Software Testing Assignment:

Module : 2

1. What is exploratory Testing?

- Exploratory testing is an unscripted testing approach where testers simultaneously design and executed tests.
- It is like flying visit or thinking kind of activity to explore the application.
- It is a concurrent process for test design or execution simultaneously.
- Is not a technique but is an approach, what actions you perform next is governed by what you are doing currently?

2.What is traceability matrix?

- Traceability Matrix is to validate that all requirements are checked via test cases such that no functionality is unchecked during software testing.
- Matrix means combination of row and coulomb in table formate.
- 3 types of RTM:
- 1.forward traceability.
- 2.backward traceability.
- 3. bi - directional traceability.
-

	Comp 1	Comp 2	...	...	...	...	...	...	...	Comp m
Req 1				x			x			
Req 2	x									x
...										
...		x				x			x	
...										
...		x								
...					x					x
Req n										

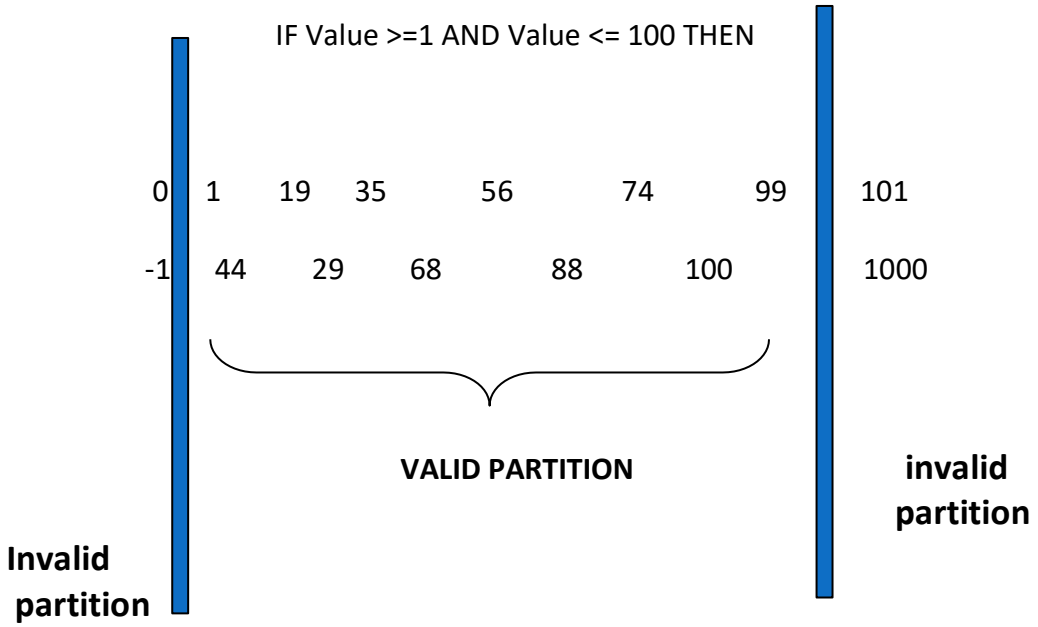
-

3.What is Boundary value testing?

- Boundary value analysis is a methodology for designing test cases that concentrates software testing effort on cases near the limits of valid ranges.
- Boundary value analysis generates test cases that highlight errors better than equivalence partitioning.
- Boundary value analysis is a method which refines equivalence partitionin.

4. What is Equivalence partitioning testing?

- Aim is to treat groups of inputs as equivalent and to select one representative input to test them all.
- Equivalence Partitioning can be used for all Levels of Testing.
- In Equivalence Partitioning we must identify Valid Equivalence partitions and Invalid Equivalence partitions where applicable (typically in range tests.
- The Valid partition is bounded by the values 1 and 1000



5.What is Integration testing?

- Integration testing is a level of the software testing process where individual units are combined and tested as a group.
- Integration testing is done by a specific integration tester as a test team.

- There are a 2 level of Integration testing:
- 1.component integration testing.
- 2.system integration testing.
- There are a 2 technique of integration testing.
- Functional testing
- Non functional testing.
- There are 2 method of integration testing.
- 1.Big - Bang integration.
- 2.incremental integration.

6. What determines the level of risk?

- Risk: A factor that could result in future negative consequences; usually expressed as impact and likelihood'.
- A Risk could be any future event with a negative consequence .You
- need to identify the risks associated with your project.A properly designed test that passes, reduces the overall level of Risk in a system.
- When testing does find defects, the Quality of the software system increases when those defects are fixed
- Risks are of two types:

>Project Risks
>Product Risk

7. What is Alpha testing?

- Alpha Testing is definitely performed and carried out at the developing organizations location with the involvement of developers.
- It is always performed by the developers at the software development site.
- Alpha Testing is not open to the market and public.
- It is conducted for the software application and project.
- It is always performed in Virtual Environment.
- It is always performed within the organization.
- Sometimes it is also performed by Independent Testing Team.

8. What is beta testing?

- Beta Testing (field testing) is performed and carried out by users or you can say people at their own locations and site using customer data.
- It is always performed by the customers at their own site.
- Beta Testing is always open to the market and public.
- It is usually conducted for software product.
- It is performed in Real Time Environment.
- It is always performed outside the organization.
- It is also the form of Acceptance Testing.
- It is only a kind of Black Box Testing.

9.What is component testing?

- Component testing is a level of the software testing process where individual unit/ component of a software/system.
- Unit /component testing will be performed by the always developer.
- Testing performed to expose defects in the interfaces and interaction between integrated component.

10. What is functional system testing?

- Testing the attribute (fetchers) of the system directly related to the functionality .
- A requirement that specifies a function that a system or system component must perform.
- There is two types of Test Approach:
- Requirement Based Functional Testing
- Process Based Testing
- Functional Testing:

Testing based on an analysis of the specification of the functionality of a component or system.

11.What is Non-Functional Testing?

- Testing the attributes of a component or system that do not relate to functionality, e.g. reliability, efficiency, usability, interoperability, maintainability and portability.

- Non functional testing is executed after functional testing.
- To check the fetchers that are not directly related to the functional but it will mendetary to the check.
- Non functional testing can be always performed by using tools.

12.What is GUI Testing?

- Graphical User Interface (GUI) testing is the process of testing the system's GUI of the System under Test. GUI testing involves checking the screens with the controls like menus, buttons, icons, and all types of bars – tool bar, menu bar, dialog boxes and windows etc.
- Check all the GUI elements for size, position, width, length and acceptance of characters or numbers. For instance, you must be able to provide inputs to the input fields.
- Check Error Messages are displayed correctly.
- Check the alignment of the text is proper.
- Check for Clear demarcation of different sections on screen./
- Check you can execute the intended functionality of the application using the GUI.
- Check the positioning of GUI elements for different screen resolution.
- Check the Color of the font and warning messages is aesthetically pleasing.
- Check Font used in application is readable.

13. What is Adhoc testing?

- Adhoc testing is an informal testing type with an aim to break the system.
- The Error guessing is a technique where the experienced and good testers are encouraged to think of situations in which the software may not be able to cope.
- Testers randomly test the application without any test cases or any business requirement document.
- Adhoc Testing does not follow any structured way of testing and it is randomly done on any part of application.
- This testing is primarily performed if the knowledge of testers in the system under test is very high.
- This is why an error guessing approach, used after more formal techniques have been applied to some extent, can be very effective.
- There are three types of adhoc testing:

1. Buddy Testing
2. Pair testing
3.Monkey Testing

14. What is load testing?

- Load testing is a kind of performance testing which determines a system's performance under real-life load conditions. This testing helps determine how the application behaves when multiple users access it simultaneously.
- Load testing does not break the system.
- Its a performance testing to check system behavior under load. Testing an application under heavy loads, such as testing of a web site under a range of loads to determine at what point the system's response time degrades or fails.
- Load testing gives excellent protection against poor performance and accommodates complementary strategies for performance management and monitoring of a production environment.
- Load Testing helps identify the bottlenecks in the system under heavy user
- stress scenarios before they happen in a production environment.
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- stress scenarios before they happen in a production environment.

15.What is stress Testing?

- Stress testing is used to test the stability & reliability of the system. This test mainly determines the system on its robustness and error handling under extremely heavy load conditions.
- Stress Testing is done to make sure that the system would not crash under crunch situations.
- Stress testing is also known as endurance testing.
- System is stressed beyond its specifications to check how and when it fails. Performed under heavy load like putting large number beyond storage capacity, complex database queries, continuous input to system or database load.

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

- White Box Testing: Testing based on an analysis of the internal

structure of the component or system.

- White box testing is also called glass testing or open box testing. In order to perform white box testing on an application, the tester needs to possess knowledge of the internal working of the code.
- White box testing is the detailed investigation of internal logic and structure of the code.
- Structure-based techniques are also used in system and acceptance testing, but the structures are different.
- For example, the coverage of menu options or major business transactions
- could be the structural element in system or acceptance testing.
- The different types of white box testing:

1.Statement coverage
2. Decision coverage
3.Condition coverage

❖ Statement coverage:

The statement coverage is also known as line coverage or segment coverage.

- The statement coverage covers only the true conditions.
- It checks the flow of different paths in the program and it also ensure that whether those path are tested or not.
- In this process each and every line of code needs to be checked and Executed.

❖ Decision coverage:

Decision coverage also known as branch coverage or all-edges coverage.

- It covers both the true and false conditions unlikely the statement coverage.
- Aim is to demonstrate that all Decisions have been run at least once.

❖ Condition coverage:

This is closely related to decision coverage but has better sensitivity to the control flow.

- Condition coverage reports the true or false outcome of each Condition .
- Condition coverage measures the conditions independently of each other.

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

- Black box testing:

Black box testing can be performed without knowing the internal structure of the application or system.

- The tester have a no knowledge of how the system or component is structured inside the box.
- The technique of testing without having any knowledge of the interior workings of the application is Black Box testing.
- Specification-based testing technique is also known as 'black-box' or input/output driven testing techniques because they view the software as a black-box with inputs and outputs.

18.Mention what are the categories of defects?

- Defect: Commonly refers to several troubles with the software products, with its external behaviour or with its internal features.
- Defects categories are….performance defect
  Design defects
  Compatibility defects
  Functional defects
  Security defects
  Arithmetic defect

19.Mention what big-bang testing is?

- Big Bang integration testing all components or modules is integrated simultaneously, after which everything is tested as a whole.
- Big Bang testing has the advantage that everything is finished before integration testing starts.
- Here all component are integrated together at once, and then tested.

20. What is the purpose of exit criteria?

- Purpose of exit criteria is to define when we STOP testing either at the:

✧ End of all testing – i.e. product Go Live
✧ End of phase of testing (e.g. hand over from System Test to UAT)

21. When should "Regression Testing" be performed?

- Regression should be performed whenever your code-base has been modified or altered in any way as well as to verify any previously discovered issues marked as fixed the more often the batter

frequent partial regression testing will help your developer fix the reported defect on time and your project to avoid any long term. Pitfalls and technical debate caused by poor code quality.

22.Difference between QA v/s QC v/s Tester.

QA	QC	Tester
1. -Focuses on process rather than conducting for actual testing on the system.	1. Focuses on actual testing by executing software.	1.Focuses for actual testing .
2. Process oriented activities.	2.Product oriented activities.	2.Product oriented activities.
3.preventive activities.	3. It is a corrective process.	3. It is a preventive process.
4.It is subset of software testing life cycle.	4. QC is a subset of QA.	4. Subset of QC.

23. Difference between Smoke and Sanity?

NO.	Smoke testing	Sanity testing
1.	Smoke testing is performed after software build to ascertain that the critical functionality of the program is working fine.	Sanity testing is done to check the new functionality bugs have been fixed.
2.	The object of this testing is to verify that the "stability"of the system.	The object of this testing is verify that the "rationality"of the system.
3.	Smoke testing is performed by the developer and tester.	Sanity testing is performed by tester.
4.	Smoke testing is usually documented or scripted.	Sanity testing is usually not documented or unscripted.
5.	Smoke testing is a subset of acceptance testing.	Sanity testing is subset of regression testing.
6.	Smoke testing is like general testing.	Sanity testing is like specialized health check up.

24. Explain types of Performance testing.

- performance testing is a means of quality assurance (QA). It involves testing software applications to ensure they will perform well under their expected workload.
- To check the stability of the application by aoolying load (Designed number of users)
- Stability + Response time +Applying load = Performance.
- Types of Performance Testing: Load testing
  Stress testing
  Scalability testing
  Volume testing
  Endurance (Soak) testing
  Spike testing

1) Load testing:

- Stability + response time + applying load (app will withstand with designed no. of users)

- For example : app will handle 1000 users at every 5 sec.

You have to check 1000 or <=1000 users with your app.

2) Stress Testing

- Stability + response time + applying load (app will withstand with designed no. of users)

- For example: app will handle 1000 users at every 5 sec.

You have to check 1000 or >=1000 users with your app.

3) Scalabilitibity Testing

- Stability + response time + applying load (app will withstand with designed no. of users)
- e.g : You are checking the performance of the app. continue with load until your system will be crashed.

app will handle 1000 users at every 5 sec.
1500 usres : 10 sec
2000 usres : 20 sec

4)Volume Testing (Flood Testing)

- Stability + response time + applying load (app will withstand with designed no. of users)
- To check the capacity or volume of database.

5)Endurance Testing (Soak Testing)

- Stability + response time + applying load (app will withstand with designed no. of users)
- e.g : To check how the system will run continuously.

6)Spike Testing

- Stability + response time + applying load (app will withstand with designed no. of users)

- e.g : to check extreme increment or decrement of load according to the response time.

25.What is Error, Defect, Bug and Failure ?

- Error : Mistake in coding is called error.
- Defect : Error found by tester is called Defect.
- Bug : Defect accepted by development team it is called Bug.
- Failure : Build does not meet the requirement.

26.Difference between Priority and Severity.

No	Priority	Severity
1.	Priority is term that defines how fast we need to fix a defect.	Severity is a term that denotes how severely a defect can affect the functionality of the software.
2.	Priority is basically a parameter that decides the order in which we should fix the defects.	Severity is basically a parameter that decides the total impact of a given defect on any software.
3.	The value of priority is subjective.	The value of severity is objective.
4.	The product manager basically decides a defect's priority level.	The testing engineer basically decides a defect's severity level.
5.	There are 3 type of priorities: High,Medium,and Low.	There are 5 types of severities: Cosmetic,Minor,Moderate and critical.

27. What is Bug Life Cycle ?

- The duration or time span between the first time defects is found and the time that it is closed successfully, rejected, postponed or deferred is called as 'Defect Life Cycle'.
- When a bug is discovered, it goes through several states and eventually reaches one of the terminal states, where it becomes inactive and closed.

- The process by which the defect moves through the life cycle is depicted next slide.
- When a bug reaches one of the Closed or Terminal states, its lifecycle ends. Each state has one or more valid states to move to.

28. Explain the difference between Functional testing and Non-functional testing.

NO	Functional testing	Non-functional testing.
1.	Functional testing is executed first.	Non functional testing is executed after functional testing.
2.	To check the fetchers that are directly related to the functionality. EX: click on add to cart button to add the iteam to the cart.	To check the fetchers that are not directly related to the functional but it will mendetary to the check.
3.	Functional testing can be possible by manual testing as well as automation testing.	Non functional testing can be always performed by using tools.
	Business requirement are input for the functional testing.	Performance parameter like a speed , load are input for the non - functional testing.
4.	Easy to do manual testing.	Tough to do manual testing.
5.	EX: Unit testing Integration testing Smoke test White box Black box User acceptance testing	EX: Load testing Stress testing Volume testing Security testing.

29.To create HLR & TestCase of

1)(Instagram , Facebook) only first page

HLR_Instagram	Click here
Testcase for Instagram	Click here

2) Facebook Login Page : https://www.facebook.com/

HLR_Facebook	Click here
Testcase for Facebook	Click here

30.What is the difference between the STLC (Software Testing life cycle) and SDLC (Software Development life cycle) ?

No	***STCL***	***SDLC***
1.	STLC is a sequence of different activities performed during the soft ware testing process.	SDLC is a methodology or step by step approach to produce software with high quality,lowest cost in shortest possible time by defining the phases.
2.	STCL stands for software testing life cycle.	SDLC stands for software development life cycle.
3.	The objective of the STLC is to complete the testing of software successfully.	The object of the SDLC is to complete the development of software successfully.
4.	The STCL will helps to create the software bug free.	The SDLC will help us to develop a good quality software product.
5.	The STLC process needed a smaller number of testers to completed the testing process.	While performing the SDLC process,we needed a greater number of developers to complete the development process.
6.	To check maintenance code deployed, the QA team performs the regression suites.	Once the product has been deployed,the development team includes support and release update.
7.	The STCL phases are completed after SDLC phases.	The SDLC phases are done before the STLC phases.
8.	The various phases includes in STLC are as follows: Requirement .analysis Test planning Test case development Test environment set-up Test execution	The various phases includes in SDLC are as follows: Planning Analysis Designing Coding Testing

	Test cycle closure.	Maintenance

31. What is difference between test scenarios, test cases and test script?

No	*Test scenarios*	*Test cases*	*Test script*
1.	A Scenario is any functionality that can be tested.	The test cases are set of input and output given to the system.	Set of sequential instruction to execute business functions.
2.	It is also called test condition or test possibility.	Test cases are detailed step by step information to verify the functionality.	Test script is a piece of code that is used to test the functionality.
3.	Is derived from test artifacts like business requirement specification and software requirement specification.	Is a mostly derived from test scenarios.	Is a mostly derived from test cases.
4.	Is a more focused on what to test.	Is focused on want to test and how to test.	Is focused on the expected result.

32. Explain what Test Plan is ?What is the information that should be covered.

- **Test Planning :** A document describing the scope, approach, resources and schedule of intended test activities.
- Determining the scope and risks, and identifying the objectives of testing.
- Defining the overall approach of testing (the test strategy), including the definition of the test levels and entry and exit criteria.
- All projects require a set of plans and strategies which define how the testing will be conducted.
- Test planing factors: The organisation's test policy
  Testing objectives

Criticality
Scope of the testing being performed
Testability
Project Risks

33. What is priority?

- Priority is term that defines how fast we need to fix a defect.
- Priority is basically a parameter that decides the order in which we should fix the defects.
- Priority relates to the scheduling of defects to resolve them in software.
- The value of priority is subjective.
- The value of Priority changes from time to time.
- The product manager basically decides a defect's priority level.

34. What is severity?

- Severity is a term that denotes how severely a defect can affect the functionality of the software.
- Severity is basically a parameter that denotes the total impact of a given defect on any software.
- Severity relates to the standards of quality.
- The value of severity is objective.
- The value of Severity changes continually from time to time.
- The testing engineer basically decides a defect's severity level.

35. Bug categories are…

- Bug : Defect accepted by development team it is called Bug.
- Bug categories are……Functional Bugs
  Performance Bugs
  Usability Bugs
  Compatibility Bugs
  Unit- level Bugs
  Security Bugs
  Syntax Bugs .

36. Advantage of Bugzilla .

- Bugzilla is a “defect tracking system” that allows individuals or groups of developers to keep track of outstanding bugs in their product effectively.
- Despite being free, Bugzilla has many features expensive counterparts lack.
- It was developed using free open source tools and is itself free.

37. Difference between priority and severity.

No	Priority	Severity
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5.	There are 3 type of priorities: High,Medium,and Low.	There are 5 types of severities: Cosmetic,Minor,Moderate and critical.

38. What are the different Methodologies in Agile Development Model?

- Agile is based on Iterative – Incremental approach for project management and software development that helps a team to deliver faster values to their customers. Requirements, plans, and results are evaluated continuously so teams have a natural mechanism for responding to change quickly.
- Manifesto for Agile Software Development:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan
- Different methodologies in agile development model is:
  1. Scrum
  2. Kanban
  3. XP
- Scrum:

  Scrum is the most popular Agile framework, defined by the Scrum Guide.

  Scrum is a framework through which we build software product by following Agile principles.

  Scrum includes group of people called a scrum team. Normally contains 5 to 9 members.

  Roles of scrum:

  1. Product Owner
  2.Scrum Master
  3.Scrum Team

  Artifacts of scrum:

  1. Product Backlog
  2. Sprint Backlog
  3. Burn-down Charts

  Ceremonies of scrum:

  1. Spint Planning
  2. Sprint Review
  3. Sprint Retrospective
  4.Daily Scrum Meeting

- Kanban:

  Kanban is a very popular framework for development in the agile software development methodology.

  It provides a transparent way of visualizing the tasks and work capacity of a team.

  The Kanban board has columns and story cards.

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

No.	Authorization	Authentication
1.	While in authorization process, a the person's or user's authorities are checked for accessing the resources.	In the authentication process,the identity of users are checked for providing the access to the system.
2.	While this process is done after the authentication process.	It is done defore the authrization process .
3.	While it needs the users privilege or security levels.	It needs usually the users login details.
4.	The user authorization is not visible at the user end.	The user authentication is visible at user end.

40. To create HLR & TestCase of WebBased (WhatsApp web , Instagram)

1. WhatsApp Web : https://web.whatsapp.com/.

HLR_Whatsapp WEB	Click here
Testcase_Whatsapp WEB	Click here

3. instagram web :

HLR_Instagram WEB	Click here
Testcase_Instagram WEB	Click here

41. To create HLR and Test Case on this Link. https://artoftesting.com/

HLR_ArtOfTesting	Click here
Test case_ArtOfTesting	Click here

42. Write a scenario of only Whats app chat messages

Test scenario of whatsapp chat message	Click here

43.Write a Scenario of Pen

Test scenario of pen	Click here

44. Write a Scenario of Pen Stand

Test scenario of penstand	Click here

45. Write a Scenario of Door

Test scenario of Door	Click here

46. Write a Scenario of ATM

Test scenario of ATM	Click here

47. When to used Usability Testing?

- To check the user friendliness of the application.
- For example: Radio button, text box, drop-down list, all the controls should be alien properly. If drop-down list is available, then user can select the particular item without typing.

48. What is the procedure for GUI Testing?

- GUI (Graphical User Interface)

- GUI testing involves checking the screens with the controls like menus, buttons, icons and all types of bars, tool-bar, menu-bar, dialogue boxes and windows etc.
- Approach of GUI testing type:
- 1. Manual based testing
- 2. Record and Reply
- 3. Model based testing

49. Write a scenario of microwave oven

Test scenario of Microwave oven	Click here

50. Write a scenario of Coffee vending Machine

Test scenario of Coffee vending machine	Click here

51. Write a scenario of chair

Test scenario of Chair	Click here

52. To Create Scenario (Positive & Negative)

G mail (Receiving mail)

Test scenario of Gmail	Click here

On-line shopping to buy product (flipkart)

Test scenario of flipkart	Click here

53. Write a Scenario of Wrist Watch

Test scenario of Wrist watch	Click here

54. Write a Scenario of Lift(Elevator)

Test scenario of Lift(Elevator)	Click here

55. Write a Scenario of whatsapp Group (generate group)

Test scenario of Whatsapp Group	Click here

56. Write a Scenario of Whatsapp payment

Test scenario of Whatsapp payment	Click here