1. Models of SDLC

* Waterfall SDLC Model
* Iterative SDLC Model
* Agile SDLC Model
* V model
* Spiral SDLC Model
* Incremental SDLC Model

1. STLC

Software Testing Life Cycleis 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 different stages of STLC they are

* + - 1. Requirement Analysis
      2. Test Planning
      3. Testcase Development
      4. Test Environment setup
      5. Test execution
      6. Test Closure

1. Risk factors in test plan
   * + 1. Strict deadlines – Changes in the requirements affects the deadline
       2. Poor management – If tasks are not allocated and monitored clearly it affects the deliverables.
       3. Problems with the code – Leads to more defects and increases the execution time
       4. Changes in the business environment – Repeating the same tasks needs lot time.
       5. Limited resources for testing – Improper resources planning leads to unidentified defects.
       6. [Unexpected delays during testing](https://www.bing.com/ck/a?!&&p=be83ef33ac002277JmltdHM9MTcyNTg0MDAwMCZpZ3VpZD0wMmE1MWNkYi0zY2YxLTZmNTQtMDMwMy0wYzg4M2Q1YzZlMTMmaW5zaWQ9NTc5Nw&ptn=3&ver=2&hsh=3&fclid=02a51cdb-3cf1-6f54-0303-0c883d5c6e13&psq=what+are+the+risk+factors+in+test+plan&u=a1aHR0cHM6Ly93d3cudGVzdHJhaWwuY29tL2Jsb2cvY3JlYXRlLWEtdGVzdC1wbGFuLw&ntb=1).
2. QA vs QC :
   * + 1. Quality Assurance is aimed to avoid the defect, whereas Quality control is aimed to identify and fix the defects.
       2. Quality Assurance provides assurance that the quality requested will be achieved, whereas Quality Control is a procedure that focuses on fulfilling the quality requested.
       3. Quality Assurance is done in the software development life cycle, whereas Quality Control is done in the software testing life cycle.
       4. Quality Assurance is a proactive measure, whereas Quality Control is a Reactive measure.
       5. Quality Assurance requires the involvement of all team members, whereas Quality Control needs only a testing team.
       6. Quality Assurance is performed before Quality Control.
3. Difference between Manual and Automation testing:

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| --- | --- | --- |
| **Parameter** | **Manual Testing** | **Automation Testing** |
| **Definition** | Software testing done by engineers to ensure that the software application has all the functionalities required by the customer. | Software testing involves the use of tools to ensure that an application meets quality standards. |
| **Doer** | Human resources | Testing tools |
| **Operating System (OS) compatibility** | Depends on the tester | Works with different platforms and coding languages |
| **Frequent Changes** | Small changes do not need drastic execution level changes | Scripts must be modified for the smallest changes |
| **Use Case** | Usability, Exploratory, Ad hoc Testing, frequently changing application under test (AUT). | Performance Testing, Regression Testing, Load Testing, repetitive functional test cases. |
| **Parallel Execution** | Yes, but requires more human resources | Yes, can execute on different operating platforms |
| **Feasibility** | When test cases are run a few times, like exploratory testing | When test cases are run repeatedly over time, like in regression testing |
| **Build Verification Testing (BVT)** | Difficult to implement | Very useful in execution |
| **Framework** | None. Uses checklists, guidelines, processes, etc. | Keyword, Data Driven, Hybrid, etc. |
| **Test Reports** | Not available easily, stored in Word/ Excel | Easy access to results for all stakeholders. |