

Regression Testing

Regression Testing is defined as a type of software testing to confirm that a recent program or code change has not adversely affected existing features. Regression Testing is nothing but a full or partial selection of already executed test cases which are re-executed to ensure existing functionalities work fine. This testing is done to make sure that new code changes should not have side effects on the existing functionalities. It ensures that the old code still works once the latest code changes are done.

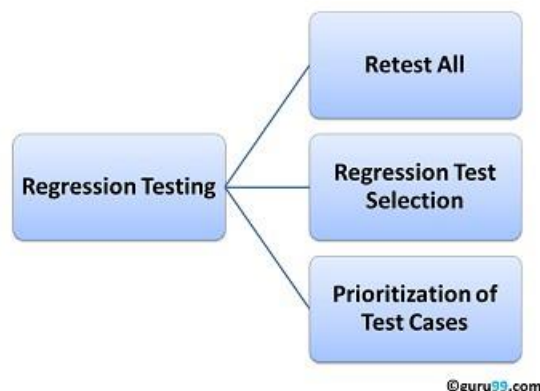
Need of Regression Testing

The Need of Regression Testing mainly arises whenever there is requirement to change the code and we need to test whether the modified code affects the other part of software application or not. Moreover, regression testing is needed, when a new feature is added to the software application and for defect fixing as well as performance issue fixing.

How to do Regression Testing

In order to do Regression Testing process, we need to first debug the code to identify the bugs. Once the bugs are identified, required changes are made to fix it, then the regression testing is done by selecting relevant test cases from the test suite that covers both modified and affected parts of the code.

Software maintenance is an activity which includes enhancements, error corrections, optimization and deletion of existing features. These modifications may cause the system to work incorrectly. Therefore, Regression Testing becomes necessary. Regression Testing can be carried out using the following techniques:



Retest All

This is one of the methods for Regression Testing in which all the tests in the existing test bucket or suite should be re-executed. This is very expensive as it requires huge time and resources.

Regression Test Selection

Regression Test Selection is a technique in which some selected test cases from test suite are executed to test whether the modified code affects the software application or not. Test cases are categorized into two parts, reusable test cases which can be used in further regression cycles and obsolete test cases which can not be used in succeeding cycles.

Prioritization of Test Cases

Prioritize the test cases depending on business impact, critical & frequently used functionalities. Selection of test cases based on priority will greatly reduce the regression test suite.

Selecting test cases for regression testing

It was found from industry data that a good number of the defects reported by customers were due to last minute bug fixes creating side effects and hence selecting the Test Case for regression testing is an art and not that easy. Effective Regression Tests can be done by selecting the following test cases –

- Test cases which have frequent defects
- Functionalities which are more visible to the users
- Test cases which verify core features of the product
- Test cases of Functionalities which has undergone more and recent changes
- All Integration Test Cases
- All Complex Test Cases
- Boundary value test cases
- A sample of Successful test cases
- A sample of Failure test cases