Lab6 Part1(17 pts)

Using the following UML Diagram below and the TriangleDriver app file, create a Triangle class with appropriate getters, setters, instance vars, and methods. Your class should include a no-arg constructor that sets name to Unknown, base to 0.0, and height to 0.0 and a constructor that accepts a String and two doubles to set name, base, and height instance fields.

Triangle
- name: String - base: double - height: double
+ Triangle() //sets name to Unknown, base to 0.0, and height to 0.0 + Triangle(inName:String,inBase:double,inHeight:double) + writeOutput(): void + readInput(): void + setName(newName:String): void + setBase(newBase:double): void + setHeight(newHeight:double): void - getArea(): double

writeOutput() should provide the name of the triangle, the base, the height, and the triangle area **rounded out to one decimal place (hint think printf here)**. writeOutput() calls (private) getArea() helper method to calculate the area.

readInput should ask the user for the Triangle name, base dimension, and height dimension.

Use the following TriangleDriver class (**also provided in Canvas**):

```
/**
 * TriangleDriver for MidTerm Exam Prep
 * @author Rico Cassoni, rcassoni@sdccd.edu
 * @version 1.3
 * @since 2/10/2024
 */
public class TriangleDriver {  //Change to Main for Replit or MyProgram for codeHS
   public static void main(String args[]) {
      System.out.println("First Triangle");
      System.out.println("--------------");
      Triangle triangle1 = new Triangle();
      triangle1.writeOutput();
      triangle1.setName("Tri1");
      triangle1.setBase(5.0);
      triangle1.setHeight(6.0);
      triangle1.writeOutput();
      System.out.println("\nSecond Triangle");
```

```
        System.out.println("--------------");
        Triangle triangle2 = new Triangle("Tri2",7.3,8.3);
        triangle2.writeOutput();
        System.out.println("\nThird Triangle");
        System.out.println("--------------");
        Triangle triangle3 = new Triangle();
        triangle3.readInput(); // set name to “Tri3”, base to 8.5, and height to 10.3
        triangle3.writeOutput();
    } //end main
} //end class
```

Please do not modify the code in the TriangleDriver.java file.

Your output should look something like:

```
First Triangle
--------------
Triangle name is: Unknown
Triangle base is: 0.0
Triangle height is: 0.0
Triangle area is: 0.0

Triangle name is: Tri1
Triangle base is: 5.0
Triangle height is: 6.0
Triangle area is: 15.0

Second Triangle
--------------
Triangle name is: Tri2
Triangle base is: 7.3
Triangle height is: 8.3
Triangle area is: 30.3

Third Triangle
--------------
What is the triangle's name: Tri3
What is the triangle's base: 8.5
What is the triangle's height: 10.3

Triangle name is: Tri3
Triangle base is: 8.5
Triangle height is: 10.3
Triangle area is: 43.8
```

Continued on next page.

Submit javadocs for Triangele.java (1pt) – NOTE: You might need to take a few screenshots. Make sure you look at the screenshots to ensure that each constructor and method has a description. Also, make sure all parameters and return methods have appropriate tags.

Submit github repo screenshot (1pt)

Submitting your work

For all labs you will need to provide a copy of all .java files. **No need to provide .class files. I cannot read these.** In addition to your .java files, you will need to provide output files of your console. The name of the output file should match the class name and have the .txt extension such as TempProbOut.txt, ProChall3Output.txt. For GUIs such as JOptionPane, you will instead need to create screenshots. For Windows users, Snipping Tool is a great way to do this. Chromebook - Shift+Ctrl+Show Windows. Mac OS users, you can see how to take screenshots using the following url - https://support.apple.com/en-us/HT201361.