08.08 Assignment Instructions

Instructions: Expand your V7 object implementation class and client class to manage an array of data. Find the minimum, maximum, and averages of values.

1. Create a 08.08 Assignment project in the Mod08 Assignments folder.
2. Read the instructions carefully before you attempt the assignment.
3. In the 08.08 Assignment project, create a V8 class for your object and a V8Tester class. Or you may use class names fitting the project. Use ShapesV8 as a model.
4. Copy any part of your V7 classes you'd like to reuse and paste it into the appropriate class shell you just created. Change any statements that mention **`v7`** to **`v8`**.
5. Compile the project to make sure no errors were introduced and run the program to verify that it still works. Fix any errors that show up before moving on to the next step.
6. Add any instance variables, constructors, or methods needed to the object implementation class.
7. Include getter and setter methods for each instance value.
8. Include a toString() method that will return a String representing the values of a given instance of the object.
9. This project should have no fewer than five instances of your object. Your program design needs be based on an array of objects. Use the demo program in this lesson as a model for how to create and process an array of objects.
10. Determine the minimum and maximum values key data columns. (Recall the Integer class constants MIN_VALUE and MAX_VALUE. The Double class also has class constants of the same name.)
11. Calculate the average for key data columns.
12. Output needs to be neatly organized and user friendly.

Expected Output: When the program runs correctly, the output will resemble the following screen shot. Your output will differ depending on the project and object you choose.

```
                        Time Trials
   Name       Time 1      Time 2     Time Difference    Difference
              (hrs)       (hrs)          (hrs)          in Minutes
_____________________________________________________________________
Tanya          2.50        4.50           2.00             120
Miguel         1.25        5.60           4.35             261
Neeti         12.30       16.75           4.45             266
_____________________________________________________________________
                          Minimum:  2.00             120
                          Maximum:  4.45             266
                          Average:  3.60             215.67
```

Suggestions: This program has several parts; don't try to tackle all of them at once.

1. Write a pseudocode algorithm to solve the problem breaking the task into sections for input, processing, and output.
2. Once you have the big picture, make a class diagram for the two classes: client and implementation.
3. Review the demo program on how to assign objects to an array. Consider each row of fill up data as an object.
4. Build your program in stages. There are three different output sections: 1) the rows of data, 2) the minimum and maximum values, and 3) the averages. Work on one section at a time.
5. The implementation class for the object should contain code related to a single instance of the class. Code related to manipulating or utilizing an array of the objects should be in the client class since it is specific to the project.