**Department of Computer Science**

**CSC215 – Procedural Programming**

**Lab Exam Version (A)**

**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.
* **hours**: an integer: the number of credit  hours currently taken by the student.

1. Write the following program:

// include the required headers.

// define the student structure as described above.

/\* write a function called **readStudent** that takes a pointer to a structure of the type student and read from the user all the data members (ID, fullName, major, GPA and hours) for this student \*/

/\* write a function called **printStudent** that takes a pointer to a structure of the type student and print all the data members (ID, fullName, major, GPA and hours)  for this student \*/

/\* write a function called **isFullTime** that takes a pointer to a structure of the type student and returns 1 if the student is full time, otherwise returns 0. (a student is considered full time if he is taking 12 credit hours or more). \*/

// 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

// Open a new file for writing.

// Save the full name of all computer science students that are full time. (one student name per line)

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” ).