UNIVERSITY OF VIRGINIA, DEPARTMENT OF COMPUTER SCIENCE

Basic Java 1 - Min and Max 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 the two methods shown below.

2. Implement a small program (main method) to accept user input, print results, etc.

3. **FILES TO DOWNLOAD:** None

4. **FILE TO SUBMIT:** MinMax.java

1.1 MIN AND MAX FUNCTIONS

For this homework, you will implement two functions. The method signatures and descriptions can be found below. Note that our functions have a small twist (finding the *second* highest and lowest values):

```
/*
 * Given a list of numbers, return the second largest integer in that list
 */
```

```
   public static int secondMax(int[] numbers);
5

7 /*
   * Given a list of numbers, return the second smallest integer in that list
9 */
   public static int secondMin(int[] numbers);
```

Once these methods are complete, you should write a main method that asks the user to
provide input. The first number the user inputs should be the **size of the list of numbers**.
The following lines of input should be the numbers themselves (see example below). Your
program should output two lines. The first line should be the second largest number in the
list. The second line of output should be the second smallest value in the list. *NOTE: The list
may contain duplicate values, 0, negative values, etc.*

SAMPLE INPUT:

```
1 5
  6
3 8
  10
5 3
  12
```

SAMPLE OUTPUT:

```
  10
2 6
```

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

1.2 GRADESCOPE

You should submit your code to *Gradescope.* If you are having trouble with your submission,
you should double check the following common problems:

1. Make sure you are only submitting one file, and it is called *MinMax.java* (exactly, not
   minMax.java or Minmax.java).

2. Make sure you remove any *package* statements from your code before submitting. The
   autograder doesn't expect your file to be inside a package for this assignment.

3. Make sure your output is in the correct format (see above) exactly. You should not be printing ANYTHING else or the autograder will think your output is incorrect.