required headers.

// define the student structure as described above.

/\* write a function called **readStudent** that **takes** a structure of the type student and read from the user all the data members (ID, fullName, major, GPA and semester) for this student. The function then returns the structure \*/

/\* write a function called **printStudent** that **takes** an array of the type student and the length of this array and then prints all the data members (ID, fullName, major, GPA and semester)  for all students in the array \*/

/\* write a function called **writeGraduate** that **takes** an array of the student type and for all students who their major is engineering and they are in the 10th semester writes the full name of these students into a file called “engineers.txt” \*/

// write the main function as follows:

// Ask the user for a number of students

// read this number

// declare a new array of students with the size that the user entered.

// ask the user to enter the information for each student and read them to the array students

// print all students’ information

// Save all the graduate engineering students into a file.

2. Compile and run your program.

3. Put all the files into a labtest.zip and email it to your lab instructor  [akalshememry@ksu.edu.sa](mailto:akalshememry@ksu.edu.sa) and the subject of your email should be as follows ( CSC215, Lab Exam,  Section: “your section number” ).