COSC 603 APG

Software Testing and Maintenance

Spring 2016

**Project #1 – Reengineering Legacy Systems**

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**Task 5 – Program Modification / Reengineering**

***Understanding the legacy code Fortran***

Understanding the Fortran syntax and the code itself represented some challenges. First the print out of the code was not clear. Having the code on paper did not help much. I had actually to use a magnifier to make sure I am reading correctly.

The inputs and outputs variables also were not clear to identify. It was easy to mislead or miss a variable, so I had to double check I am not leaving by accident a parameter out of the code.

The flow chart diagram and the reading helped to understand the algorithm, although there were sections where the values showed in the flow chart did not match the code. This made it confusing.

The do loops and jumps to different sections of the code based on conditions made it hard to follow. It definitely looks like more a spaghetti code. It demanded me more time to figure out what that specific line of code was trying to accomplish. For instance, identifying what the next specific steps and calculations are after identifying the Fine fuel or Adjusted Fine Fuel moisture are less than 30 took me more time because the code jumps to too many sections line 19,16, 18,17, 21,25, 20, 24 depending on the wind value to estimate the timber grass or terminate the procedure.

***Using Java, JavaDoc and GitHub***

I used the naming conventions when defining variables, constants, methods and Classes. I comment as much as possible the lines of code and methods I wrote to make the flow and logic easy to understand.

I tested my code in serval occasions. I executed unit test, making sure each method works and returns the desire value. This program does not ask for input values. Those are written directly in the code so it made my testing faster and more efficient.

I generated the Java Docs needed after a meaningful change in the program.

I used synchronization of Eclipse with GitHub for version control. I did my best to enter a meaningful description of each change.

In general, I refreshed my Java skills, and learned new software development tools. Although I was familiar with Eclipse before, these new methods gave me a different perspective of what can be accomplished in a more organized and efficient way. I enjoy the idea of having a version control that is free and moderately easy to use. I am sure if I practice more I will find all these tools more straightforward. Unfortunately, my time constraints and work commitments limited me to focus only on what the class asked me to do.