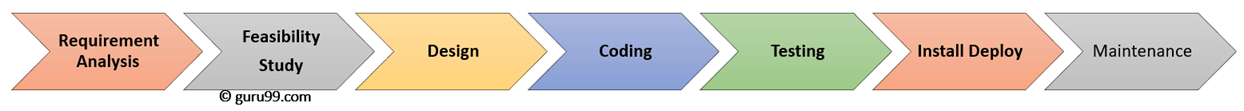
**What is SDLC?**

1. **SOFTWARE DEVELOPMENT LIFECYCLE (SDLC)** is a systematic process for building software that ensures the quality and correctness of the software built.
2. SDLC process aims to produce high-quality software that meets customer expectations.
3. SDLC consists of a detailed plan which explains how to **plan, build, and maintain specific software.**
4. Every phase of the SDLC life cycle has its own process and deliverables that feed into the next phase.

**SDLC Phases**

The entire SDLC process divided into the following stages:



* Phase 1: Requirement collection and analysis
* Phase 2: Feasibility study:
* Phase 3: Design:
* Phase 4: Coding:
* Phase 5: Testing:
* Phase 6: Installation/Deployment:
* Phase 7: Maintenance:

**Phase 2: Feasibility study:**

This process conducted with the help of 'Software Requirement Specification' document also known as **'SRS'** document. It includes everything which should be designed and developed during the project life cycle.

**There are mainly five types of feasibilities checks:**

* **Economic:**Can we complete the project within the budget or not?
* **Legal:** Can we handle this project as cyber law and other regulatory framework/compliances.
* **Operation feasibility:** Can we create operations which is expected by the client?
* **Technical:** Need to check whether the current computer system can support the software
* **Schedule:** Decide that the project can be completed within the given schedule or not.

**Phase 3: Design:**

* SRS is the reference for product architects to come out with the best architecture for the product to be developed.
* Based on the requirements specified in SRS, usually *more than one design approach for the product architecture is proposed and documented in a DDS - Design Document Specification.*
* This DDS is reviewed by all the important stakeholders and based on various parameters **as risk assessment, design modularity, budget and time constraints, the best design approach is selected for the product.**

### Phase 4: Coding:

* Once the system design phase is over, the next phase is coding. In this phase, developers start builds the entire system by writing code using the chosen programming language.
* In the coding phase, tasks are divided into units or modules and assigned to the various developers.
* It is the longest phase of the Software Development Life Cycle process.

### Phase 5: Testing:

* During this phase, QA and testing team may find some bugs/defects which they communicate to developers. The development team fixes the bug and sends back to QA for a re-test.

### Phase 6: Installation/Deployment:

Once the software testing phase is over and no bugs or errors left in the system then the final deployment process starts. Based on the feedback given by the project manager, the final software is released and checked for deployment issues if any.

### Phase 7: Maintenance:

Once the system is deployed, and customers start using the developed system, following 3 activities occur

* Bug fixing - bugs are reported because of some scenarios which are not tested at all
* Upgrade - Upgrading the application to the newer versions of the Software
* Enhancement - Adding some new features into the existing software

## Popular SDLC models

1. Waterfall model
2. Incremental Approach
3. V-model
4. Agile model
5. Spiral Model
6. Big bang model

