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CSE-4321- 900
Software Testing and Maintenance Project
Summary and Discussion

This project provided me with a java code file that contained some bugs that we had to fix. By following a proper sequence of procedures, I was able to find these bugs. However, the objective of this project was not to fix all the bugs, but in my opinion, it was to learn the process of software testing.

The first step I took was to create control flow graphs for all the functions present in the file. Drawing these graphs gave me a good idea of how the control shifted within each method and made the following process easier.

After creating control flow graphs for all the functions, I had to write test paths for selected methods using the control flow graph. The control flow graph came in handy as it was easy to visualize the different paths a function can take.

After writing down all the possible test paths for each function, I came up with specific test cases that executed each test path. This required analyzing the code to find out which input takes which branch in the code. I also used GUI provided with the project to check what are the actual outputs.

Once all the test cases were ready, I had to write down Junit tests to check whether the expected and actual outputs matched. Learning Junit was made easy by the videos provided by Professor. Once I wrote all the Junit cases, I checked the actual and expected output. In the places where they did not match, I debugged the code so that it gave the correct output.

This sequential approach in debugging code provided me with a valuable experience that I will be able to use throughout my programming career. The concepts taught made the process of finding bugs easier. I really enjoyed doing this project. The things I enjoyed were building control flow graphs and writing Junit tests.