CSCI 1301 – Programming Principles I
Georgia Southern University
Department of Computer Science
Fall 2024

Assignment 8
Point Value: 20 points
Due: Friday November 8, 2024, start of lab

NOTE: Gradescope will give input test cases for any problems that require it. Use the Scanner's nextDouble(), nextInt(), etc. methods discussed in class to prompt the user for input and Gradescope will act as the user when your program requests it. In other words, just code user input like normal—as if a human were going to test your program.

Description

Write a Java program that asks the user for a specific number of values to enter.

After receiving that input, create an array of that size and have the user populate the values with whatever whole-number values they choose. Your user prompts should clearly indicate where they are in the process of entering values.

Once all values are entered, determine and display:
- all index locations and values in the array,
- the maximum value and its location (index value in the array),
- the minimum value and its location (index value in the array),
- the average value of all values (restricted to 4 decimal places),
- a count of how many values were over the average,
- and a count of how many were under the average.

You should NOT use the methods you created in lab to determine the minimum and maximum as you will need the location of those values.

Expected Output/Sample Run
```
Enter number of values: 6

Enter value (1 of 6): 80
Enter value (2 of 6): -7
Enter value (3 of 6): 9
Enter value (4 of 6): 13
Enter value (5 of 6): 157
Enter value (6 of 6): -89

Index 0: 80
Index 1: -7
Index 2: 9
Index 3: 13
Index 4: 157
```

```
Index 5: -89

Maximum: 157 at index 4
Minimum: -89 at index 5
Average: 27.1667
Values over average: 2
Values under average: 4
```

Code

Use the provided template for this assignment. Make any necessary modifications to classes and class headers to complete this assignment.

```java
public class PAssign08 {
      public static void main(String[] args)  {
            // add your code here


      }
}
```

Deliverables

Name your program PAssign08.java. Programming Assignment 8 is to be individual work. Submit the program by the specified due date. Submit each file to its corresponding assignment on Gradescope.

See and follow the Programming Assignment Format document for submission requirements.

Use a utility similar to https://www.diffchecker.com/ and the Expected Output to compare your program's output with the requested output as well as the unit tests provided within Gradescope. Programming is in the details, so double check punctuation, spacing, and case if your output does not match. When copying and pasting, be aware that Microsoft Word sometimes replaces normal quotes with Smart Quotes, which may need to be edited.

Last modified: October 28, 2024