**Software Testing Assignment**

**Module – 2 (Manual Testing)**

1. **What is Exploratory testing?**

* Exploratory testing is a type of software testing where the test cases are not created in advance but tester check system on the fly.
* The test design and test execution activities are performed in parallel typically without formally documenting the test conditions, test cases or test scripts.

1. **What is traceability Matrix?**

* A Traceability Matrix is a table type document that is used in the development of software application to trace requirements.
* A Traceability Matrix is a Document that co-relates any two baseline documents that require a many to many relationship to check the completeness of the relationship.

1. **What is Boundary value testing?**

* Boundary value testing/analysis is a methodology for designing test cases that concretes software testing effort on cases near the limit of valid ranges.
* Boundary value testing/analysis is one of the widely used cases design technique for black box testing. It is used to test boundary values because input values near the boundary have higher chances of error.

1. **What is Equivalence Partitioning testing?**

* **Equivalence Partitioning is the process of defining the optimum number of test by reviewing documents such as the functional design specification and detailed design specification, and identifying each input condition within function, select input data that is representative of all other data that would likely invoke the same process for that particular condition.**
* **Equivalence Partitioning** or Equivalence Class Partitioning is type of black box testing technique which can be applied to all levels of software testing like unit, integration, system, etc. In this technique, input data units are divided into equivalent partitions that can be used to derive test cases which reduces time required for testing because of small number of test cases.

1. **What is integration testing?**

* Integration testing is performed to expose defects in the interfaces and in the interactions between integrated components or systems.
* Integration testing is a level of the software testing process where individual units are combined and tested as group.

1. **What is determines the level of risk?**
2. **What is Alpha testing?**

* Alpha Testing is always performed by the developers at the software development site Sometimes it is performed by independent testing team.
* **Alpha Testing** is a type of software testing performed to identify bugs before releasing the software product to the real users or public. It is a type of acceptance testing. The main objective of alpha testing is to refine the software product by finding and fixing the bugs that were not discovered through previous tests.

1. **What is beta testing?**

* Beta testing is a type of **User A**cceptance **T**esting among the most crucial testing, which performed before the release of the software. Beta Testing is a type of Field Test. This testing performs at the end of the **software** testing life cycle. This type of testing can be considered as external user acceptance testing. It is a type of salient testing. Real users perform this testing. This testing executed after the alpha testing. In this the new version, beta testing is released to a limited audience to check the accessibility, usability, and functionality, and more.
* Beta testing is the last phase of the testing, which is carried out at the client's or customer's site.

1. **What is component testing?**

* Component testing is the testing of individual software components.
* Component testing is used to test all the components separately as well as the usability testing; interactive valuation is also done for each specification component. It is further known as module testing or program testing or unit testing.

1. **What is Functional system testing?**

* Functional system testing is based on analysis of the specification of the functionality of a component or system.
* Functional System testing is used to verify the functionality of the software application, whether the function is working according to the requirement specification.

1. **What is Non-Functional testing?**

* Non Functional testing is testing the attributes of a component or system that do not relate to functionality, e.g. reliability, efficiency, usability, interoperability, maintainability and portability.

1. **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.

1. **What is Adhoc testing?**

* Adhoc testing is an informal testing type with an aim to break the system and it is not create test cases.
* Main aim of this testing is to find defects by random checking and Adhoc testing can be achieved with the testing technique called Error Guessing.

1. **What is load testing?**

* Load testing is 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.

1. **What is stress testing?**

* Stress 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.
* Stress Testing is done to make sure that the system would not crash under crunch situations.
* Stress testing is also known as endurance testing.

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

* White Box Testing: Testing based on an analysis of the internal structure of the component or system.
* Structure based testing technique is also known as white-box or glass-box testing technique because here the testers require knowledge of how the software is implemented, how it works.
* **Types or Techniques of White box testing** 
  + **Structure Based(**Based on code and design of the system**)**
    - **Statement coverage**
    - **Brach coverage**
    - **Decision coverage**
  + **Experience Based(**Based on the knowledge of the tester**)**
    - **Grey Box**
    - **Error Guessing**
    - **Exploratory testing**

1. **What is black box testing? What are the different black box testing techniques?**

* Black-box testing is either functional or non-functional, without reference to the internal structure of the component or system.
* The technique of testing without having any knowledge of the interior workings of the application is Black Box testing.
* Black Box testing techniques
  + **Specification Based(**Based on requirements**)**
    - **Equivalence Partitioning**
    - **Boundary value analysis**
    - **Decision table**
    - **State transition testing**
    - **Use case testing**

1. **Mention what are the categories of defects?**

* Types/Categories of Defects or Bug
  + **Data quality/Data base defect**
  + **Critical Functionality defect**
  + **Functionality defect**
  + **Security defect**
  + **User interface defect**

1. **Mention what big bang testing is?**

* In Big Bang integration testing all components or modules is integrated simultaneously, after which everything is tested as a whole.

1. **What is the purpose of exit criteria?**

* Purpose of exit criteria is to define when to stop testing either at the end of all testing – i.e. product go live

1. **When should “Regression Testing” be performed?**

* Regression testing has been performed at a previously tested program following modification to ensure that defects have not been introduced or uncovered in unchanged areas of the software, as a result of the changes made.
* It is performed when the software or its environment is changed.

1. **What is 7 key principles? Explain in detail?**
2. **Difference between QA v/s QC v/s Tester.**
3. **Difference between Smoke and Sanity.**
4. **Difference between Verification and Validation.**
5. **Explain types of Performance testing.**
6. **What is Error, Defect, Bug and Failure?**
7. **Difference between Priority and Severity.**
8. **What is Bug Life Cycle?**
9. **Explain the difference between Function testing Non Functional testing.**