Concordia University
Engineering and Computer Science

Concordia University

Department of Computer Science and Software Engineering

COMP 354 – Introduction to Software Engineering

Project Management Application – Iteration 3

Description

1. Chose 5 “critical” methods for unit testing. A “critical” method is defined as follows:

    - It is non-trivial and performs a rather complex calculation
    - It has multiple constrained inputs and a rather complex decision logic

2. For each of the methods chosen:

    - Justify your choice
    - For each method input specify its range

3. White box testing:

- For each method chosen in (1) create a control flow graph (CFG) and determine its “cyclomatic complexity”.
- For each method specify a test suite for **basis path coverage**.

4. Black box testing:

- For each method specify a test suite for **worst-case boundary** testing

At a minimum, each white and black box test case should contain the following information:

- Identifier:
- Brief description:
- Preconditions:
- Inputs and expected outputs:
- Expected post-conditions:

5. Implement and run the test:

- Implement your white and black box test suites as jUnit tests
- Execute your test cases and create a report of your findings

6. Follow-up

- Discuss your lessons learnt and insights related to white box and black box testing.

Report: Write a technical report that includes your answers to questions 1-5. Note that in addition to the correctness of your answers, the structure and quality of the report itself will also be evaluated.

Submission Details

Submit a single zip file containing the following:

- Technical report
- Source code of your application (including jUnit test cases) as an Eclipse export.

Extended Submission Deadline: 24th Aug. 2014 (23:55pm)