**Assignment – 2**

### **What is a test case?**

**Ans:-** A **Test Case** is a set of actions executed to verify a particular feature or functionality of your software application. A Test Case contains test steps, test data, precondition, postcondition developed for specific test scenario to verify any requirement. The test case includes specific variables or conditions.

### **What is a test scenarios?**

**Ans:-** A **Test Scenario** is defined as any functionality that can be tested. It is also called *Test Condition* or *Test Possibility*. As a tester

### **What is a test plan?**

**Ans:-** A **Test Plan** is a detailed document that describes the test strategy, objectives, schedule, estimation, deliverables, and resources required to perform testing for a software product.

### **What is test data?**

**Ans:- Test Data in Software Testing** is the input given to a software program during test execution. It represents data that affects or affected by software execution while testing. Test data is used for both positive testing to verify that functions produce expected results for given inputs and for negative testing to test software ability to handle unusual, exceptional or unexpected inputs.

### **What types of manual testing are there? Break them down.**

Ans:- Various types of manual testing are there below

1. Black Box Testing
2. White Box Testing
3. Unit Testing
4. Integration Testing
5. System Testing
6. User Acceptance Testing
7. **List the four different test level.**

**Ans:-** List the four different test level is Unit Testing, Integration Testing, System Testing, User Acceptance Testing.

1. **What is black box testing, and what are the various techniques?**

**Ans:-** **Black Box Testing** is a software testing method in which the functionalities of software applications are tested without having knowledge of internal code structure, implementation details and internal paths. Black Box Testing mainly focuses on input and output of software applications and it is entirely based on software requirements and specifications. It is also known as Behavioral

Testing.

Various Techniques of black box testing:

1. Equivalence Partitioning
2. Boundary value analysis
3. Decision Table
4. State transition testing
5. Use-case Testing
6. **What is white box testing and its various techniques?**

**Ans:-**  **White Box Testing** is a testing technique in which software’s internal structure, design, and coding are tested to verify input-output flow and improve design, usability, and security. In white box testing, code is visible to testers, so it is also called Clear box testing, Open box testing, Transparent box testing, Code-based testing, and Glass box testing.

Various techniques are:-

1. Statement Coverage
2. Decision Coverage
3. Condition Coverage
4. **What is GUI Testing?**

**Ans:-**  **GUI Testing** is a software testing type that checks the Graphical User Interface of the Software. The purpose of Graphical User Interface (GUI) Testing is to ensure the functionalities of software application work as per specifications by checking screens and controls like menus, buttons, icons, etc.

**10. Explain functional testing?**

**Ans:-** Functional testing is performed using the functional specification provided by the client and verifies the system against the functional requirements.

Types of functional Testing:-

1. Black box Testing
2. White box Testing
3. Experience base Testing
4. Smoke Testing
5. Sanity Testing
6. End to End Testing
7. **functional Testing**

**Ans:-** Non-Functional testing checks the  Performance, reliability, scalability and other non-functional aspects of the software system.

Types of Non-functional Testing:-

1. Usability Testing
2. Compatibility Testing
3. GUI Testing
4. Security Testing
5. Performance Testing
6. Stress Testing
7. Load Testing
8. **Differentiate Between positive and Negative Testing?**

**Ans:-** positive Testing:- **Positive Testing** is a type of testing which is performed on a software application by providing the valid data sets as an input. It checks whether the software application behaves as expected with positive inputs or not. Positive testing is performed in order to check whether the software application does exactly what it is expected to do.

Negative Testing:- **Negative Testing** is a testing method performed on the software application by providing invalid or improper data sets as input. It checks whether the software application behaves as expected with the negative or unwanted user inputs. The purpose of negative testing is to ensure that the software application does not crash and remains stable with invalid data inputs.

1. **What is test closure?**

**Ans: -** The test closure phase is the final stage of the software testing life cycle (STLC), where you evaluate the results and outcomes of the testing process, document the lessons learned, and identify the improvement areas and action items for future projects.

1. **What is Integration testing? What are types.**

**Ans:-** i**ntegration Testing** is defined as a type of testing where software modules are integrated logically and tested as a group. A typical software project consists of multiple software modules, coded by different programmers. The purpose of this level of testing is to expose defects in the interaction between these software modules when they are integrated.

Types of Integration Testing:-

1. Component integration Testing
2. System integration Testing

Methods:-

1. Big bang Integration Testing
2. Top down approach
3. Bottom up approach
4. Sandwich integration testing
5. **Explain Test Driver and Test Stubs?**

**Ans:-** Test Driver:- test Drivers are used during Bottom-up integration testing in order to simulate the behaviour of the upper level modules that are not yet integrated. Test Drivers are the modules that act as temporary replacement for a calling module and give the same output as that of the actual product.

Test Stubs:- Stubs are developed by software developers to use them in place of modules, if the respective modules aren’t developed, missing in developing stage, or are unavailable currently while Top-down testing of modules. A Stub simulates module which has all the capabilities of the unavailable module. Stubs are used when the lower-level modules are needed but are unavailable currently.

1. **What is boundary value analysis?**

**Ans:-** Boundary value analysis is one of the widely used case design technique for black box testing. It is used to test boundary values because the input values near the boundary have higher chances of error.

Whenever we do the testing by boundary value analysis, the tester focuses on, while entering boundary value whether the software is producing correct output or not.

1. **What is the difference between system testing and integration testing?**

**Ans:-** In system testing, we check the system as a whole. In integration testing, we check the interfacing between the inter-connected components.

1. **What are the experience-based testing techniques?**

**Ans:-** Gray box testing:- it is combination of black box testing and white box testing

Adhoc Testing:- Ad hoc Testing does not follow any structured way of testing and it is randomly done on any part of application. Main aim of this testing is to find defects by random checking. Adhoc testing can be achieved with the Software testing technique called **Error Guessing.** Error guessing can be done by the people having enough experience on the system to “guess” the most likely source of errors.

Exploratory Testing:- **Exploratory Testing** is a type of software testing where Test cases are not created in advance but testers check system on the fly. They may note down ideas about what to test before test execution. The focus of exploratory testing is more on testing as a “thinking” activity.

1. **What is top-down and bottom-up approach in testing?**

**Ans:-** Top-down approach:- Top-Down Approach is an approach to design algorithms in which a bigger problem is broken down into smaller parts. Thus, it uses the decomposition approach.

Bottom-up approach:- Bottom-Up Approach is one in which the smaller problems are solved, and then these solved problems are integrated to find the solution to a bigger problem. Therefore, it uses composition approach.

1. **What is different between smoke testing and sanity testing?**

**Ans:-** Smoke test is done to make sure that the critical functionalities of the program are working fine, whereas sanity testing is done to check that newly added functionalities, bugs, etc., have been fixed. The software build may be either stable or unstable during smoke testing.

1. **What is the different between developer vs tester?**

**Ans:-** A developer needs to have programming skills and proficiency at writing code. Development is usually about creating prototypes and testing these prototypes until they are able to function. A tester, on the other hand, is responsible for testing the application and pushing it to its limits.

1. **What is test coverage?**

**Ans:-** Test coverage is the method used to measure the percentage of test cases covering the entire application code. It can determine the level of code testing to exercise on running the test cases.

1. **Name some methods that can be used in code coverage?**

**Ans:-**

1. Statement Coverage
2. Condition Coverage
3. Decision/Branch Coverage
4. **Name some attributes of the test case?**

**Ans:-** (1) Test Scenario (2) Test Scenario discription (3) Test Case (4) Test Case Name (5) Test Case Discription (6) prerequisite (7) Test Date (8) Test Steps (9) Expected Result (10) Actual Result (11) Result

1. **Explain Configuration Testing?**

**Ans:-** **Configuration Testing** is a software testing technique in which the software application is tested with multiple combinations of software and hardware in order to evaluate the functional requirements and find out optimal configurations under which the software application works without any defects or flaws.

1. **Explain Monkey Testing?**

**Ans:-** **Monkey Testing** is a software testing technique in which the tester enters any random inputs into the software application without predefined test cases and checks the behavior of the software application, whether it crashes or not. The purpose of Monkey testing is to find the bugs and errors in the software application using experimental techniques.

1. **Explain performance Testing?**

**Ans:-** Performance testing is a non-functional software testing technique that determines how the stability, speed, scalability, and responsiveness of an application holds up under a given workload.