Software Testing Homework 4
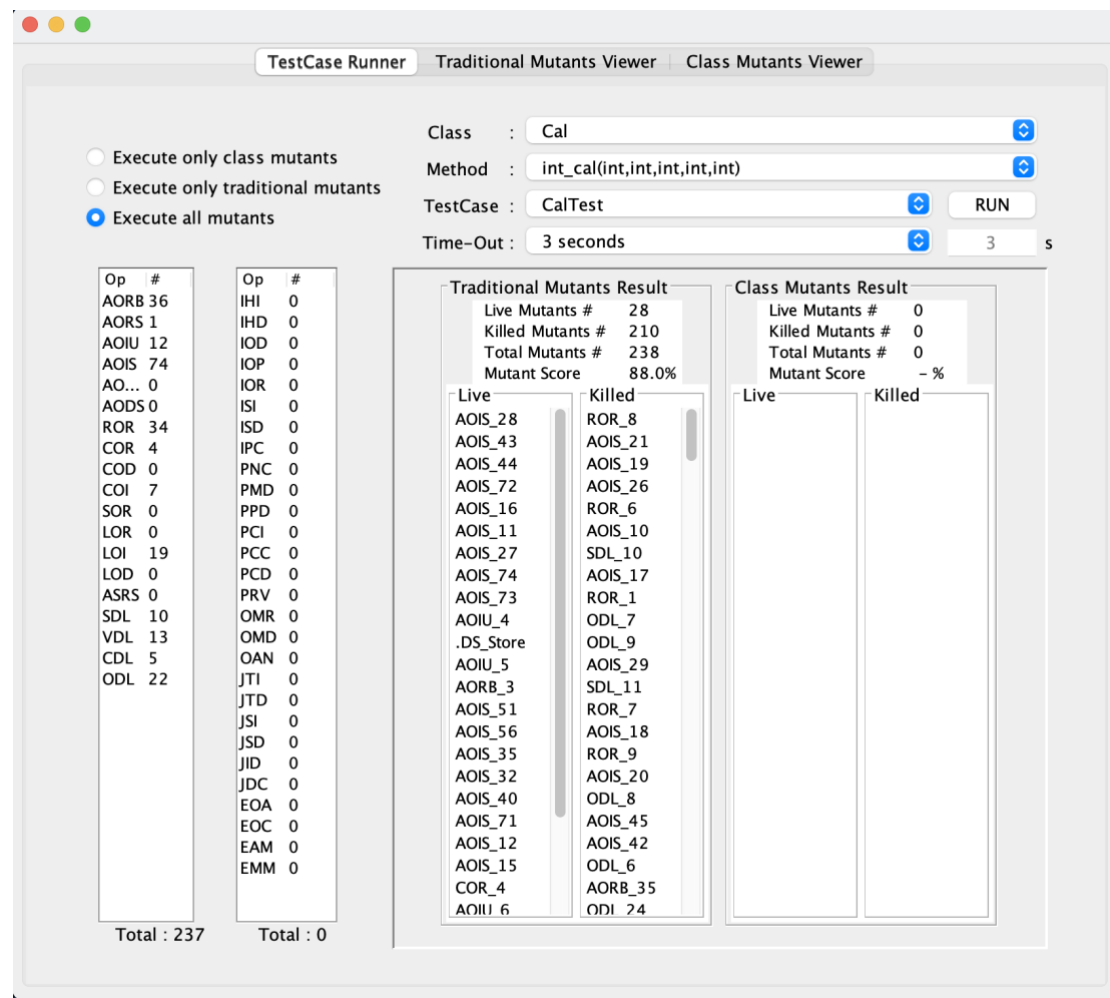
資訊科學與工程研究所 310551135 張宇辰

Download and install the Java mutation tool: muJava. Use muJava to test cal(). Use all the operators. Design tests to kill all non-equivalent mutants. Note that a test case is a method call to cal().
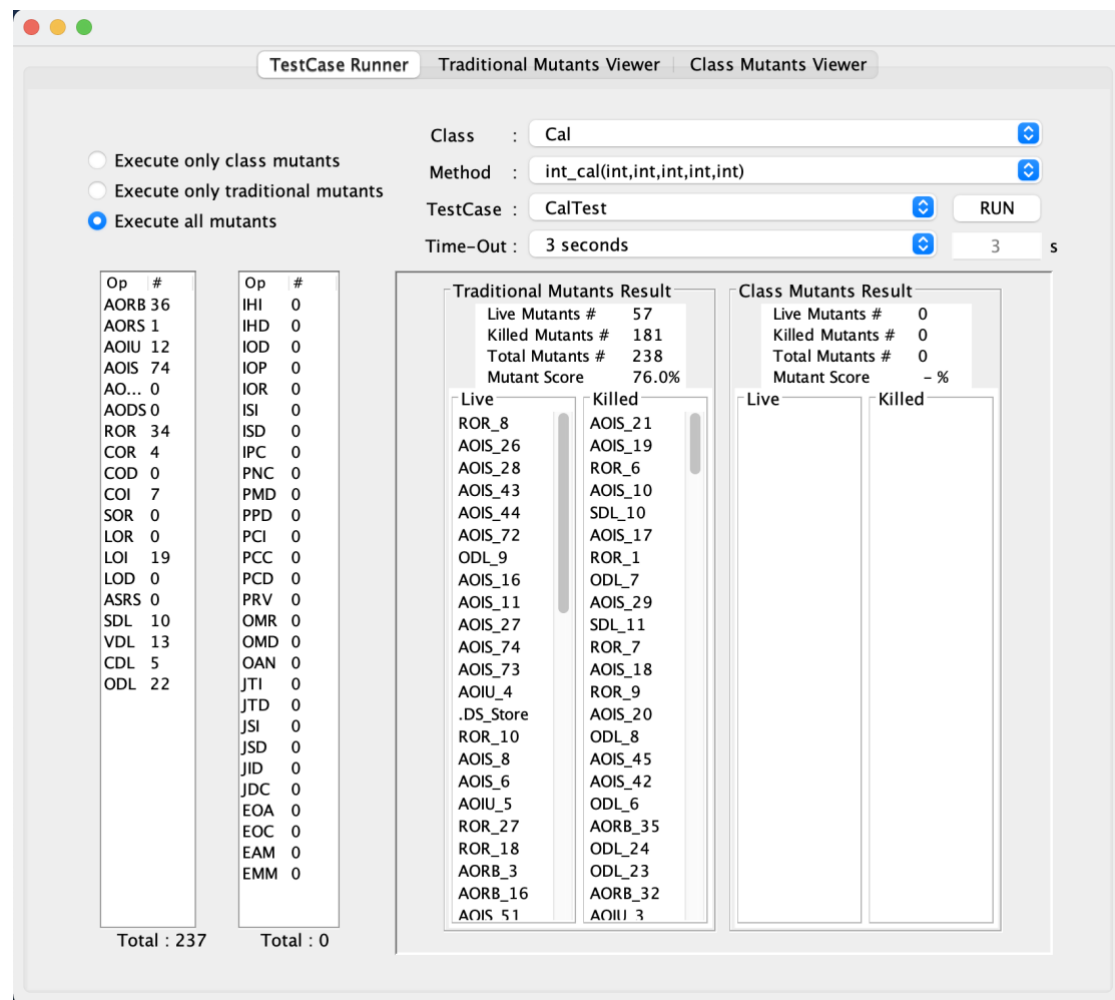

(a) How many mutants are there?

只包含 *int_cal(int, int, int, int, int)*的情況下，mutants 數量為 237

(b) How many test cases do you need to kill the non-equivalent mutants?

共 10 個 Test Cases，得到 88.0%的 Mutant Score。然而這 10 個 Test Cases 並非最佳化（因題目沒有要求做最佳化）。

(c) What mutation score were you able to achieve before analyzing for equivalent mutants?

在開始分析 equivalent mutants 之前，共寫了 3 個 Test Cases，得到 76.0%的 Mutant Score。

(d) How many equivalent mutants are there?

總共 26 個 equivalent mutants。