

ICS 103, Term 103
Computer Programming in C

HW# 4
Due date: Friday, August 12, 2011

- Q.1.** Assume that a file contains students' ids, names and their scores. You are required to write a C program to do the following:
- (i) Ask the user to enter the input file name and read it. Read the data from the file and store it in three arrays, IDs, Names, Scores. The IDs should be declared as an array of integers, the Names as a two-dimensional array of characters and the Scores as an array of doubles. Assume that the maximum number of students that can be read from the file is 100 and the maximum length of the name of any student is 80 characters. Assume that names are stored based on first name and family name.
 - (ii) Display the following menu to the user and read the entered choice:
 1. Sort data in **ascending** order according to students' IDs and then display it.
 2. Sort data in **ascending** order according to students' names and then display it.
 3. Sort data in **descending** order according to students' scores and then display it.
 4. Ask the user to enter a student ID and display his score
 5. Ask the user to enter a student name and display his score
 6. Exit the program

The program should keep displaying the menu until the user selects to exit from the program.

- (iii) Implement each of the first five menu options as a separate function.

This homework is to be done by a group of two students. The solution should be well organized and your program should be well documented. Submit a soft copy of your solution in a zip file. Your solution should be submitted in a word file that contains the following items:

- i) *Your names and IDs*
- ii) *Homework number*
- iii) *Problem statement for each question*
- iv) *Your solution along with the code for each question*
- v) *Discussion of what worked and what did not work in your programs. Include snapshots that demonstrate the working parts of your programs. If things did not work and you attempted to solve them, mention that and write about the difficulty that you have faced.*

The soft copy should also contain the source code files (i.e. .c) for each question separately.