## **SDLC – Software Development Life Cycle (With Planning)**

**SDLC** is a step-by-step process used to develop high-quality software. It helps teams work in a structured and organized way, from idea to launch and maintenance.

## **Phases of SDLC (Including Planning):**

### **1Planning**

* **Goal**: Define the **project scope, goals, team roles, time, and cost**.
* Teams discuss the idea, assess feasibility, and plan the resources.
* A high-level roadmap is created.

Example:

*Like planning a trip – you decide where you're going, who’s coming, and what you’ll need.*

### **2 Requirement Gathering and Analysis**

* Understand **what the user or client needs**.
* Gather all necessary requirements and document them in the **SRS (Software Requirements Specification)**.

*Example: The client needs an app to manage online classes and attendance.*

### **3️ Design**

* Plan **how** the software will look and work.
* Create system architecture, UI/UX layouts, and database design.
* Split into:  
  **High-Level Design (HLD)** – big-picture architecture.,**Low-Level Design (LLD)**detailed module design.

📐 *Like creating a blueprint before constructing a house.*

### **4️ Implementation / Coding**

* Developers start **writing the actual code** using the design documents.
* The software is built module by module.

👨‍💻 *Turning the plan into a working program.*

### **5️ Testing**

* Check the software for **bugs and errors**.
* Make sure it meets all requirements.
* Types include: unit testing, system testing, integration testing, UAT.

🧪 *Making sure everything works before going live.*

### **6️ Deployment**

* The software is **released to the users**.
* May be done in phases (beta testing) or all at once.

🚀 *Going live!*

### **7️ Maintenance**

* After release, developers **fix issues**, add updates, and improve performance.
* Software is kept up-to-date and user-friendly.

🔧 *Like app updates on your phone.*