CS150 Fall 2013: Assignment 7

Background:

In this assignment you will get to know more about arrays and also you will have a review about functions and function calls.

As you’ve seen in the Malik’s book:

An array is a collection of fixed number of components all of the same data type. The general form for declaring one-dimensional array is:

dataType arrayName[intExp];

The general form for accessing an array component is:
arrayName[intExp];

Description:

The assignment for this week is a program that helps you to calculate the average, minimum, maximum and the range of your grades in assignment 1 to assignment6. You have been provided with an incomplete program. If you run the program, you will see that the program will not run properly.

Your task is to implement the missing features as detailed in the Instructions section.

Instructions:

1. Read this prompt COMPLETELY before writing any code.
2. DO NOT modify any functions other than those explicitly listed below.
3. Write your name in the prologue comments.
4. Initialize all the variables.
5. Complete the first cout statement with your Name, Assignment Number and Date.
6. Notice the while loop in the section with the phrase “Enter your grade for assignment #”. We let the user to enter 6 grades for his/her 6 assignments.

   Your task is to:
   a. Complete the last line. You should store the grades that the user enters, inside the correct array.
   b. You should be able to find the correct array to store these grades and to write the correct index of this array!

7. In the summary part write the proper function calls for the following purposes:
   a. Computing the letter overall average grade
   b. Computing the minimum grade
   c. Computing the maximum grade
   d. Computing the range of the grades

8. Fill the findmin function completely. This function gets an array of grades as input and will return a double type variable which is the minimum grade.
9. Complete the `getLetterGrade` function. This function gets a double variable called `grade_in` and will return the letter version of the grade.

Use the following scale:

<table>
<thead>
<tr>
<th>Letter grade</th>
<th>Numerical grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>A:</td>
<td>90-100</td>
</tr>
<tr>
<td>B:</td>
<td>80-89</td>
</tr>
<tr>
<td>C:</td>
<td>70-79</td>
</tr>
<tr>
<td>D:</td>
<td>60-69</td>
</tr>
<tr>
<td>F:</td>
<td>0-59</td>
</tr>
</tbody>
</table>

Tips: use what you learnt in previous assignments. How do we check for conditions?

10. Complete the `printRange` function. This function will get the minimum and maximum grades and prints out the range of the grades.
    Your job is to fill the last line and print the range! (So easy, do not over think this!)

11. Notice the Formatting of your program. It should match the sample output.

12. Do not forget indentation.

13. Notice the sample output on the next page.
***************cs-150-fall-2013***********************

Programmer's Name:  Aida Ghazizadeh
Assignment Number:  7
Date:  October 26, 2013

Enter your grade for assignment # 1 [0-100]: 99
Enter your grade for assignment # 2 [0-100]: 89
Enter your grade for assignment # 3 [0-100]: 77
Enter your grade for assignment # 4 [0-100]: 101
Invalid entry; grade ignored.
Enter your grade for assignment # 4 [0-100]: 200
Invalid entry; grade ignored.
Enter your grade for assignment # 4 [0-100]: 0
Enter your grade for assignment # 5 [0-100]: 69
Enter your grade for assignment # 6 [0-100]: 59

***************SUMMARY***************

<table>
<thead>
<tr>
<th>LETTER</th>
<th>NUMERICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>99.00</td>
</tr>
<tr>
<td>B</td>
<td>89.00</td>
</tr>
<tr>
<td>C</td>
<td>77.00</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
<tr>
<td>D</td>
<td>69.00</td>
</tr>
<tr>
<td>F</td>
<td>59.00</td>
</tr>
</tbody>
</table>

AVERAGE: 65.50  <D>

MINIMUM:  0.00

MAXIMUM:  99.00

RANGE:  ( 0.00, 99.00 )

Process returned 0 <0x0>  execution time: 29.171 s
Press any key to continue.