CS12 SI LAB2

Problem 1: Playing with C-strings (Easy)
This problem is relatively easy and is designed to help you get a feel for using c-strings. Start by creating a two dimensional array of type char (that is a one dimensional array of c-strings) and then take 10 strings in from the user. You will next search through the 10 c-strings, find the shortest and the longest ones and print them both out.

// Name your .cpp file for this problem *username_l2_p1.cpp*

Problem 2: Bubble sort (medium)
This problem is a bit harder then problem 1, but you have seen something similar during lecture. Look up bubble sort on google and familiarize yourself with the algorithm. Now write a program that takes in 20 integers from the user, sorts them and prints out the sorted solution.

// Name your .cpp file for this problem *username_l2_p2.cpp*

Problem 3: Find the biggest island (Hard)
This problem is pretty hard and may take some time. In fact I wouldn't be surprised if none of you get this one by the end of the lab. But don't let that stop you! To do this problem you will be working with a binary matrix, that is a two dimensional array containing only 1's and 0's. You will create a two dimensional array of size 10x10 and then get input from the user to fill the matrix. (Use the given test file and io redirection to fill the array. eg: *./a.out < test_matrix.txt*) Now you need to find the length of the side of the largest square of 1's in this matrix and output it.

For example:

0 0 1 1 Given this matrix, the side of the largest square is 2.
0 1 1 1
1 0 0 0

// Name your .cpp file for this problem *username_l2_p3.cpp*

Submission:

To turn in this lab first make sure that all of your .cpp files are in the same directory. Then run

*tar -czvf username_lab2.tar username_l2**

This should create a file called *username_lab2.tar* which you should upload to the given link.

https://drive.google.com/folderview?id=0B9ModvlYGFFEdUZZLTNkOWZ5bDg&usp=sharing