Spring 2015   COM S 417 (SE 417)   Assignment 1

Assigned: January 27, 2015
Due: February 5, 2015, 12:39pm

Summary

In this assignment, you will get familiar with JUnit by setting up and running test suites to uncover seeded faults. You will write a short report to include details about how to run your JUnit test suites and the faults you uncovered. This is an individual assignment; complete it on your own.

1. Download `QueueFaulty.class` from Blackboard. Download `QueueFaulty.html`, which contains the Javadoc containing specifications for the file.

2. Set up a JUnit 4 test suite for the program (see http://stackoverflow.com/questions/14930557/junit-testing-through-eclipse-on-an-already-existing-binary-class-file for assistance setting up, if needed)

   (a) Your first goal is to write tests to achieve method coverage. Make sure each test has an expected output clearly stated, for example, using an assert statement (e.g., `assertTrue`, `assertFalse`, `assertEquals`, `assert`).

   (b) Your second goal is to uncover the faults (Hint: there are at least 3 faults)

3. In your report:

   (a) Include instructions on how to run your test suite.

   (b) Indicate which tests map to which method(s). This is how you are demonstrating method coverage.

   (c) For each fault uncovered, identify the test case(s) that fail and describe the failure (expected and actual behavior).

   (d) Explain what is difficult and easy about black-box testing.

Grade Calculation

This assignment is graded out of 100 points. You are expected to:

- Write well-formed unit tests with clearly identified expected outputs that achieve method coverage, or explain why that is impossible (50pt)

- Uncover all seeded faults (20pt)

- Accurately describe the observed failures (20pt)

- Submit a runnable, automated test suite (10pt)

Submission Instructions

Submit your JUnit tests, any other files required to run your test suites, and your report (pdf format only) using Blackboard.