The Software Development Life Cycle (SDLC) is a structured process that guides the development of high-quality software. It typically involves several key phases, from initial planning to ongoing maintenance, ensuring a systematic approach to software creation.

Phases of the SDLC:

* **1. Planning:**This initial phase involves defining the project's scope, objectives, and feasibility. It includes identifying the problem to be solved and the intended users.
* **2. Analysis:**In this phase, requirements are gathered from users, stakeholders, and the client. These requirements are then analyzed to understand the system's needs and functionalities.
* **3. Design:**This phase focuses on creating the system's architecture, including its structure, components, and interfaces. Detailed technical designs are developed to meet the project's requirements.
* **4. Development (Coding/Implementation):**This is where the actual software is coded based on the design specifications. Developers implement the system's functionalities, ensuring it meets the defined requirements.
* **5. Testing:**Rigorous testing is conducted to identify and fix any defects or issues in the software. This phase ensures the software performs as expected and meets quality standards.The tested software is deployed to the target environment, making it accessible to the intended users. This includes installation, configuration, and ensuring the system functions correctly in the deployment environment.
* **6. Maintenance:**Once deployed, the software requires ongoing maintenance to address any issues, bugs, or enhancements. This includes monitoring the system's performance, fixing errors, and adapting to changing user needs.