**SSW 567 - Assignment 2**

**Group 5**

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**Assignment Description**

1. Initial Program Testing
2. Test your program
3. Try to break other teams programs
4. See if your program holds up to other teams test cases

**Summary of Results**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test Run 1 | Test Run 2 | Test Run 3 |
| Tests Planned | 10 | 10 | n/a |
| Tests Executed | 10 | 10 | n/a |
| Tests Passed | 5 | 10 | n/a |
| Defects Found | 5 | 0 | n/a |
| Defects Fixed | 5 | 0 | n/a |

The original software specifications called for a simple triangle program. Many of the test cases covered more functionality than the original program. We did find that our own test cases failed on the first run. We attribute this to the fact that the software author was not the same person as the test case authors, thus making the test cases independent from the software developed.

**Test Result**

**Test Run #1**

Group 5 - Test Cases

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ID | Test Description | Input | Expected Results | Actual Result | Pass or Fail |
| HES-1 | Invalid side length | 0,1,1 | message stating side must be greater than 0 | message stated triangle was isosceles | Fail |
| HES-2 | Correct scalene, right-angle triangle | 3,4,5 | message stating this is a scalene right-angle triangle | message stated triangle was isosceles with a right angle | Fail |
| HES-3 | Invalid values for input | a, 4, $ | message stating that invalid characters were entered | Program errors and exits | Fail |

Group 1 - Test Cases

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ID | Test Description | Input | Expected Results | Actual Result | Pass or Fail |
| TEST-1 | isoceles triangle | 5,6,6 | isoceles triangle | Message stating this is an isosceles triangle | Pass |
| TEST-2 | scalene and right-angle | 3,4,5 | scalene and right-angle | Message stating this is an scalene triangle with a right angle | Pass |
| TEST-3 | Invalid Input | 5,6, A | Invalid Input | Message stating an invalid character entered and allowed the user to re-enter a valid input for side C. | Pass |

Group 2 - Test Cases

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ID | Test Description | Input | Expected Results | Actual Result | Pass or Fail |
| Test Case 1  Invalid Input: Side Length is Zero | SIDE EQUALS 0 | Side A Length = 3  Side B Length = 4  Side C Length = 0 | Error Message:  Invalid Input | message stating side must be greater than 0 and allowed the user to re-enter side C. | Pass |
| Test Case 2  Invalid Input: Side Length is Negative | NEGATIVE VALUE | Side A Length = 3  Side B Length = 4  Side C Length = -5 | Error Message:  Invalid Input | Displayed results with side C = -5 | Fail |
| Test Case 3 No Input: Side Length not Entered | NO VALUE | Side A Length = 3  Side B Length = 4  For Side C Length prompt, hit Enter | Error Message:  Invalid Input | Message stating an invalid character entered and allowed the user to re-enter a valid input for side C. | Pass |
| Test Case 4 Invalid Input: Side Length has Large Value | LARGE VALUE | Side A Length = 3  Side B Length = 4  Side C Length = 2,147,483,647 | Error Message: Invalid Input | Message stating this is a scalene triangle | Fail |

**Test Run #2**

Group 5 - Test Cases

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ID | Test Description | Input | Expected Results | Actual Result | Pass or Fail |
| HES-1 | Invalid side length | 0,1,1 | message stating side must be greater than 0 | side 1 must be greater than 0 | Pass |
| HES-2 | Correct scalene, right-angle triangle | 3,4,5 | message stating this is a scalene right-angle triangle | this is a scalene triangle and right-angle triangle | Pass |
| HES-3 | Invalid values for input | a, 4, $ | message stating that invalid characters were entered | invalid character was entered | Pass |

Group 1 - Test Cases

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ID | Test Description | Input | Expected Results | Actual Result | Pass or Fail |
| TEST-1 | isoceles triangle | 5,6,6 | isoceles triangle | isosceles triangle | Pass |
| TEST-2 | scalene and right-angle | 3,4,5 | scalene and right-angle | scalene and right-angle triangle | Pass |
| TEST-3 | Invalid Input | 5,6, A | Invalid Input | invalid character is entered | Pass |

Group 2 - Test Cases

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test ID | Test Description | Input | Expected Results | Actual Result | Pass or Fail |
| Test Case 1  Invalid Input: Side Length is Zero | SIDE EQUALS 0 | Side A Length = 3  Side B Length = 4  Side C Length = 0 | Error Message:  Invalid Input | side 3 has to be greater than 0 | Pass |
| Test Case 2  Invalid Input: Side Length is Negative | NEGATIVE VALUE | Side A Length = 3  Side B Length = 4  Side C Length = -5 | Error Message:  Invalid Input | side 3 has to be greater than 0 | Pass |
| Test Case 3 No Input: Side Length not Entered | NO VALUE | Side A Length = 3  Side B Length = 4  For Side C Length prompt, hit Enter | Error Message:  Invalid Input | invalid character, re-enter a valid character | Pass |
| Test Case 4 Invalid Input: Side Length has Large Value | LARGE VALUE | Side A Length = 3  Side B Length = 4  Side C Length = 2,147,483,647 | Error Message: Invalid Input | this is an invalid triangle. the sum of 2 sides must be greater than the 3rd side | Pass |

**Lessons Learned**

When we develop software, the byproduct of faults gets introduced throughout the lifecycle. We need to understand the product we are producing as well as the stakeholders’ expectation so we can derive the necessary test cases to ensure the software we are delivering has least amount of faults thus reducing the failure of the overall system. In general, you would not want the developer writing test cases for his/her own code.

**Honor Pledge**

We pledge on our honor that we have not given or received any unauthorized assistance on this assignment/examination. We further pledge that we have not copied any material from a book, article, the Internet or any other source except where I have expressly cited the source.