

Unit: IV
Lecture: 4
Regression Testing

regression means return of something and in the software term, it refers to the return of a bug.

Regression testing is a software testing practice that ensures an application still functions as expected after any code changes, updates or improvements.

Regression testing is responsible for the overall stability and functionality of the existing features.

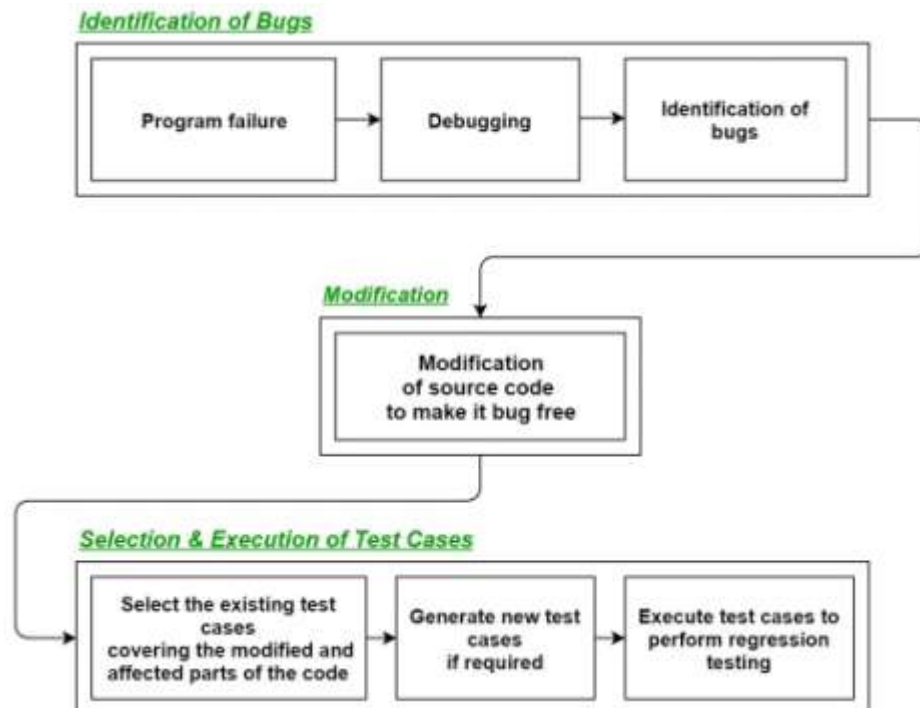
Whenever a new modification is added to the code, regression testing is applied to guarantee that after each update, the system stays sustainable under continuous improvements.

When to do regression testing?

- When a new functionality is added to the system and the code has been modified to absorb and integrate that functionality with the existing code.
- When some defect has been identified in the software and the code is debugged to fix it.
- When the code is modified to optimize its working.

Process of Regression testing:

- Firstly, whenever we make some changes to the source code for any reasons like adding new functionality, optimization, etc. then our program when executed fails in the previously designed test suite for obvious reasons.
- After the failure, the source code is debugged in order to identify the bugs in the program. After identification of the bugs in the source code, appropriate modifications are made.
- Then appropriate test cases are selected from the already existing test suite which covers all the modified and affected parts of the source code. We can add new test cases if required.
- In the end regression testing is performed using the selected test cases.



Tools for regression testing: In regression testing, we generally select the test cases from the existing test suite itself and hence, we need not to compute their expected output and it can be easily automated due to this reason. Automating the process of regression testing will be very much effective and time saving.

Most commonly used tools for regression testing are:

- Selenium
- WATIR (Web Application Testing In Ruby)
- QTP (Quick Test Professional)
- RFT (Rational Functional Tester)
- Winrunner
- Silktest

Advantages of Regression Testing:

- It ensures that no new bugs have been introduced after adding new functionalities to the system.
- As most of the test cases used in Regression Testing are selected from the existing test suite and we already know their expected outputs. Hence, it can be easily automated by the automated tools.
- It helps to maintain the quality of the source code.

Disadvantages of Regression Testing:

- It can be time and resource consuming if automated tools are not used.
- It is required even after very small changes in the code.