**Assignment Description**:

In this assignment I started with a legacy version of the triangle classification with defects. After adding the necessary test cases to the unit testing program, I fixed the defects until the program ran successfully.

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**Summary:**

With the help of my test program, I found 6 faults. It is beneficial to use a unit test program, especially for a program like this one with numerous potential outputs. Isolating the issue is made simpler by being able to observe which tests are failing.

Summary Matrix

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Test Run 1 | Test Run 2 | Test Run 3 |
| Tests Planned |  | 13 | 13 | 13 |
| Tests Executed |  | 13 | 13 | 13 |
| Tests Passed |  | 0 | 7 | 13 |
| 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 Legacy Program’s Defects:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 3 3 3 | Equilateral | InvalidInput | 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 3 | Scalene | InvalidInput | Fail |
| testScaleneTriangles2 | 10 3 5 | Scalene | InvalidInput | Fail |
|  |  |  |  |  |

After Fixing Defects:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 | 3 3 3 | Equilateral | Equilateral | 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 3 | Scalene | Scalene | Pass |
| testScaleneTriangles2 | 10 3 5 | Scalene | Scalene | Pass |

https://github.com/Pranav100198/triangle567