**1. Requirements Gathering:**

* Identify stakeholders' needs and define project scope.
* Gather and analyze requirements to ensure they are clear, complete, and feasible.

 **Importance:** Establishes the foundation of the project by understanding stakeholders' needs.

 **Interconnection:** Informs subsequent phases, guiding design and development efforts

**2. Defining:**

* Develop a comprehensive project plan outlining tasks, resources, timelines, and budgets.
* Define project goals, milestones, and deliverables.

 **Importance:** Sets the roadmap for the project, ensuring alignment with goals and resources.

 **Interconnection:** Directs the design and development process, shaping the project trajectory.

**3. Design:**

* Create a detailed design of the software system based on gathered requirements.
* Design architecture, user interface, database schema, and other system components.

 **Importance:** Translates requirements into a blueprint for the software solution.

 **Interconnection:** Guides implementation by providing a detailed framework for development.

**4. Implementation (Coding):**

* Write code according to the design specifications.
* Conduct unit testing to ensure individual components work as expected.

 **Importance:** Converts design specifications into working software.

 **Interconnection:** Built upon requirements and design, forming the tangible product.

**5. Testing:**

* Execute various tests (unit, integration, system, acceptance) to identify defects and verify software functionality.
* Ensure the software meets quality standards and requirements.

 **Importance:** Validates software functionality and identifies defects.

 **Interconnection:** Feedback loop with design and implementation to refine and improve the product.

**6. Deployment:**

* Release the software to the production environment.
* Install, configure, and deploy the system to end-users.

 **Importance:** Introduces the software to users in the production environment.

 **Interconnection:** Culmination of previous phases, ensuring readiness for real-world use.

**7. Maintenance:**

* Provide ongoing support, maintenance, and updates to the software.
* Address user feedback, fix bugs, and implement enhancements.

 **Importance:** Sustains the software's functionality and addresses evolving needs.

 **Interconnection:** Continuous improvement loop, integrating user feedback and addressing issues.