

**Assignment 1: SDLC Overview - Create a one-page infographic that outlines the SDLC phases (Requirements, Design, Implementation, Testing, Deployment), highlighting the importance of each phase and how they interconnect.**

**Solution:**

## **Software Development Life Cycle (SDLC):**

### Software Development Life Cycle (SDLC) Phases

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### **1. Planning & Requirements Gathering**

- **Purpose:** Define the scope, objectives, and feasibility of the project.
- **Importance:** Ensures that all stakeholders have a shared understanding of the project's goals and constraints.
- **Output:** Project plan, requirements specification.

### **2. Design**

- **Purpose:** Create a blueprint for the software's architecture and detailed design.
- **Importance:** Provides a clear structure for developers to follow, reducing ambiguities and enhancing quality.
- **Output:** High-Level Design (HLD), Low-Level Design (LLD) documents.

### **3. Implementation (Coding)**

- **Purpose:** Transform design specifications into functional software.
- **Importance:** Actual development of the software product.

- **Output:** Source code, executable programs.

## 4. Testing

- **Purpose:** Identify and fix defects to ensure the software meets requirements.
- **Importance:** Ensures software reliability, performance, and security.
- **Output:** Test plans, test cases, bug reports, tested software.

## 5. Deployment

- **Purpose:** Release the software to users for production use.
- **Importance:** Making the software available to end-users and ensuring it operates as intended in the production environment.
- **Output:** Deployed software, deployment documentation, user manuals.

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## Interconnections and Flow

### Flow arrows connecting each phase in sequence:

- **Planning & Requirements → Design**
  - *Arrow Label:* Detailed requirements guide the design process.
- **Design → Implementation**
  - *Arrow Label:* Design documents are used to develop the actual code.
- **Implementation → Testing**
  - *Arrow Label:* Developed code is rigorously tested to find and fix issues.
- **Testing → Deployment**
  - *Arrow Label:* Once tested and verified, software is deployed to users.
- **Feedback Loop:**
  - **Deployment → Planning & Requirements**
    - *Arrow Label:* User feedback from deployment informs future planning and enhancements.