# => Module 2

1. What is Exploratory testing?

- preparing a test document and then testing the application this approach is known as exploratory testing.

2. What is traceability matrix?

- Traceability matrix is table type document that is used in the development of software application to trace requirements.

- It is prepared before the test execution process to make sure that every requirement is covered in the form of test case.

- Types of traceability

(i) Forward traceability

(ii) Backward traceability

(iii) Bi-Directional traceability

3. What is boundary value testing?

- Boundary value analysis is one of the widely used case design technique for black box testing.

- Boundary value assume that between value is valid but less than and greater than value is invalid.

4. What is equivalence partitioning testing?

- Equivalence partitioning is a technique of software testing in which input data is divided into partitions of valid and invalid values.

- The equivalence partitions are derived from requirements and specifications of the software.

5. What is integration testing?

- Once all the components or modules are working independently then we need to check the dependent module is known as integration testing.

- Integration testing tests integration or interface between components.

6. What determines the level of risk?

- Test that passes, reduce level of risk

=>Two types of risk

A. Project risk

B. Product risk

7. What is alpha testing?

- Alpha testing is performed by the developer

- Alpha testing is testing of an application when development is about to complete. Minor changes can still be made as a result of alpha testing.

8. What is beta testing?

- Beta testing is performed by real users of the software application in real environment and can be considered as a form of external user acceptance testing.

- Beta testing is type of field test. This testing performs at the end of the software testing life cycle.

- Beta testing is the last phase of the testing which at the customer site.

9. What is component testing?

- Component testing is used to test all the components separately as well as the usability testing.

- The components testing is performed by test engineers or the developers.

10. What is functional system testing?

- System testing is level of testing that validate the complete and fully integrated software product.

- A requirement that specifies a function that a system must perform.

11. What is non functional testing?

- Non functional testing is type of software testing that is performed to verify the non functional requirements of the application.

- It is based on expectation of customer.

- it helps to improve the performance of the application.

=> Types of non functional testing

(A) Performance testing

(B) Load testing

(C) Volume testing

(D) Stress testing

(E) Security testing

12. What is GUI testing?

- GUI is stand for Graphical User Interface.

- GUI testing is testing the system’s graphical user interface of the application.

13. What is Adhoc testing?

- Adhoc testing is done when the build is in the checked sequence, then adhoc testing is done by checking the application randomly.

14. What is load testing?

- Load testing is used to check the performance of an application

- The load is a quantity, which means it only focuses on the number of users.

15. What is stress testing?

- Stress testing to check the behaviour of an application.

- Stress testing also known as endurance testing.

- Stress testing is used to test the stability & reliability of the system.

16. What is white box testing and list the type of white box testing?

- White box testing is method of software testing that tests internal structure or working of an application.

- White box testing also called glass box testing or open box testing.

=> Type of white box testing

(A) Statement coverage

(B) Decision coverage

(C) Condition coverage

17. What is black box testing? What are the different black box testing techniques?

- The testing without having any knowledge of the interior working of the application is known as black box testing.

- The test engineers can perform black box testing.

=> Black box testing technique

(A) Equivalence partitioning

- Equivalence partitioning is the process of defining the number of tests.

(B) Boundary value analysis

- Boundary value analysis generates test cases that highlight errors better than equivalence partitioning.

(C) Decision table

- A decision table is a good way to deal with combinations of inputs.

(D) State transition testing

- State transition testing is done where we have to test different system transition.

18. Mention what are the categories of defects?

- Error found by tester is called defect.

19. Mention what big bang testing is?

- All the component or modules are integrated together at once and then tested as unit is called big bang testing.

=> Advantage

-It is convenient for small size.

=> Disadvantage

- Small modules missed easily.

- Time provided for testing is very less.

20. What is the purpose of exit criteria?

- To define when a test level is complete.

- To determine when test case has completed.

- Verify if software development activities are completed within projected cost.

21. When should regression Testing be performed?

- When new functionality added to the application.

- When there is change requirement.

- When the defect fixed.

- When there is environment change.

22. What is 7 key principles? Explain in detail?

(A) Testing shows presence of defects

(B) Exhaustive Testing is impossible

(C) Early testing

(D) Defect clustering

(E) The Pesticide paradox

(F) Testing is context dependent

(G) Absence of error fallacy

(A) Testing shows presence of defects

- Software testing reduces the presence of defects.

- Software testing talks about the presence of defects and does not talk about the absence of defects.

- Testing can never ensure that software is 100% bug free.

(B) Exhaustive Testing is impossible

- Exhaustive testing is impossible means the software can never test at every test cases.

- It can test only some test cases and assume that software is correct.

(C) Early testing

- All the testing activities should start in the early stages of the software development life cycle.

- It will be fixed in the initial stage itself, which may cost very less.

(D) Defect clustering

- The defect clustering defined that throughout the testing process, we can detect the number of bugs which are correlated to a small number of modules.

(E) The Pesticide paradox

- Repeating the same test cases again and again will not find new bugs.

- It is necessary add or update test cases to find new bugs.

(F) Testing is context dependent

- Different types of software need to perform different types of testing.

- Testing approach depends on context of the software developed.

(G) Absence of error fallacy

- If software is built 99% bug free but it does not follow the user requirement then it is unusable.

- It is not only necessary that software is 99% bug free but it also mandatory to fulfil all the customer requirements.

23. Difference between QA v/s QC v/s Tester?

|  |  |  |  |
| --- | --- | --- | --- |
|  | QA | QC | Tester |
| 1. | QA is subset of Software Testing Life Cycle | QC is subset of Quality Assurance | Tester is subset of Quality Control |
| 2. | QA is process oriented | QC is product oriented | Tester is product oriented |

24. Difference between smoke and sanity?

|  |  |  |
| --- | --- | --- |
|  | Smoke testing | Sanity testing |
| 1. | Smoke testing is subset of regression testing | Sanity testing is subset of Acceptance testing |
| 2. | This testing is performed by developer or tester | This testing is performed by tester |
| 3. | Smoke testing can be either manual or automated. | Sanity testing can be done without test case or scripts. |
| 4. | Smoke testing is documented. | Sanity testing is not documented. |
| 5. | Smoke testing is performed after software build. | Sanity testing after receiving a software build with minor changes in code |
| 6. | This testing to verify stability of the system | This testing to verify rationality of the system |

25. Difference between verification and validation

|  |  |  |
| --- | --- | --- |
|  | Verification | Validation |
| 1. | Verification is static testing. | Validation is dynamic testing. |
| 2. | It does not include execution of the code. | It include the execution of the code. |
| 3. | Verification means Are we building the software right? | Validation means Are we building the right software? |
| 4. | Method used in review, walkthrough, inspection | Method used in testing |
| 5. | It come before validation | It come after verification |

26. Explain types of performance testing?

(A) Load Testing

(B) Stress testing

(C) Endurance testing

(D) Spike testing

(E) Volume testing

(F) Scalability testing

(A) Load Testing

- Load testing is kind of performance testing which determines a system’s performance under real life load condition.

- This testing help determine how the application behaves when multiple users access is simultaneously.

(B) Stress testing

- Stress testing is used to test the stability & reliability of the system.

- It is used to upper limits of capacity within the system.

(C) Endurance testing

- Endurance testing is a type of performance testing

- This type of testing evaluates the system’s performance over a long period of time.

(D) Spike testing

- test the product reaction to sudden increase & decrease in the load.

(E) Volume testing

- It is basically testing the ability of a database management system to handle a large amount of data.

(F) Scalability testing

- It is used to check an application’s performance by increasing or decreasing the load in particular scale is known as scalability testing.

- The scalability testing is needed to signify the user limit for the software product.

27. What is Error, defect, bug and failure?

- Mistake in coding is called error

- Error found by tester is called defect

- Defect accepted by development team is called bug

- Build does not meet requirement is called failure

28. Difference between priority and severity?

|  |  |  |
| --- | --- | --- |
|  | Priority | Severity |
| 1. | Important for fixing the bug is known as priority | The impact of bug on the application is known as severity |
| 2. | Priority can be low, medium, high, critical | Severity can be critical, high, medium, low, cosmetic |
| 3. | The value of priority changes from time to time. | The value of severity changes continually from time to time. |
| 4. | The product manager decide defect priority level. | The testing engineer decide defect severity level. |

29. What is bug life cycle?

- The duration time span between the first time defects is found and the time that is closed successfully, rejected, deferred is called bug life cycle

New

Assigned

Duplicate Rejected Deferred Not a bug

Open

Fixed

Pending retest

Reopened

Retest

Verified

Closed

30. Explain the difference between Functional testing and Non functional testing?

|  |  |  |
| --- | --- | --- |
|  | Functional testing | Non functional testing |
| 1. | Functional testing is executed first | Non functional testing is performed after functional testing |
| 2. | Easy to do manual testing | Tough to do manual testing |
| 3. | Functional testing describe what the product does | Non functional testing describe how good the product works |
| 4. | It verifies the action of an application | It verifies behaviour of application |
| 5. | Functional testing based on analysis of the specification of the functionality of system | Non functional testing attributes of system that do not relate to functionality |
| 6. | Types of functional testing   * Unit testing * White box testing * Black box testing * Smoke testing * Sanity testing | Types of non functional testing   * Performance testing * Load testing * Volume testing * Stress testing |

33. What is difference between STLC and SDLC?

|  |  |  |
| --- | --- | --- |
|  | STLC | SDLC |
| 1. | STLC is stand for Software Testing Life Cycle | SDLC is stand for Software Development Life Cycle |
| 2. | The objective of the software testing life cycle is to complete the testing of software successfully | The objective of software development life cycle is to complete the development of software successfully |
| 3. | The STLC phases are completed after SDLC phases | The SDLC phases are done before the STLC phases |
| 4. | The STLC will helps to create the software bug free | The SDLC helps to develop a good quality software |
| 5. | STLC phases   * Requirement analysis * Test planning * Test case development * Test environment setup * Test execution * Test cycle closure | SDLC phases   * Requirement collection * Analysis * Design * Implementation * Testing * Maintenance |

34. What is difference between test scenario, test cases and test scripts?

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test scenario | Test case | Test script |
| 1 | Test scenario is any functionality that can be tested | Test case involve set of step, condition, and input which can be used while performing the testing task | A set of sequential instruction that detail how to execute a core business function |
| 2 | Test scenario is manual approach of software testing | Test case is manual approach of software testing | Test script is automation approach of software testing |
| 3 | Test scenario are written manually | Test scenario are written manually | Test script are written scripting format |

35. Explain what test plan is? What is the information that should be covered.

36. What is priority?

- Priority is defined as parameter that decides the order in which a defect should be fixed.

- Priority can be Low, Medium, High, Critical.

37. What is severity?

- Severity is defined as the extent to which a particular defect can create an impact on the software.

- Severity can be High, Medium, Low, Cosmetic.

38. Bug categories are

- Security, database, functionality, UI.

39. Advantage of Bugzilla?

- Open source, free bug tracking tool.

- Time tracking.

- Integrated email capabilities.

- Strong security.

- Robust security.

40. What are different methodologies in agile development model?

- (i) Kanban

- (ii) Scrum

- (iii) Extreme Programming

- (iv) Feature driven development

- (v) Dynamic Systems Development Method

- (vi) Crystal

- (vii) Lean

41. Explain the difference between Authorization and Authentication in web testing. What are the common problems faced in web testing?

|  |  |  |
| --- | --- | --- |
|  | Authorization | Authentication |
| 1 | The person’s authorities are checked for accessing the resources. | The Identity of users are checked for providing the access to the system. |
| 2 | It needs the user’s security levels. | It needs the user’s login details |
| 3 | Transmit information through as ACCESS token | Transmit information through an ID token. |
| 4 | The user authorization is not visible at the user end. | The user authentication is visible at user end. |
| 5 | In this process, users are validated. | In this process, users are verified. |

* What are the common problems faced in web testing?
* Page not found
* Website interact with other website
* Shopping cart issue
* Color issue

49. When to used usability testing?

- Usability testing is to build a system with great user experience.

- Usability is not only used for software development but it is also used for product designing.

- The flow of application should be good.

50. What is the procedure of GUI testing?

- GUI is stands for Graphical User Interface.

- GUI testing is the process of testing the system’s GUI of the system under test.