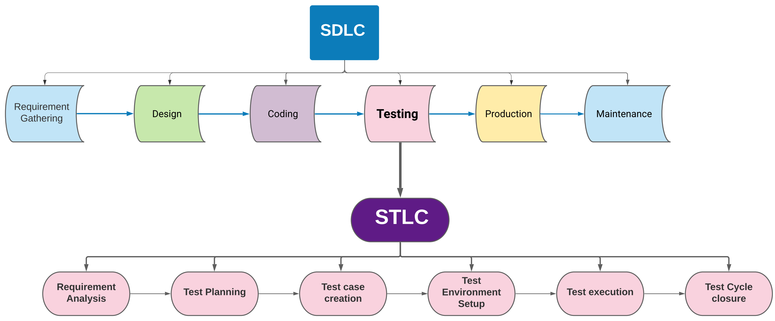
What is STLC?

- STLC stands for **Software Testing Life Cycle**
- ***Systematic*** *and* ***well-defined*** *steps performed during the testing of a software application*
- STLC helps in a better understanding of the application which results in overall better testing
- STLC also helps to identify bugs from the app and report it

STLC Steps:

1. Requirement Analysis
2. Test Planning
3. Test case creation
4. Test Environment setup
5. Test Execution
6. Test Cycle closure



Step 1: Requirement Analysis

- Testing team studies the **requirement doc in Waterfall**
- ***In Agile***, requirement is user story, each tester has one story at a time to analyze
- It is important to **understand** the client's request for the project
- Analyze if the story can be automated ? Is it about front-end functionality or back-end?

Step 2: Test Planning

- In **Waterfall**, there is a **test plan document** must created
- In ***Agile***, planning testing is handled through a meeting **with or without** a test plan document
- Test Plan document generally **prepared by the QA lead** or Senior QA **in Agile**
- Many scrum team creates **one test plan per release**
- Click here to see a sample test plan document

Components of A Test Plan	
Items in test plan template	**What do they contain?**
Introduction	Purpose of the test plan document Project brief introduction
Test strategy	Testing framework - BDD cucumber framework Scope of testing - Testing types list & overall info Environments
Schedule	Sprint cycles -starting & ending date
Roles & Responsibilities	Team members are listed How to track bugs? - e.g: jira Who is going to be in charge?
Recourses	Software lists - e.g: VM, jira, github Hardware list - e.g: HP
Risks & Mitigation	Potential / possible risks are listed What to do in case of problems?
Approvals	The Names and Titles of all persons who must approve this plan

Step 3 : Test case creation

- QA creates test case for per requirement

- also prepare/ generate **test data**
- create automated **test script** / code also done in this step

Test data:

- **Input** to perform both positive and negative test cases
- Test Data can be Generated:
  - Manually from dummy data generator website
  - Mass copy of data from production
  - Mass copy of test data from legacy client system
  - Automated Test Data Generation Tools

Your functional test cases can have:

- **No data**: Check system response when no data is submitted
- **Valid data**: Check system response when Valid test data is submitted
- **Invalid data**: Check system response when *InValid* test data is submitted

Step 4 : Test Environment Setup

- testers should make sure all the new codes are deployed to the QA/test environment
- The different types of testing manual, automated, performance, etc are carried out here.

Step 5 : Test Execution

- manual and automated test case execution
- expected result vs actual result
- create bug report if expected and actual results are not match
- use various languages, tools and framworks to execute a test case

Step 6 : Test Closure

- checking if all the project deliverables are delivered
- test lead and business team generate reports to eveluate and learn from the process