**Summary of SDLC (Software Development Life Cycle)**

The **Software Development Life Cycle (SDLC)** is a structured process used by software developers and project managers to design, develop, test, and deploy software systems efficiently. It provides a clear plan to follow during software development, ensuring quality and reducing risks. SDLC aims to produce high-quality software that meets customer expectations and is completed within time and cost estimates.

**Phases of SDLC**

**Requirement Gathering and Analysis**

* + Objective: Understand what the user needs from the system.
  + Activities: Meetings with stakeholders, feasibility study, documentation of requirements.
  + Output: **Software Requirements Specification (SRS)**.

**Design**

* Objective: Create a blueprint for the system.
* Activities: System architecture design, database design, UI/UX design.
* Output: **Design Document Specification (DDS)**.

**Implementation (or Coding)**

* Objective: Translate the design into actual software using programming languages.
* Activities: Developers write code based on design specifications.
* Output: **Working source code**.

**Testing**

* Objective: Ensure the software works as intended and is bug-free.
* Activities: Unit testing, integration testing, system testing, user acceptance testing (UAT).
* Output: **Test reports** and validated software

**Deployment**

* Objective: Release the software to users.
* Activities: Install software in the live environment, configure necessary systems.
* Output: **Deployed application**.

**Maintenance**

* Objective: Keep the software up-to-date and fix issues.
* Activities: Bug fixes, performance improvements, updates as per new requirements.
* Output: **Improved and updated software**.