Software Testing

1. What is Software Testing?

Answer: Software testing is a process of evaluating a software application to identify defects and ensure that it meets specified requirements and functions as expected.

2. What are the objectives of Software Testing?

Answer: The objectives of software testing include finding defects, ensuring software functionality, verifying requirements, enhancing software quality, and providing confidence in the software.

3. What are the different levels of testing?

Answer: There are various levels of testing, including:

- Unit Testing
- Integration Testing
- System Testing
- User Acceptance Testing (UAT)

4. What is the purpose of Regression Testing?

Answer: Regression testing verifies that recent code changes do not negatively impact existing functionality, ensuring that new features or fixes do not introduce new defects.

5. Explain the term "Test Case."

Answer: A test case is a set of conditions, steps, and inputs that a tester executes to verify specific functionality in a software application. It includes expected results and preconditions.

6. What is the Test Plan, and why is it important?

Answer: A test plan is a document that outlines the approach, scope, objectives, resources, and schedule for testing. It's crucial for providing a roadmap for testing activities and ensuring alignment with project goals.

7. What is a Test Scenario?

Answer: A test scenario is a high-level description of a testing situation that may consist of multiple related test cases. It outlines a specific testing condition.

8. How do you prioritize Test Cases?

Answer: Test cases can be prioritized based on factors such as business impact, critical functionality, and risk assessment. High-priority test cases should be tested first.

9. What is Smoke Testing?

Answer: Smoke testing is a quick, high-level test to determine whether the software build is stable enough for more extensive testing. It checks basic functionality and ensures the build is deployable.

10. What is Sanity Testing?

Answer: Sanity testing is a type of software testing performed after minor changes or bug fixes to ensure that the specific areas affected by the changes are still functioning correctly. It is a subset of regression testing and focuses on verifying that the recent modifications have not adversely impacted the core functionality of the software.

11. Explain the term "Defect Life Cycle."

Answer: The defect life cycle represents the stages that a defect goes through, from discovery to resolution. Common stages include New, Assigned, In Progress, Fixed, Verified, and Closed.

12. What is a Test Environment, and why is it important?

Answer: A test environment is a setup that mimics the production environment. It's essential for testing because it ensures that software behaves as expected in real-world conditions.

13. What is Boundary Testing?

Answer: Boundary testing examines values at the edge of the input domain. It aims to find defects related to boundary conditions, such as minimum and maximum input values.

14. What is Compatibility Testing?

Answer: Compatibility testing ensures that the software functions correctly on various platforms, browsers, devices, and operating systems.

15. What is Negative Testing?

Answer: Negative testing involves intentionally providing incorrect inputs or using invalid conditions to verify that the software can handle errors gracefully.

16. Explain the term "Traceability Matrix."

Answer: A traceability matrix is a document that establishes a link between requirements and test cases. It helps ensure that all requirements are covered by test cases.

17. What is Ad-hoc Testing?

Answer: Ad-hoc testing is informal testing where testers explore the application without predefined test cases. It aims to discover defects through unscripted exploration.

18. What is Exploratory Testing?

Answer: Exploratory testing is a testing approach where testers simultaneously learn about the application while designing and executing test cases. It's particularly useful for complex or poorly-documented systems.

19. What is Alpha Testing and Beta Testing?

Answer: Alpha testing is performed by the development team in a controlled environment. Beta testing involves end-users testing the software in a real-world setting before the official release.

20. What is Load Testing, and why is it important?

Answer: Load testing evaluates the performance of a system under expected load conditions. It helps identify bottlenecks and assesses system scalability.

21. What is Stress Testing?

Answer: Stress testing evaluates how a system behaves under extreme conditions, often beyond normal operational limits. It helps identify system weaknesses.

22. How do you handle a situation where a critical defect is found just before a release?

Answer: In such cases, the severity and impact of the defect should be communicated to stakeholders. A decision on whether to release or delay should be made based on risk assessment.

23. Explain the term "Test Coverage."

Answer: Test coverage is a measure of how much of the application's functionality has been tested. It helps identify areas that may require additional testing.

24. What is the purpose of a Test Execution Report?

Answer: A Test Execution Report summarizes the results of test case execution. It includes information about passed, failed, and blocked test cases.

25. What is Usability Testing?

Answer: Usability testing evaluates how user-friendly a software application is by observing real users interacting with it. It helps identify user interface issues.

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27. What is the Entry and Exit Criteria in Software Testing?

Answer: Entry criteria define the conditions that must be met before testing can begin, while exit criteria specify when testing should be considered complete.

28. What is a Test Management Tool, and why is it used?

Answer: A test management tool helps manage and organize test cases, track test execution, and generate reports. It enhances test efficiency and visibility.

29. Explain the concept of Test Automation.

Answer: Test automation is the process of using automated scripts and testing tools to perform tests, execute test cases, and compare actual results with expected results.

30. What are the benefits and limitations of Test Automation?

Answer: Benefits include repeatability, efficiency, and reduced human error. Limitations include initial setup time, maintenance effort, and unsuitability for some types of testing.

31. What is Positive and Negative Testing?

Answer: Positive testing verifies that the system behaves as expected with valid inputs, while negative testing validates that the system handles invalid inputs or error conditions appropriately.

32. What is Test Driven Development (TDD)?

Answer: Test Driven Development is a software development methodology where tests are written before writing the actual code. It helps ensure that the code meets the required functionality.

33. What is User Acceptance Testing (UAT)?

Answer: User Acceptance Testing is the final phase of testing where end-users validate whether the software meets their business requirements and is ready for production use.

34. What is Behavior-Driven Development (BDD)?

Answer: Behavior-Driven Development, is a software development approach that extends the principles of Test-Driven Development (TDD) to include collaboration between developers, testers, and non-technical stakeholders. BDD places a strong emphasis on communication and aligning development with business goals by using natural language specifications that describe the expected behavior of the software.