Assignment Description: In Homework 2A, I was given the task to write unit tests for Triangle.py, and fix any defects in the code that were found throughout testing.

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Summary:
I found a total of 6 bugs in Triangle.py after running 15 unit tests on the file, all of which failed due to a logic error causing "InvalidInput" to be returned on all inputs, combined with the other bugs if the function reached that far. After completing this assignment, I have learned that unit testing can make finding bugs a lot easier, and perhaps, designing unit tests could even be a helpful first step when struggling to get a function to output correctly.

Summary Matrix:

Test Run	1	2	3	4	5
Tests Planned	15	15	15	15	15
Tests Executed	15	15	15	15	15
Tests Passed	0	7	11	14	15
Defects Found	2	6	6	6	6
Defects Fixed	2	3	4	5	6

I ensured that I tested each use case at least 3 times each, attempting to exploit any potential edge cases I could think of.

I pledge my honor that I have abided by the Stevens Honor System.

Detailed Results:

Test Report Before Fixing Defects

Test ID	Input (a, b, c)	Expected Results	Actual Result	Pass or Fail
testNotTriangle1	100,1,10	NotATriangle	InvalidInput	Fail
testNotTriangle2	4,150,2	NotATriangle	InvalidInput	Fail
testNotTriangle3	1,20,1	NotATriangle	InvalidInput	Fail
testRightTriangle1	3,4,5	Right	InvalidInput	Fail
testRightTriangle2	8,15,17	Right	InvalidInput	Fail
testRightTriangle3	5,12,13	Right	InvalidInput	Fail
testEquilateralTriangle1	1,1,1	Equilateral	InvalidInput	Fail
testEquilateralTriangle2	2,2,2	Equilateral	InvalidInput	Fail
testEquilateralTriangle3	3,3,3	Equilateral	InvalidInput	Fail
testScaleneTriangle1	10,11,12	Scalene	InvalidInput	Fail
testScaleneTriangle2	5,8,6	Scalene	InvalidInput	Fail
testScaleneTriangle3	10,12,14	Scalene	InvalidInput	Fail
testIsoscelesTriangle1	3,2,2	Isosceles	InvalidInput	Fail
testIsoscelesTriangle2	5,7,5	Isosceles	InvalidInput	Fail
testIsoscelesTriangle3	3,3,5	Isosceles	InvalidInput	Fail

After Fixing Defects:

```
christian@daniellesiphone ssw567HW2 % python -m unittest TestTriangle
...............
----------------------------------------------------------------------
Ran 15 tests in 0.000s

OK
christian@daniellesiphone ssw567HW2 %
```

Test ID	Input (a, b, c)	Expected Results	Actual Result	Pass or Fail
testNotTriangle1	100,1,10	NotATriangle	NotATriangle	Pass
testNotTriangle2	4,150,2	NotATriangle	NotATriangle	Pass
testNotTriangle3	1,20,1	NotATriangle	NotATriangle	Pass
testRightTriangle1	3,4,5	Right	Right	Pass
testRightTriangle2	8,15,17	Right	Right	Pass
testRightTriangle3	5,12,13	Right	Right	Pass
testEquilateralTriangle1	1,1,1	Equilateral	Equilateral	Pass
testEquilateralTriangle2	2,2,2	Equilateral	Equilateral	Pass
testEquilateralTriangle3	3,3,3	Equilateral	Equilateral	Pass
testScaleneTriangle1	10,11,12	Scalene	Scalene	Pass
testScaleneTriangle2	5,8,6	Scalene	Scalene	Pass
testScaleneTriangle3	10,12,14	Scalene	Scalene	Pass
testIsoscelesTriangle1	3,2,2	Isosceles	Isosceles	Pass
testIsoscelesTriangle2	5,7,5	Isosceles	Isosceles	Pass
testIsoscelesTriangle3	3,3,5	Isosceles	Isosceles	Pass

GitHub Repository: https://github.com/cs-paz/ssw567HW2