King Fahd University of Petroleum & Minerals
Information and Computer Science Department
ICS 103: Computer Programming in C (2-3-3) [Term 092]
Homework Assignment #3 [Due Friday June 4 before midnight]

➢ Instructions
  ▪ Create **two** program files named q1.cpp and q2.cpp (the files you save from Dev++ or turbo compiler).
  ▪ Zip the 2 files in one file named hw3_*yourID*.zip and upload it in WebCT. Make sure that you include cpp files containing source code and not executable files i.e. files with exe extension.
  ▪ No group work is allowed. The homework solution has to be your own work. Any cheating will lead to severe consequences.

Question 1: (15 points)
Write a c program that does the following:
  i)   Asks the user to enter the number of rows and columns in an array
  ii) Reads an array of integers of the specified number of rows and columns
  iii) Display a menu for the user as follows:
       1. Print Array
       2. Print a Row
       3. Print a Column
       4. Swap Two Rows
       5. Swap Two Columns
       6. Exit the program
  iv) Implement each of the menu options 1 to 5 as separate functions. Print the array after swapping rows or columns.

Question 2: (15 points)
Write a program that does the following:
  i)   Read from a file "scores.txt" the scores of 5 sections in an exam and store the results in a two-dimensional array. Assume that the maximum number of students in each section is 20   and that all sections have the same number of students.
  ii) Sort the scores of each section from highest to lowest.
  iii) For each of the sections, print the section number, sorted scores, highest, lowest and average. The results should be printed in the output file "results.txt".