Java Institute for Advanced Technology

UNIT NAME: SOFTWARE ENGINEERING II

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1. What is the test planning and explain it major task?

Test design is the process of defining the specifications of test activities and the objectives of the test to meet the objectives and mission. In testing planning, when planning tests, make sure to understand the customer, stakeholders, and project goals. Also, analyzed the risks that the test is intended to address. The design of the testing process begins at the very beginning of the software development project. The main task of planning is to determine the testing strategy or approach.

Major Task:

- Determining the scope and risks and identifying the purpose of the test.
- Determine the test approach.
- Implement testing policy and/or testing strategy.
- Determine the required test resources
- Schedule test analysis and design tasks, test execution, execution, and evaluation.
- Determine the exit criteria.

2. What are the components should be covered in a software test plan.

- Scope
  Describe the objectives of the specific project. Also, it describes user instances to use in testing. If necessary, the scope may specify instances or issues not covered by the project.

- Schedule
  Details start dates and timeframes for testers to provide results.

- Resource Allocation
  Details of what tests will be performed.

- Environment
  Describes the nature, configuration, and existence of the test environment.

- Tools
  Describes what tools should be used for testing, error reporting, and other related activities.

- Defect Management
  Describes how to report errors, to whom and what should be associated with each error report.

- Risk Management
  Describes the risks involved in testing software and the risks to the software itself if it is released without adequate testing.

- Exit Parameters
  Details on when test activities should be stopped. This section describes the expected results from QA operations, giving the testers a benchmark to compare with the actual results.

3. What should a test plan test?

All information on why testing, how to test, when to start, when to stop, what tools to use, what data to use, how to pass/fail a test, and how to test everything in a responsible software The plan contains. Of test engineers. The test plan checks the software for any errors that may cause the client to fail. The test, therefore, includes code testing, input/output testing, user interface testing infrastructure issues, and more.

4. What are the major tasks Test implementation and execution?

- Development of implementation and prioritization of testing opportunities.
- Develop and prioritize test action procedures, create test data and, alternatively, prepare test strips and write automated test documents.
- Designing test kits from test procedures to implement efficient tests.
- Ensure that the test environment is set up correctly.
- Execute test procedures according to aircraft sequence, manually or using test execution tools.
- Record test execution results and record identities and versions of the software under tests, test tools, and test equipment.
- Comparing the actual results with the expected results.
- Report anomalies as included and analyze them to confirm their cause.

5. What is successful test?

Successful software testing is the result of careful execution through increasingly complex tests, techniques, platforms, and a series of automated software.

6. What is the difference between verification and validation?

- Verification
  Verification is the process of testing whether a software is achieving its goal without any errors. It is the process of verifying that the product is accurate. It verifies that the developed product meets the requirements we have. Verification is a static test.

- Validation
  Validation is the process of testing whether a software product is up to standard or, in other words, the product has high requirements. It is the process of checking the validity of a product, that is, it tests whether what we are developing is the right product. It is the validity of the actual and desired product. Validation is a dynamic test.

  Inputs can be divided into two types:
    - Received from development.
    - Produced from the test phases at the end of STLC.

7. Explain the entry criteria of test

Admission criteria for testing can be defined as "specific conditions or existing activities that must be present before starting a process". The Software Testing Life Cycle (STLC) sets the required access criteria for each test phase. It defines the time interval or expected lead time to obtain the criterion item to enter the process.

8. Write down steps to create a test plan

- Product Analysis
- Designing Test Strategy
- Defining Objectives
- Establish Test Criteria
- Planning Resource Allocation
- Planning Setup of Test Environment
- Determine test schedule and estimation
- Establish Test Deliverables

9. What is the Test Environment?

Once the software tests are designed, an interface is required to run them. This interface is called the test environment. It is designed to integrate hardware, software, proper network configuration, and data needed to run tests. Essentially, the test environment must mimic the production environment.

The test environment (sometimes referred to as the test bed) should be configured according to the requirements of the software being tested. Regardless of the test project, the test environment must be set up correctly to ensure that the software is running at the correct level, which eliminates errors that occur in the real world.

10. Explain exit criteria of test

Exit criteria in tests are often regarded as a single document recalling the end of a life cycle. It can be defined as "specific conditions or existing activities that must be met prior to the completion of the software testing life cycle. STLC specifies the required exit criteria at each test stage.