Practical IB Computer Science Test

Name: _____ Date: 23/03/2021

Arrays

Write a Java Class that will list the contents of a given array, find the minimum, maximum, mean, mode and median values. Use the file attached to the online homework for ease of coding and testing, as it includes a main method and headers. You may need to comment and uncomment the appropriate lines of code in the main method as you implement each objective of this test.

Minimum : Smallest value of the set
Maximum : Largest value of the set
Range : The difference between the maximum (biggest) and minimum (smallest) values
Mean : Average of all values (sum of all values / size of array)
Median : the middle value; if there are two middle values, the median is their average.
Mode : (Single) Value that occurs most often in the set

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 you may **not** use Internet.

<<< Please Turn Over >>>

Practical IB Computer Science Test

Instructions	***Expected Output***
1. Write a ***size*** method to calculate and return the *number of elements* of a given array, **rainfall**	**Rainfall in SG - Stats** ***418*** **measurements**
2. Write a ***min*** method that returns the *smallest* value in the array	**Minimum (0.2): *0.2***
3. Write a ***max*** method that returns the *largest* value in the array	**Maximum (765.9): *765.9***
4. Write a ***range*** method that returns the *range* of an array	**Range (765.7): *765.6999999999999***
5. Write an ***average*** method that returns the *average* of an array	**Average(178.89): *178.89377990430637***
6. Write a ***median*** method that returns the *median* of an array	**Median (159.7): *159.7***
7. Write a ***mode*** method that returns the *mode* of an array	**Mode (127.2): *127.2***
8. Repeat all the above for a second array, **temperatures**	**Temperature in SG - Stats** ***417*** **measurements** **Minimum (25.4): *25.4*** **Maximum (29.5): *29.5*** **Range (4.1): *4.100000000000001*** **Average(27.62): *27.62565947242208*** **Mode (27.3): *27.3***
9. Your median method must work for both *even and odd* array sizes	**Median (27.7): *27.7***
10. Using any method of your choice, format the output so that at most two decimal digits are shown. **Expected output to the right →** **Ideal output below ↓** **Rainfall in SG - Stats** **418 measurements** **Minimum (0.2): 0.20** **Maximum (765.9): 765.90** **Range (765.7): 765.70** **Average(178.89): 178.89** **Mode (127.20): 127.20** **Median (159.69): 159.70** **Temperature in SG - Stats** **417 measurements** **Minimum (25.4): 25.40** **Maximum (29.5): 29.50** **Range (4.1): 4.10** **Average(27.62): 27.63** **Mode (27.3): 27.30** **Median (27.7): 27.70**	**Rainfall in SG - Stats** **418 measurements** **Minimum (0.2): 0.2** **Maximum (765.9): 765.9** **Range (765.7): 765.7** **Average(178.89): 178.89** **Mode (127.20): 127.2** **Median (159.69): 159.69** **Temperature in SG - Stats** **417 measurements** **Minimum (25.4): 25.4** **Maximum (29.5): 29.5** **Range (4.1): 4.1** **Average(27.62): 27.62** **Mode (27.3): 27.3** **Median (27.7): 27.7**