Regression Testing

- **Regression Testing** is the process of testing the modified parts of the code and the parts that might get affected due to the modifications to ensure that no new errors have been introduced in the software after the modifications have been made.
- Regression means return of something and in the software field, it refers to the return of a bug.

When to Perform 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.

How to Perform 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.

Advantages of Regression Testing

- It ensures that no new bugs has 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.