**Assignment Description**:

In Homework 2, I was given a version of Triangle.py that had many defects in it. After adding the test cases needed to TestTriangle.py I fixed the bugs in the code until all test cases passed.

**Andy Nguyen**

**Summary:**

I found 6 bugs with my test cases. Unit testing is very helpful with this sort of program that has several different outputs. Testing the program and seeing the exact test case to fail helps make debugging much easier.

Summary Matrix

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Test Run 1 | Test Run 2 | Test Run 3 |
| Tests Planned |  | 15 | 15 | 15 |
| Tests Executed |  | 15 | 15 | 15 |
| Tests Passed |  | 0 | 7 | 15 |
| Defects Found |  | 6 | 0 | 0 |
| Defects Fixed |  | 5 | 1 | 0 |

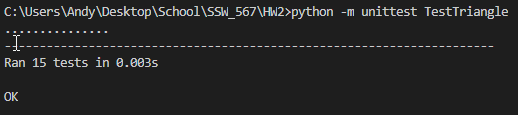
I pledge my honor that I have abided by the Stevens Honor System.

**Detailed Results:**

Testing Program before fixing bugs:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test ID | Input | Expected Results | Actual Result | Pass Or Fail |
| testInvalidTriangles | 1 3 5 | NotATriangle | InvalidInput | Fail |
| testInvalidTriangles2 | 1 4 5 | NotATriangle | InvalidInput | Fail |
| testInvalidTriangles3 | 1 0 1 | NotATriangle | InvalidInput | Fail |
| testRightTriangles | 3 4 5 | Right | InvalidInput | Fail |
| testRightTriangles2 | 5 3 4 | Right | InvalidInput | Fail |
| testRightTriangles3 | 4 5 3 | Right | InvalidInput | Fail |
| testEquilateralTriangles | 1 1 1 | Equilateral | InvalidInput | Fail |
| testEquilateralTriangles2  testEquilateralTriangles3 | 3 3 3  10 10 10 | Equilateral  Equilateral | InvalidInput  InvalidInput | Fail  Fail |
| testIsocelesTriangles | 5 5 1 | Isoceles | InvalidInput | Fail |
| testIsocelesTriangles2 | 5 1 5 | Isoceles | InvalidInput | Fail |
| testIsocelesTriangles3 | 1 5 5 | Isoceles | InvalidInput | Fail |
| testScaleneTriangles | 5 7 1 | Scalene | InvalidInput | Fail |
| testScaleneTriangles2 | 10 3 5 | Scalene | InvalidInput | Fail |
| testScaleneTriangles3 | 11 7 6 | Scalene | InvalidInput | Fail |

After Fixing Bugs:



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test ID | Input | Expected Results | Actual Result | Pass Or Fail |
| testInvalidTriangles | 1 3 5 | NotATriangle | NotATriangle | Pass |
| testInvalidTriangles2 | 1 4 5 | NotATriangle | NotATriangle | Pass |
| testInvalidTriangles3 | 1 0 1 | NotATriangle | NotATriangle | Pass |
| testRightTriangles | 3 4 5 | Right | Right | Pass |
| testRightTriangles2 | 5 3 4 | Right | Right | Pass |
| testRightTriangles3 | 4 5 3 | Right | Right | Pass |
| testEquilateralTriangles | 1 1 1 | Equilateral | Equilateral | Pass |
| testEquilateralTriangles2  testEquilateralTriangles3 | 3 3 3  10 10 10 | Equilateral  Equilateral | Equilateral  Equilateral | Pass  Pass |
| testIsocelesTriangles | 5 5 1 | Isoceles | Isoceles | Pass |
| testIsocelesTriangles2 | 5 1 5 | Isoceles | Isoceles | Pass |
| testIsocelesTriangles3 | 1 5 5 | Isoceles | Isoceles | Pass |
| testScaleneTriangles | 5 7 1 | Scalene | Scalene | Pass |
| testScaleneTriangles2  testScaleneTriangles3 | 10 3 5  11 7 6 | Scalene  Scalene | Scalene  Scalene | Pass  Pass |

The Github repo can be found here:

<https://github.com/ShinyShips/Triangle567>