**Requirement Analysis:**

* In this phase, project requirements are gathered and analysed. Stakeholders’ needs, constraints, and objectives are identified.
* The outcome is a detailed requirement specification document.

**Software Design:**

* During this phase, the system architecture and design are planned.
* High-level design (HLD) defines the overall structure, components, and interactions.
* Low-level design (LLD) specifies implementation details for each component.

**Coding (Implementation):**

* Developers write code based on the design specifications.
* Best practices, coding standards, and guidelines are followed.
* The result is the actual software product.

**Testing:**

* Various types of testing are performed:
* **Unit Testing:** Individual components are tested in isolation.
* **Integration Testing:** Interactions between components are tested.
* **System Testing:** The entire system is tested as a whole.
* **Acceptance Testing**: Validates if the system meets user requirements.
* Defects are identified and fixed.

**Maintenance:**

* Post-deployment, the software requires maintenance.
* Bug fixes, enhancements, and updates are carried out.
* Regular monitoring ensures optimal performance.
* Defects are identified and fixed.