UNIVERSITY OF VIRGINIA, DEPARTMENT OF COMPUTER SCIENCE

Basic Java 1 - Six Functions

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1 SUMMARY

The goal of this homework is to continue practicing writing some simple java functions. You will do the following:

1. Implement six methods shown below.
2. Implement a small program to allow a user to choose one of those methods to invoke.
3. **FILES TO DOWNLOAD:** None
4. **FILE TO SUBMIT:** SixFunctions.java

1.1 SIX FUNCTIONS

For this homework, you will implement six functions, as well as a small program that allows a user to select which method they'd like to test. You will start by implementing the following methods:

1. **max**: Accepts an array of integers as a parameter, and returns the largest integer among them.

2. **min**: Accepts an array of integers as a parameter, and return the lowest integer among them.

3. **average**: Accepts an array of integers as a parameter, and returns the average of the numbers as a double.

4. **median**: Accepts an array of integers as a parameter, and returns the median of the numbers. *Note that you can invoke your max and min function here to make this easier. You don't necessarily need to sort the data.*

5. **stddev**: Accepts an array of integers as a parameter, and return the standard deviation of the numbers. *Note that you can invoke your average method here.*

6. **mode**: Accepts and array of integers as a parameter, and returns the most commonly occurring value among them. *If there is more than one mode, you may return any of them.*

Once these methods are complete, you should write a program that asks the user to input a number one through six. If the user doesn't enter a valid number, the program exits. If the user enters a valid number one through six, then they are prompted to enter seven integers. Those seven integers are then given to the corresponding method above (1 = max, 2 = min, 3 = average, 4 = median, 5 = stddev, 6 = mode) and the answer (a single value) is printed to the console. The program then exits.

You should submit one file for this homework, **SixFunctions.java**.