**Software development Life cycle:**

**What is the software development life cycle?**

Software development life-cycle is a systematic approach used to develop design and test good quality software. It has multiple phases which are necessary to run systematically to create top-notch software as customers provide a good quality of money to the software to get better results as well the company also wants to give the best results that meet the customer requirements to get more projects.

In this cycle, there are 6 phases and two main entities. The major entities are customers ( it can be small/ large scale) and service providers( mostly tie-up companies). Here we are discussing the phases of SDLC in a detailed way.

**1st phase: Planning:**

This phase is the initial phase of SDLC which defines how to execute the software, discusses the requirements between the customer and service providers, plans the cost, and estimates the deadline of the projects.

**2nd phase: Defining/ analysing**

After the execution of the planning phase by the customer and the service provider they analyse the figure of the cost of the project and tell what is the exact estimation of time duration after sharing ideas with the team. In this phase, negotiations have been done by both the end customer and service provider and a document has been created about the discussion which is known as the SRS document which stands for software requirements specification (SRS) and provides a detailed way that how the software product has been developed. Later customer changes their requirement if needed.

**3rd phase: Designing :**

In this phase after having the discussion and based on the SRS document a blueprint has been created. In this phase, service providers have played an important role as they need to design how the code has been implemented. For example, suppose there is a small-scale project that needs to build a website in this phase service providers need to discuss the front page and layout of the project and then they proceed implementation of this project. In this phase based on the SRS documents multiple DDS Design document specifications have been created for developing the software product.

**4th phase: Code Building:**

The designing phase helps the coder to implement the software in that phase as it is not the coding person who will directly start coding from the SRS document. In this designing phase, a layout has been implemented so that the coder will understand that they want to make things in this way and also they got to know which platforms had been used here.

**5th phase: Testing**

This phase has been the most important phase after the implementation as we cannot directly deploy any software without any testing. Several tests have been done in this phase like unit testing, implementation testing in different levels, white box testing, black box testing, and alpha, and beta testing.

**6th phase: Deployment/Maintenance**

After testing software is ready to deploy. After deploying the product maintenance has been done which is generally maintaining the software by technical support. After delivery, the customer gives you 3 months for the maintenance and tells the service providers to give access to the users for login and use the software and if there is any problem that needs to be fixed. If any extra requirements need to be implemented then it needs extra charges for that.

**Role of SDLC in technical writing**

The Software Development Life Cycle (SDLC) plays a crucial role in technical writing, particularly in the creation of software documentation. As a technical writer, understanding SDLC helps you align documentation with each phase of software development, ensuring that users, developers, and stakeholders receive accurate and timely information.

### **Role of SDLC in Technical Writing**

1. **Requirement Analysis Phase**
   * Gather information from stakeholders and developers to understand software functionality.
   * Document Software Requirement Specification (SRS), user stories, and business requirements.
2. **Planning Phase**
   * Define the documentation strategy, format, and tools (e.g., Markdown, DITA, or API documentation tools like Swagger).
   * Identify the target audience and plan content accordingly.
3. **Design Phase**
   * Prepare functional specifications, design documents, and wireframe explanations.
   * Collaborate with UI/UX designers and developers to document the software architecture.
4. **Development Phase**
   * Create API documentation, user guides, and installation manuals.
   * Work closely with developers to ensure technical accuracy.
5. **Testing Phase**
   * Update test cases, troubleshooting guides, and bug reports.
   * Ensure documentation is validated for correctness and usability.
6. **Deployment Phase**
   * Develop release notes, installation guides, and FAQs.
   * Ensure all documentation is published and accessible to end users.
7. **Maintenance Phase**
   * Continuously update documentation based on software updates, patches, and user feedback.
   * Create knowledge base articles and troubleshooting guides.

### **Why SDLC is Important for Technical Writers?**

* Ensures timely and relevant documentation at each stage.
* Helps writers collaborate with developers, testers, and product managers effectively.
* Improves the quality of software documentation by following structured methodologies.
* **E**nhances user experience by providing accurate and well-organized content.