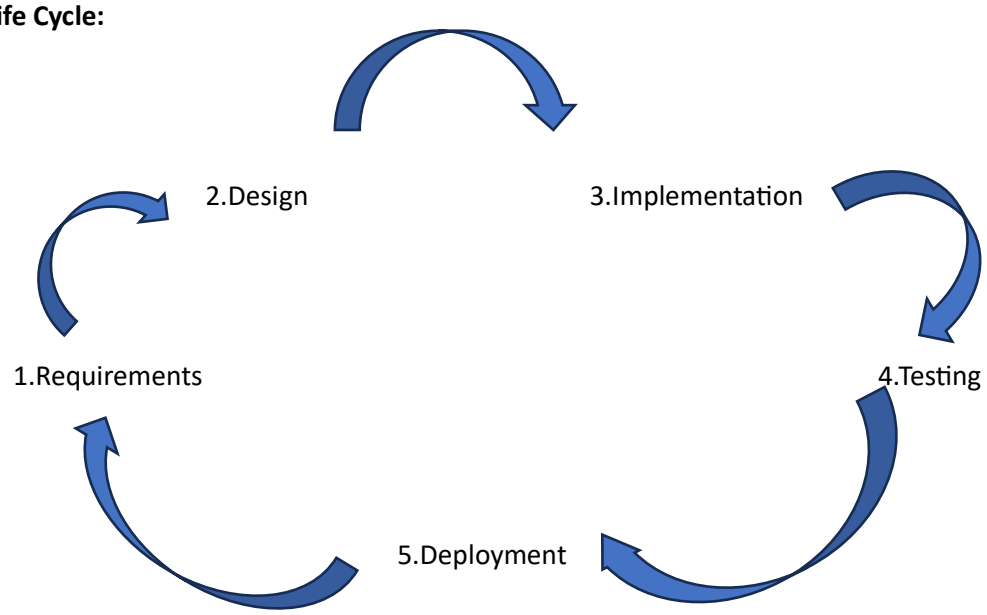
DAY 2 ASSIGNMENTS:

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?

SDLC Life Cycle:



The Software Development Life Cycle (SDLC) diagram shows that the phases are interconnected to each other.

SDLC phases:

1. **Requirements Phase:**

   - Define project objectives and gather user requirements.
   - Establish a solid foundation for the development process.
   - This process guides the development of several important documents is known as a software requirement specification (SRS)

2. **Design Phase:**

   - Translate requirements into a detailed design.
   - Create system architecture and user interface designs.

- SRS is the reference for product architects to come out with the best architecture for the product to be developed
- Based on the requirements specified in SRS, usually more than one design approach for the product architecture is proposed and documented in a Design Document Specification (DDS).

3. **Implementation Phase**:

- This phase is initiated after the system has been tested and accepted by the user
- Write a code based on the design specifications.
- Develop software components and integrate them.
- Conduct code reviews to ensure quality and maintainability.

4. **Testing Phase**:

- Once the developer builds the software then it is deployed in the testing environment.
- Then the testing team Verify that the software meets specified requirements.
- Identify and fix defects and bugs.
- They Perform various types of testing (unit, integration, system, acceptance) to ensure reliability and functionality.

5. **Deployment Phase:**

- It is the final step in SDLC.
- They Release the software to customers.
- Install and configure the software in the production environment.
- Provide user training and support to ensure a smooth transition.

Importance of each SDLC phase:

1. **Requirements Phase:**
   - It involves understanding the needs and expectations of stakeholders and defining the scope of the project, and identifying any risks.
   - They try to deliver the correct outcome.
   - The Right Requirement can develop the best software it helps to create a product of high quality.
2. **Design Phase:**
   - In this phase, the requirements gathered in the previous stage are translated into a blueprint for the solution.
   - In Design phase it involves designing the architecture and user interface.
   - It helps in transforming requirements into detailed specification.
3. **Implementation Phase:**
   - In this where the actual coding occurs for software.
   - Developers write the code and ensure that the software meets the defined requirements.
   - The System is installed to support business function.

4. **Testing Phase:**
    - Testing is for identifying and fixing defects or bugs in the software.
    - They should verify the product meets quality standards and functions correctly asked by the client.
5. **Deployment Phase:**
    - Deployment involves releasing the software for use by end-users.
    - They should show the live production environment to the customer.

In SDLC How They Are Interconnect:

1. **Requirements Phase:**
    - The requirements here provide the foundation for the phases.
    - They guide the design, implementation, testing, and deployment of the software by specifying its features.
2. **Design Phase:**
    - The design phase directly builds upon the requirements phase.
    - In design architectural diagrams serve as guidelines for the implementation phase.
3. **Implementation Phase:**
    - Developers refer to the design documents to understand how the software should be built.
    - If there is Any changes to the design may necessitate corresponding adjustments in the implementation.
4. **Testing Phase:**
    - sting is closely tied to both the implementation and requirements phases.
    - Test case is used to design the software.
5. **Deployment Phase:**
    - Deployment depends on the successful completion of all previous phases.
