

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 >>>

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<i>Instructions</i>	<i>Expected Output</i>
1. Write a size method to calculate and return the <i>number of elements</i> of a given array, rainfall	Rainfall in SG - Stats <u>418</u> measurements
2. Write a min method that returns the <i>smallest</i> value in the array	Minimum (0.2): <u>0.2</u>
3. Write a max method that returns the <i>largest</i> value in the array	Maximum (765.9): <u>765.9</u>
4. Write a range method that returns the <i>range</i> of an array	Range (765.7): <u>765.6999999999999</u>
5. Write an average method that returns the <i>average</i> of an array	Average(178.89): <u>178.89377990430637</u>
6. Write a median method that returns the <i>median</i> of an array	Median (159.7): <u>159.7</u>
7. Write a mode method that returns the <i>mode</i> of an array	Mode (127.2): <u>127.2</u>
8. Repeat all the above for a second array, temperatures	Temperature in SG - Stats <u>417</u> measurements Minimum (25.4): <u>25.4</u> Maximum (29.5): <u>29.5</u> Range (4.1): <u>4.100000000000001</u> Average(27.62): <u>27.62565947242208</u> Mode (27.3): <u>27.3</u>
9. Your median method must work for both <i>even</i> <u>and</u> <i>odd</i> array sizes	Median (27.7): <u>27.7</u>
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