**Assignment Description:**

A written test report in the assignment summary with the results of running test set against the initial buggy implementation of ClassifyTriangle function in the original ***Triangle.py.***

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**Summary:**

The testing result exposes multiple defects of the function which means the function is not implemented in a critical way and some boundary conditions are not considered. The detailed result is shown below. After debugging, the function passes all the test cases.

Learned: Learn the process of debugging step by step.

**Honor pledge:**

Yes. All assignments are done only by me. No one helps me.

**Detailed results:**

The techniques I use is using the Pycharm debug function to find where the code runs wrong and fix the code. As for the data input. Please see the table below.

**Table 1: Initial function test report:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test ID | Input | Expected Results | Actual Result | Pass or Fail |
| TestInputType | a=’a’, b=2, c=2  a=2, b=’b’, c=2  a=2, b=2, c=’c’ | InvalidInput | TypeError: '>' not supported between instances of 'str' and 'int' | Fail |
| TestInputBoundary | a=-1, b=2, c=2  a=2, b=-1, c=2  a=2, b=2, c=-1  a=201, b=150, c=150  a=150, b=201, c=150  a=150, b=150, c=201 | InvalidInput | InvalidInput | Pass |
| TestInputDecimal | a=2.1, b=2, c=2  a=2, b=2.1, c=2  a=2, b=2, c=2.1 | InvalidInput | InvalidInput | Pass |
| TestNotATriangle | a=5, b=1, c=2  a=5, b=2, c=3  a=1, b=2, c=5  a=2, b=3, c=5  a=1, b=5, c=2  a=3, b=5, c=2 | NotATriangle | InvalidInput | Fail |
| TestIsocelesTriangle | a=3, b=3, c=2  a=2, b=3, c=3  a=3, b=2, c=3 | IsoscelesInput | InvalidInput | Fail |
| TestRightTriangle | a=3, b=4, c=5  a=3, b=5, c=4  a=5, b=3, c=4 | RightTriangle | InvalidInput | Fail |
| TestScaleneTriangle | a=6, b=3, c=4  a=3, b=6, c=4  a=3, b=4, c=6 | ScaleneTriangle | InvalidInput | Fail |
| TestEquilateralTriangle | a=1, b=1, c=1 | EquilateralTriangle | InvalidInput | Fail |

**Table 2: Modified function test report:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test ID | Input | Expected Results | Actual Result | Pass or Fail |
| TestInputType | a=’a’, b=2, c=2  a=2, b=’b’, c=2  a=2, b=2, c=’c’ | InvalidInput | InvalidInput | Pass |
| TestInputBoundary | a=-1, b=2, c=2  a=2, b=-1, c=2  a=2, b=2, c=-1  a=201, b=150, c=150  a=150, b=201, c=150  a=150, b=150, c=201 | InvalidInput | InvalidInput | Pass |
| TestInputDecimal | a=2.1, b=2, c=2  a=2, b=2.1, c=2  a=2, b=2, c=2.1 | InvalidInput | InvalidInput | Pass |
| TestNotATriangle | a=5, b=1, c=2  a=5, b=2, c=3  a=1, b=2, c=5  a=2, b=3, c=5  a=1, b=5, c=2  a=3, b=5, c=2 | NotATriangle | NotATriangle | Pass |
| TestIsocelesTriangle | a=3, b=3, c=2  a=2, b=3, c=3  a=3, b=2, c=3 | IsoscelesInput | IsoscelesInput | Pass |
| TestRightTriangle | a=3, b=4, c=5  a=3, b=5, c=4  a=5, b=3, c=4 | RightTriangle | RightTriangle | Pass |
| TestScaleneTriangle | a=6, b=3, c=4  a=3, b=6, c=4  a=3, b=4, c=6 | ScaleneTriangle | ScaleneTriangle | Pass |
| TestEquilateralTriangle | a=1, b=1, c=1 | EquilateralTriangle | EquilateralTriangle | Pass |

Summary:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Test Run 1 | Test Run 2 | Test Run 3 | Test Run 4 | Test Run 5 | Test Run 6 | Test Run 7 | Test Run 8 |
| Tests Planned | Test Input Type | Test Input Boundary | Test Input Value | Test if it is a triangle | Test if it is a triangle | Test equilateral triangle | Test right triangle | Test function |
| Tests Executed | Show TypeError | Pass | Pass | Show invalid input | Show invalid input | Show Isosceles | 'Scalene' != 'Right' | No error |
| Tests Passed | Fail | Pass | Pass | Fail | Fail | Fail | Fail | Pass |
| Defects Found | No type checking | None | None | b < = b | Invalid test expression | Sequential problem | Invalid test expression | None |
| Defects Fix | Check input type first | None | None | B <= 0 | Change – into + | Identify isosceles first then equilateral | Change test expression | Yes |