Overview

This program provides practice with creating and testing a programmer-defined class

Requirements

- Download TriangleTestDriver.py
- Create a file named Triangle.py in the same folder as TriangleTestDriver.py
- Define a class named **Triangle**:
  - Create class header documentation with your name as the author and a professional class description beginning with Class Triangle …
  - Remember to include self as the first parameter in each method
  - Follow proper coding style, but the only additional comments/documentation needed is for **getArea** discussed below.
  - Define a constructor that has parameters for a base and height. The default for the base and height parameters will be 1. Call the set methods with the base and height parameters.
  - Define set and get methods for the base. In the set method, if the base parameter is <= 0 **raise** an exception object with the message "Illegal argument for triangle base: #" where # is replaced by the value in the base parameter.
  - Define set and get methods for the height. In the set method, if the height parameter is <= 0 **raise** an exception object with the message "Illegal argument for triangle height: #" where # is replaced by the value in the height parameter.
  - Define method **getArea**
    - It has header documentation including a description of the function as well as @return with a description of what is returned.
    - It returns the area of the triangle.
  - Define method **__str__**

    It returns a string representation of the object in the form:

    Base: #, Height: #

    where each # is replaced by the base and height instance variable values respectively.
- Run TriangleTestDriver.py to test your code and compare to the output below. The code in TriangleTestDriver.py may not be changed.

Sample Run

```
Test default constructor parameters, __str__, and getArea
Base: 1, Height: 1
Triangle Area: 0.50 square units

Test invalid arguments to setters
Illegal argument for triangle base: -1
Illegal argument for triangle height: 0

Test invalid arguments to constructor
Illegal argument for triangle base: -3
Illegal argument for triangle height: 0

Test valid float constructor parameters, __str__, and getArea
Base: 3.3, Height: 5.2
Triangle Area: 8.58 square units
```

Submission

Submit Triangle.py before the due date/time