**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.

**SOFTWARE DEVELOPMENT LIFECYCLE DIAGRAM :**

**SDLC Infographic : Navigating the Software Development Life Cycle**

**1. Requirements**

**Importance**: This phase involves gathering detailed information from stakeholders to understand what the software should achieve. It sets the foundation for the project by defining functional and non-functional requirements.

**Key Activities**:

* Stakeholder Interviews
* Requirement Documentation
* Feasibility Analysis

**Interconnection**: Accurate requirements ensure that the design and implementation phases meet stakeholder expectations.

2. **Design**

**Importance**: Translating requirements into a blueprint for the software. This includes architectural design, user interface design, and detailed design of system components.

**Key Activities:**

* System Architecture Design
* Database Design
* User Interface Design

**Interconnection**: A well-thought-out design guides developers during implementation and helps identify potential issues early.

3. **Implementation**

**Importance**: The actual coding of the software based on the design specifications. This phase turns design documents into a working system.

**Key Activities:**

* Writing Code
* Developing Features
* Version Control Management

**Interconnection**: Proper implementation directly impacts the effectiveness of the testing phase and the final product quality.

4. **Testing**

**Importance**: Ensuring the software is free of defects and meets the specified requirements. Testing helps identify and fix bugs, improving software reliability and performance.

**Key Activities:**

* Unit Testing
* Integration Testing
* User Acceptance Testing (UAT)

**Interconnection**: Testing verifies that the implementation matches the requirements and design, ensuring a stable product for deployment

5. **Deployment**

**Importance**: Releasing the finished product to users. This phase involves setting up production environments and rolling out the software.

**Key Activities:**

* Environment Setup
* Data Migration
* Software Release

**Interconnection**: Successful deployment relies on thorough testing and accurate implementation, ensuring that users receive a functional and reliable product.

**Interconnections and Iterations**

**Feedback Loops**: Each phase often provides feedback for the previous ones, allowing for iterative improvement. For example, testing may reveal issues that require changes in implementation or even adjustments in design.

**Continuous Improvement**: Post-deployment, feedback from users can lead to new requirements, starting a new cycle of the SDLC to enhance and maintain the software.

**Visual Elements to Include in the Infographic**

**Phases as Sections**: Divide the infographic into five main sections for each SDLC phase.

**Flow Arrows**: Use arrows to show the flow from one phase to the next, highlighting the iterative nature of the SDLC.

**Icons:** Use relevant icons for each phase (e.g., a checklist for requirements, a blueprint for design, a code symbol for implementation, a bug for testing, a rocket for deployment).

**Color Coding**: Use different colors for each phase to make the infographic visually appealing and easy to follow.

**Summary Points**: Include bullet points or short descriptions under each phase title to summarize key activities and importance.