FIT5171 Applied Session 4 and 5
Blackbox Testing

Week 4–5, 2024

Please do try the questions before coming to the tutorial. Your active participation is the most important!

1. In Lecture 4 we discussed Boundary Value Testing (BVT) and the (minimum) number of test cases for the "normal" (non-robust) version of BVT for n variables $(4n + 1)$. In this question, work out a formula for the number of test cases for each of the following cases and briefly explain why.

   (a) The robust BVT (with additional values $min-$ and $max+$ for each variable).

   (b) Weak normal equivalence class testing.

   (c) Weak robust equivalence class testing.

2. In the last lecture we showed a triangle example to demonstrate test case generation for BVT (slide 11). In the example each of the three variables a, b and c is the length of a side from the range $[1, 200]$. Come up with test cases for weak normal equivalence class testing that cover the same expected outputs (isosceles, equilateral, scalene, not a triangle).

3. For the triangle problem above, come up with a decision table for testing.

4. Under the tutorial resources, you will find a pdf document which includes the **NextDate method**, which, given a day, a month, and a year, returns the date of the following day.
   (a) Complete the decision table on slide 37 for NextDate by filling in the missing conditions and associated actions.

   (b) How many test cases are needed to completely cover the entire decision table?

(c) For the NextDate method, assuming the year variable ranges over [1812, 2016], how many test cases are needed for strong, normal boundary value testing?

(d) Compare and comment on the effort and effectiveness of BVT and decision table testing.