Lab 8

TEST COVERAGE

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What is Test Coverage

- Test coverage measures the amount of testing performed by a set of test cases.
- It includes gathering information about which parts of a program are actually executed when running the test suite in order to determine which branches of conditional statements have been taken care of.
- In simple terms, it is a technique to ensure that your tests are actually testing your code or how much of your code you exercised by running the test.

$$\text{Coverage} = \frac{\text{Number of coverage items exercised}}{\text{Total number of coverage items}} \times 100\%$$

What does it do

- Finds area of a requirement not implemented by a set of test cases.
- Helps to create additional test cases to increase coverage.
- Identifies a quantitative measure of test coverage, which is an indirect method for quality check.
- Identifies meaningless test cases that do not increase coverage.

How test coverage can be accomplished

- It can be done by exercising the static review techniques like peer reviews, inspections and walkthrough.
- At code level or unit test level, test coverage can be achieved by availing the automated code coverage or unit test coverage tools
- Functional test coverage can be done with the help of proper test management tools

Advantages of Test Coverage

- Assures quality of test.
- It can help identify what portions of the code were actually touched for the release or fix.
- It can help to determine the paths in your application that were not tested
- Prevents defect leakage
- Defect prevention at an early stage of project life cycle
- It can determine all the decision points and paths used in the application, which allows you to increase test coverage

You can start with your Lab exercise 8