**Software Development Life Cycle**

**SDLC- Software Development Life Cycle** is the process for the software developers and project managers to design, develop, test, and deploy software. The SDLC provides a framework that ensures quality and correctness while minimizing risks and errors.

SDLC have the lots of model like Waterfall ,Agile model etc…

Waterfall model is a linear and sequential approach to software development. Each phase must be completed before the next one begins, with no overlapping between phases.

Agile model is unlike traditional models like the Waterfall model, which follows a linear and sequential process, Agile focuses on iterative development, where requirements and solutions evolve through collaboration between cross-functional teams.

In agile model we are using the SAFe -Scaled Agile Framework

In SAFe we have to work like ,

Requirement + Code + Testing + Deployment

In Requirement the Business Analyst can analyze the requirements and given the user story to the QA team. In the user story we have the acceptance condition, QA team will work on that acceptance condition. If there is any bug happen in the QA, the QA team will give the work to Development team and then the development team can fix the work then the QA team will retest the condition. This is called as **Behavior Driven Development(BDD) .**

**BDD-Behavior Driven Development:**

BDD is a agile software development methodology that encourages collaboration among developers, testers and business stakeholders to create a shared understandings of how an application should behave.

**Software Testing Life Cycle**

The STLC defines the testing process, from planning and preparation to execution and reporting, to ensure that the software meets the required quality standards.

In STLC ,

**1.Analysis we will do,**

* **Estimate**-Estimate the requirements, time, resources and costs.
* **Schedule**-scheduling involves planning and allocating time for each phase of the testing process to ensure that testing activities are completed on time and that the overall project timeline is met.
* **Risks & Dependencies**-Risks in testing it ensures that the testing activities are meets our requirements or not and it is identifying and monitoring the risks happen while testing.
* **Clarification log**- Clarification log is a document to track and manage queries, clarifications, and resolutions related to project requirements, design, or other aspects.

**2.Design we will do,**

* **Test Cases** – In this we can write the test cases according to user requirements
* **Test data requirements**- In test data we can create and manage the test data for the testing the application.

**3.Execution we will do,**

* **Execute Test Case**- in this we can execute out test cases and check whether the test case pass or fail.
* **Defect Management**- this is used for identifying, tracking and documenting during testing. If we are finding any bugs or error while testing we can track and document the bug.
* **Status Reporting**- after completing the testing we will report the current status, where we are in that task, track the progress of activities.

After finishing these things in STLC finally we made the Test Summary Report for this testing.

**Scenario:**

Scenario is the process of detailed description of a situation or use case that is tested to ensure the software behaves as expected under certain conditions. It is used to validate the functionality, performance of the software.

We are using cucumber tool for the testing,

**Cucumber** is a tool used for behavior-driven development (BDD) that allows you to write test scenarios in a language that is easily understandable by non-technical stakeholders.

**Given:** Sets up the initial context or preconditions for the scenario.

**When:** Describes the action or event that triggers the scenario.

**Then:** Specifies the expected outcome or result of the action.

**And / But:** Used to add more steps or conditions within a scenario.