**What is software Testing:**

Testing the functionality of the application against the requirement specification document is called s/w testing

Or

Testing the application with the intend of finding the defect in it is called s/w testing

**Types:**

**1.White Box Testing** /Unit Testing/Transparent Testing/Structural Testing/Glass Box Testing/Open Box Testing:

* It is 99% of the time done by developers
* To perform white box testing, the complete code i.e. the internal structure of the code should be known completely.

**2.Black Box Testing**/Functional Testing/Behavioral Testing: No need of having the knowledge of the backend code.

**3.Gray Box Testing** (White Box Testing + Black Box Testing)

**Difference b/w White Box Testing and Black Box Testing**

|  |  |
| --- | --- |
| White Box Testing | Black Box Testing |
| It is most of the time done by developers | It is done by dedicated test engineers |
| In order to perform WBT, we should have the knowledge of the complete coding. This is only developers can perform | There is no need of having knowledge of coding. Here we test the application moreover like an end user |
| WBT engineers should have knowledge of internal design of the code | No need to have knowledge of internal design of the code |
| WBT engineers should have knowledge of programming | No need to have knowledge of programming |

**Functional Testing/Component testing:**

Testing the functionality of each and every component thoroughly or rigorously in an application against the requirement specification document is called functional testing.

Examples:

* Date Field with different date formats or future dates dd/mm/yyyy mm/dd/yyyy
* Bank Account number field (Condition: It should accept only 15 digits number)
* Amount Field (Condition: should accept the amount b/w 200 to 9000 or should not accept -ve integer values)

**How to report a defect/Defect template/Defect Format:**

If you find a defect in the date field:

|  |
| --- |
| **1.Defect ID:**999  2.Brief Description/Title**: Date Field in IRCTC application accepts previous dates**  **3.Steps to reproduce the defect:**   * Login to IRCTC application with valid credentials * Click on Book Tickets button which navigates to a page where we can search a train to book a ticket * Enter FROM and TO Station Names and provide previous date in the DATE field   **Expected Result:** The DATE field should not accept previous date  **Actual Result:** The DATE field is accepting the previous date |

**What is positive testing:** Here we give valid inputs and test the application

**What is negative Testing:** Here we give invalid inputs and test the application

**Integration Testing:**

Testing the data flow between two features or modules in an application is called as Integration Testing

Example: Transferring the amount from one account to another account and checking the debited and credited amount in both the accounts i.e. nothing but checking the data flow b/w two user accounts

**Types of Integration Testing:**

A. Incremental Integration testing (IIT)

1.Top Down Approach

2.Bottom up approach

B. Non-incremental integration testing (NIIT) or Big bang method of testing

**Note: Just Remember the below definitions for interview point of view, explanation is not required**

**Top Down Incremental Integration testing:** Here we incrementally add the modules such that the added module is a child of previous module and then we test the data flow b/w them

**Bottom Up Incremental Integration testing:** Here we incrementally add the modules such that the added module is a parent of previous module and then we test the data flow b/w them

**Sandwich Approach:** The combination of Top Down IIT and Bottom Up IIT is called Sandwich Approach

**B. Non-incremental integration testing (NIIT):**

In NIIT we randomly start testing the data flow b/w 2 features or modules in an application.

**Disadvantage of NIIT:** In NIIT we might miss to check the data flow between some features