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Software Testing Unit 1 Assignment

1.What is Software testing and explain the need of Software testing

Ans:

Software testing is the process of evaluating and verifying that a software product or application does what it is supposed to do. The benefits of testing include preventing bugs, reducing development costs and improving performance.The testing is important since it discovers defects/bugs before the delivery to the client, which guarantees the quality of the software. It makes the software more reliable and easier to use. Thoroughly tested software ensures reliable and high-performance software operation.

2.What are the processes involved in quality management

Ans:

Project Quality Management consists of the following major processes

- Quality Planning (Planning Process)

- Quality Assurance (Execution Process)
- Quality Control (Control Process)
- Quality Improvement

3.What is the difference between verification and Validation?

Ans:

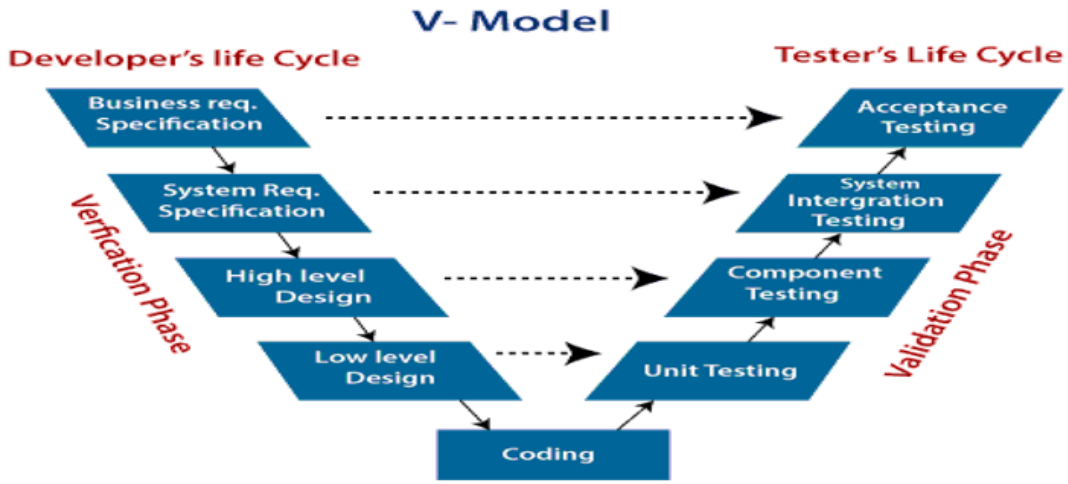
Verification: It involves a static analysis method (review) done without executing code. It is the process of evaluation of the product development process to find whether specified requirements meet.

Validation: It involves dynamic analysis method (functional, non-functional), testing is done by executing code. Validation is the process to classify the software after the completion of the development process to determine whether the software meets the customer expectations and requirements.

4.Expalin the v-model in software testing.

Ans:

V-Model also referred to as the Verification and Validation Model. In this, each phase of SDLC must complete before the next phase starts. It follows a sequential design process same as the waterfall model.Testing of the device is planned in parallel with a corresponding stage of development.



5.Explain the different levels of testing

Ans:

Unit Testing
A unit is a single component or module of a software. Unit testing conducts on a single program or single module. Unit Testing is white box testing technique. Unit testing is conducted by the developers.

Integration Testing
Integration testing performed between 2 or more modules. Integration testing focuses on checking data communication between multiple modules. Integration Testing is white box testing technique

System Testing
Testing over all functionality of the application with respective client requirements. It is black box testing technique. This testing is conducted by testing team. After completion of component and integration level testing we start System testing. Before conducting system testing we should know the customer requirements.

User Acceptance Testing (UAT)
After the completion of the system testing, UAT team conducts acceptance testing in 2 levels
ALPHA TESTING: The customers will come back to the company and do some testing
BETA TESTING: Install the software in user environment and do testing

6.Explain the Software Testing life cycle.

Ans:

Software Testing Life Cycle (STLC) is **a process used to test software and ensure that quality standards are met**. Tests are carried out systematically over several phases. **Software Testing Life Cycle (STLC) is a sequence of specific activities conducted during the testing process to ensure software quality goals are met.STLC involves both verification and validation activities.**

There are following six major phases in every Software Testing Life Cycle Model (STLC Model):

1. Requirement Analysis

Requirement Phase Testing also known as Requirement Analysis in which test team studies the requirements from a testing point of view to identify testable requirements and the QA team may interact with various stakeholders to understand requirements in detail.

2. Test Planning

Test Planning in STLC is a phase in which a Senior QA manager determines the test plan strategy along with efforts and cost estimates for the project. Moreover, the resources, test environment, test limitations and the testing schedule are also determined.

3. Test case development

The Test Case Development Phase involves the creation, verification and rework of test cases & test scripts after the test plan is ready.

4. Test Environment setup

Test Environment Setup decides the software and hardware conditions under which a work product is tested.It is one of the

critical aspects of the testing process and can be done in parallel with the Test Case Development Phase.

5. Test Execution

Test Execution Phase is carried out by the testers in which testing of the software build is done based on test plans and test cases prepared.

6. Test Cycle closure

Test Cycle Closure phase is completion of test execution which involves several activities like test completion reporting, collection of test completion matrices and test results. Testing team members meet, discuss and analyze testing artifacts to identify strategies that have to be implemented in future, taking lessons from current test cycle.