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IN GOD I TRUST, THE REST I TEST

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Writing Good Test Cases

We all know, writing test case is the integral part of the testing activity. In order to write good test cases, we must first understand what a test case is and why do we need to write the test cases. Can't we live without writing test cases?

As per the IEEE standard 610 (1990), a test case is:

"A set of test inputs, execution conditions, and expected results, developed for a particular objective, such as to exercise a particular program path or to verify compliance with specific requirement."

Yes of course, we can live without writing test cases, we may probably test the application without writing test cases but, we may not survive in the long run because testing the application without test cases:

- Makes the testing activity person dependent
- Success would be achieved by chance and is not ensured every time
- There would be no conclusion to testing and it continues forever…
- Testing activity cannot be quantify
- No GO/NO GO decisions can be taken

The main objective of the test case is to ensure the testing coverage of the application. Writing test cases is not only sufficient to ensure the quality of the application. They should be EFFECTIVE and GOOD.

Before I proceed, I want to clear the difference between the effective and a good test case. An effective test case is a test case that yields into a bug. I am not saying that a good test case will not yield any bug. You have use all the test case designing techniques to ensure that it will yield a defect, but until and unless a test case is not correct, complete, clear, and consistent enough that the person who has to

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execute the test case does not understand it, all the effort goes into vain. (This is my understanding of a test cases being effective and being GOOD.)

A GOOD test case has **HIGH** possibility of being EFFECTIVE as well.

Writing GOOD test cases is an ART. Writing EFFECTIVE test cases is ENGINEERING.

The good test cases follows the principal of 4 C's (My own derived principal). 4 C's stands for 'Correctness', 'Clarity', 'Completeness', and 'Consistency'.

Correctness: A good test case should be correct. It should clearly mention the objective of the test case i.e. what will be achieved by executing a particular test case. It should have the correct steps and the expected results. The steps to execute the test case should be correct i.e. there should not be any ambiguity in steps. The expected result should clearly validate the requirement.

Clear: It should not happened that the only the author of the test case can execute the test case. The test cases should be written by considering the fact that a third person, who does not know the functionality of the application, can also execute the test cases successfully. The third person should not need any help to execute each test case. The test cases should be simple and easy to understand.

Completeness: Test case must ensure the 100% coverage of the requirements. Each and every test case written to validate the functionality of an application must be traceable to the requirements of the application.

Consistency: There should be consistency in writing the test cases. The same technical jargon should be used across the test cases. A particular field should be referred by single name all across the test cases. Follow the Test Case Writing Guidelines established in your project whenever you write the test cases to bring the consistency in the test cases.

Few More Common Tips to Write GOOD Test Cases

1. The objective of the test case should never include the expected result of the test case. You can

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include the conditions. For Example: 'To verify the functionality of the 'Submit' button when user enters a string of 10 alphanumeric characters in the 'Login' text box.'

2. The test case should be written in first person. It should never use the words like I, We, They etc. For Example, 'To verify the functionality of the 'Submit' button when we enter a string of 10 alphanumeric characters in the 'Login' text box.

3. The screen/page names, object names on the screens/pages should be written exactly as they are appearing on the screen or the page.

4. You can write the pre-conditions at global level (if applicable to all the test cases) or at the test case level (if applicable to individual test case) only.

5. The expected result should be written as a result of the last test step.

6. The expected result should always have 'should' instead of 'will or shall'. For Example, ''The 'Home' page should appear.'' instead of ''The 'Home' page shall appear.''

7. Use the correct template for writing the test cases.

I hope you will find this helpful for writing GOOD test cases in your projects.