1. Were you able to find more bugs using the conditional coverage? Why?

I was able to find more bugs related to input coverage like count++ when x is included in the string. However, bugs finding really depends on the code. If any condition doesn't affect to the decision, it will not find the bugs in source code but it doesn't guarantee we don't make any mistakes leading to an error and failure even we design the test set based on the branch coverage or path coverage using CFG. Otherwise, if the condition affect to the decision, we will find more bugs if we miss any test cases to satisfy the condition coverage requirement.

2. What kind of "conditional coverage" does EclEmma report?

EclEmma report branch and condition coverage. It covered all available branches in code as long as you have enough coverage test cases to cover all.

3. Would an EclEmma report showing 100% condition coverage satisfy an FAA requirement for MC/DC? Why or why not?

No, because it only covers line coverage and not conditional coverage.

4. Were there lines you were unable to execute using only the Parameterized tests? Why?

I was able to cover all lines using parameterized testing in this lab. This is because I add more test cases to cover the all code.

5. Which do they think would be a more time-consuming strategy for producing a white box test set for countOs();
 a. using conditional coverage guidance to identify an adequate test set, or
 b. using CFG analysis to identify an adequate test set?

Using CFG analysis to identify an adequate test set is a more time-consuming strategy for testing.

6. Which of the above two alternatives do you think would work best to select tests for a 100,000 line piece of software? Why?

Conditional coverage will work best for 100,000-line piece of software to test. Larger program will have a complex CFG, so it is not essay go over the CFG without missing some conditions. Also the test cases size is also huge so using CFG analysis is not practical to test all possible paths through a program.

7. What are the limitations or weaknesses of test sets developed using only branch coverage? (think about which bugs you didn't find using conditional coverage and about what conditionals might look like in more complicated software.)

The one of the weakness of using branch covered is that it does not check for loop termination. It just looks if statement was reached.