**What is software development life cycle (SDLC)?**

SDLC is process of methodology to used develop software in a systematic way

Basically SDLC has 6 phases:

* Gathering requirements(Business Analyst/Business Team)
* Planning analysis(Technical Manager/Senior Manager)
* Design analysis(System architecture/Technical Lead)
* Development/Coding(Developers Team/Developers)
* Testing(Tester)
* Release(Release Team/Project Manager/Maintenance Team)

Who is the people involved with SDLC?

* Business analyst[Gather and create requirements ]
* Developers[writing programming code]
* QA/Testers[verify that the software meets with the requirements]
* Project manager[manages the overall project to ensure it stays within budget and on time]

Why is software testing necessary?

* To prove to the customer that application is problem free
* To ensure the application is working as user requirements
* Testing helps increase the reliability of software also improving the quality of software
* To discover the defects or bugs and determine the root causes of issues

What is the requirement analysis?

* Business analyst will meet the client-gather requirements
* Business analyst then defines and documents the business requirement and gets final approval from client
* Once the client approved the BAs work. Business analyst creates a documents with formalized business requirements(BRD)
* Then the (BRD) is approved by Project Manager
* After approved by project manager. The business analyst begin the task of converting the business requirements documents of technical requirements[SRS]

What is design phase?

* Main contributor-System architecture, Senior developers, Project Manager
* Developers are planning their work(planning how they will develop the software application )
* A design approach defines clearly all the architecture modules of the product along with its communication and data flow representation with external modules

What is the development phase?

* Actual development of the software application begins and the application is built
* Developers are use technical requirements found in the SRS and the design documents [DDS] as a guide to know what and how to develop the application

What is the QA/Testing Phase?

* Main contributors-QA/Testing team
* Once programming code is developed by developers, the application is tested against the requirements.
* To prove to the customer that application is problem free
* To ensure the application is working as user requirements
* Testing helps increase the reliability of software also improving the quality of software
* To discover the defects or bugs and determine the root causes of issues

What are the types of testing?

1. Functional testing: Determines if the application is working (functioning) the way it’s supposed to be

* Unit testing
* Integration testing
* Regression testing
* System testing
* Acceptance testing

1. Non-Functional Testing: Determines how efficiently the application is working

* Performance testing
* Load testing
* Stress testing
* Security testing

What is the production/implementation phase?

* Also known as deployment phases
* After application has been successfully tested all the issues have been resolved the product is delivered to client
* As soon as product is deployed to customer. The customer do first beta test
* If any changes are required or if any bugs are found, the client will report to the development team
* After the change are made and the bug are fixed, the final deployment will happen

What are the maintenance phases?

* Once the client starts using the finished application. It may encounter problem or issues that send to the testing [Testing team]
* Additionally, finished team need to be updated time to time
* To deal these issues, the development team(BAs, Developers, Testing Team) work to maintain finished application
* When issues are found the client help desk team figure out to verify the issues
* If they found legal issue that pass to the testing team for further analyze the issues

What is the STLC?

* Software testing life cycle
* The process or approach testing a software is in well planned or systematic way

What will be the steps for test case?

1. Every test case must have the following step:

* Test case ID
* Test case NAME
* Test case DESCRIPSION
* Step NAME
* Sep DESCRIPSION
* Expected Result
* RTM Information

Why need to be test case review meeting?

* Review meeting are held to ensure that the test case are testing according to requirements and that appropriate data is being used
* Before going to such a meeting with test lead, I have to go through test cases and associated requirements to make sure I have written test case correctly

How to find out defects?

* Defects are reported using defect tracking tool(ALM,JIRA etc)

When test case will execute and where will be released?

* Test case are executed after UNIT testing is completed and the build has been released to the QA environment

What should to do the final testing?

* In final testing basically do stress testing, performance testing, load testing

What is test strategy testing?

* Test strategy is defined as a set of guiding principle that focused test design and regulates how needs to be done

What is test plan?

* Test plan is defined as a document that which outlines scope, objective, method and weight on a software testing task

What is manual testing?

* Manual testing is the process of manually testing software for defects(without using any automation tools or scripts)
* A tester play to role of an end user and test the software to identify any unexpected defects or bugs

What is the difference stage of manual testing?

* Unit testing
* Regression testing
* System testing
* User Acceptance Testing(UAT)

What is the functional testing?

* Functional testing is a type of testing which verifies that each function of a software application operates in conformance with requirements specification

Type of functional testing are given bellow

What is the unit testing?

* Unit testing is a level of software testing where individual units/components of a software are tested,
* The purpose is to validate that each unit of software performs according to designed or requirements
* The objectives of unit testing is to isolate a section of code and verify its correctness

What is integration testing?

* Integration testing is a level of software testing where individual units are combined and tested as a group
* The purpose of integration testing is to verify the functional, performance and reliability between the modules that are integrated.

What is system testing?

* System testing is the first software testing in software development life cycle. Where the application is tested as whole
* The application is tested thoroughly to verify that it meets the functional and technical specification

What is the regression testing?

* Whenever a change in the application is made, it is possible that some related area within the application may have been affected by the change
* It ensures that old code still work once the new code change are done

What is the difference of retesting and regression testing?

1. **Re-Testing**: After a defect is detected and fixed, the software should be retested to confirm that the original defect has been successfully removed. This is called Confirmation Testing or Re-Testing
2. **Regression testing**:  In a software application whenever it undergoes a code change to ensure that the new code has not affected other parts of the software.

What is the acceptance testing?

* Acceptance testing, a testing performed to determine whether or not the software system has met with the requirements specification.
* The main purpose of this test is to evaluate the system compliance with the business requirement and verify it has met with requirement criteria for delivery to end user

What is alpha testing?

* Alpha testing take place of developer’s side by internal team. Before release to external customer
* This testing is performed without the involvement of development team

What is beta testing?

* Beta testing also known as user testing take place at the end user site by end user to validate, functionality, capability and reliability of testing
* Beta testing also known as pre-release testing

What is Non-Functional testing?

* Non-functional testing is a software testing technique that verify the attribute of software system or behavior such as performance testing

What is performance testing?

* Performance testing is a type of testing to ensure software application will perform well under their expected workload
* The software application performance like it’s response time, reliability, resources usage and stability do matter
* The goal of performance testing is not only to find out bugs but also to eliminate performance
* Speed: determines whether the application responds quickly
* Scalability: determines maximize user load the software application can handle
* Stability: determines the application is stable under varying load

What are the types of performance testing?

* Load testing: check the application ability to performance under expected user loads, the objective is to identify performance bottlenecks before software application goes to live
* Stress testing: when an application under extreme workload to see how it handles high traffic or data processing, the objective is to identify breaking point of an application
* Volume testing: