

CITS5501 Software Testing and Quality Assurance

Semester 1, 2020

Assessed workshop exercises, week 6

Version: 0.2, 1 April 11a.m.

Changes: added “a quarter-turn” to question

Scenario

The company you work for specializes in making custom secret doors for supervillain lairs, that can be triggered by combinations of actions. For instance, a customer might specify “The secret door in my main library should open whenever I turn the inkwell clockwise a quarter-turn, OR I have turned on my desk-lamp and I open the top drawer.”

You have been put in charge of devising a test plan for the secret doors that are being installed in a new customer’s lair. The system consists of ten secret doors in various places, each controlled by a logic condition containing from 3-5 clauses.

Consider the following, and provide your answers on an A4 page:

1. Your manager has suggested using Multiple Condition Coverage as a criterion for deciding when the new system has been tested sufficiently thoroughly. Do you think this is a good idea? Explain why or why not – and if not, what you would recommend instead, and why.
2. Given the condition mentioned in the scenario (“The secret door in my main library should open whenever I turn the inkwell clockwise a quarter-turn, OR I have turned on my desk-lamp and I open the top drawer”):
 - i. How would you write this as a logical expression? (See slide 45 of the lecture on logic-based testing for an example.)

You can write your expression either using mathematical symbols for logical connectives (e.g. \wedge and \vee) or Java operators (e.g. “||” and “&&”). If there are significant ambiguities in the requirement that need clarifying, or assumptions you would need to make, note these down. (Dot points are fine.)
 - ii. Write down two test cases for this condition (for each one, a description of what it is testing, inputs, and expected output).

This workshop exercise is worth 5% of your final grade. All work is to be done individually.

Submission

You should submit your answers via [cssubmit](#) by 5 p.m. on Wednesday 1 April.

Hand-written and scanned answers are fine, as long as they are legible. Remember to write your name and student number on the answer sheet.

You should submit a 1-page A4 pdf file. (PDFs can also be exported from MS Word and most other word processing software – if you don't know how to do this, just Google “export ms word pdf”.) The font for body text should be between 9 and 12 points and easily readable when printed out.

Assessment

An assessment rubric for the exercise is available [here](#).