Erik Buczek

SSW567 Software Testing, Quality Assurance and Maintenance

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HW01 Testing Triangle Classification

**1. What challenges did you encounter with this assignment, if any?**

I did not have any experience in Python before starting this assignment. Thus, my main challenge was to learn how to code in Python. The coding required for this assignment was very simple, however, and so it was fairly easy to set the program up. Once I had the program set up, I had to also learn how to use unittest. I struggled with the syntax and meaning of the code at first, but overcame those struggles after trying a few different things. There was one issue that held back my completion of the assignment. As shown in the “failure.png” file attached to my submission, I was unable to figure out how to round the square of a square root to a whole integer. I came up with a roundabout solution to this problem and it allowed my program to run successfully in the end.

**2. What did you think about the requirements specification for this assignment?**

As I’ve mentioned, I did not have any knowledge of Python before starting the assignment. Now that I know the basics, I think the requirements are very easy to follow. Although, I think it is possible that the requirements could have included some more information to help improve the tests. For example, adding a requirement to classify the triangles by angle comparisons would have made the tests more accurate.

**3. What challenges did you encounter with the tools?**

Other than learning how to use the tools, I encountered some challenges with the default Python IDE shell. Sometimes, when parsing code from an editor into the shell, the indentation of the code was changed and the program would be unable to run. Other than that, I did not really run into any tool-related issues. I used the Spyder IDE, which I found to be a very useful tool. It has integrated support for unittest, which was helpful.

**4. Describe the criteria you used to determine that you had sufficient test cases, i.e. how did you know you were done?**

I had six different test cases. I accounted for six different triangle classifications within my program, namely: Equilateral, Invalid, Isosceles Right, Isosceles, Scalene Right, and Scalene. I am certain that these are all of the classifications defined by the assignment requirements. Also, I made certain that the “if” statements were very specific as to what side lengths constituted what type of triangle. Additionally, I performed extensive manual testing throughout the development of my code. For these reasons, I am confident that the test cases I’ve defined are accurate and correct.