Practical IB Computer Science Test #1—Statistics

Name: _____ Date: _____

This program will calculate some statistics and properties of a set of input numbers. Work through the test from the beginning. Your program should build and grow –do not start a new program for each point. During this test, you may use any resources that **you** have created, but do **not** use Internet or AI. Class resources, written notes, translation dictionaries and reference materials (cheat sheets, pocket references/guides) are allowed. Your teacher will check that you meet these regulations. Failure to comply may result in you getting at most a 2.0 for the assessment.

Instructions	***Program Display***
1. *Output* your name on the screen.	**(Your name)**
2. *Input* an (integer) number.	How many numbers to process? ***5***
3. Output a warning message *if the number is less than 3*.	How many numbers to process? ***1*** **Input Error.**
4. Exit the program/do nothing if the input is invalid.	How many numbers to process? ***2*** **Input Error.** **[End]**
5. *Input* as many numbers as the number entered in instruction #2. Use the numbers in this example for testing. →	How many numbers to process? ***5*** Enter number: ***7*** Enter number: ***5*** Enter number: ***2*** Enter number: ***9*** Enter number: ***3***
6. Find the smallest number that was input (*minimum*) and output it.	**Minimum: 2**
7. Find the largest number that was input (*maximum*) and output it.	**Maximum: 9**
8. Calculate the *range* of the numbers that were input and output it.	**Range : 7**
9. Calculate the *average* of the numbers that were input and output it.	**Average: 5.2**
10. Check if the maximum was a prime or not, and output the result on the screen. →	**How many numbers to process? *7*** **Enter number: *7*** **Enter number: *5*** **Enter number: *3*** **Enter number: *2*** **Enter number: *8*** **Enter number: *9*** **Enter number: *6*** **Minimum: 2** **Maximum: 9** **Range : 7** **Average: 5.714285714285714** **Is the maximum a prime? False** **[End]**

Submit your Java source code (.java file) to the corresponding online homework entry when you are done / before the end of the period. Good luck!

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A couple of hints that you may want to use for this mock test:

In order to force a Java program to stop or exit, you can use `System.exit(0);` [zero means no error, any other number implies an error]

Below is the flow chart we used earlier in quarter 1 to find out whether a number is prime or not:

A flowchart that checks if a number is prime: