SYSTEM ANALYST AND DESIGN

ASSIGNMENT

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1. As a system analyst ,you are to develop an information system (IS) for your organization using SDLC approach
2. Briefly explain all the methodologies in relation to your project with the aid of a diagram
3. Identify the advantages and disadvantages of each of these methodology in relation to your project
4. In relation to your project, recommend which of the methodologies to use and why?

   Solution
1. As a system analyst, I will develop an information system for my organization using the system development life cycle(SDLC). Which are
   - Planning
   - Analysis
   - Design
   - Implementation
   - Testing
   - Maintenance
2. SDLC methodologies with diagram:
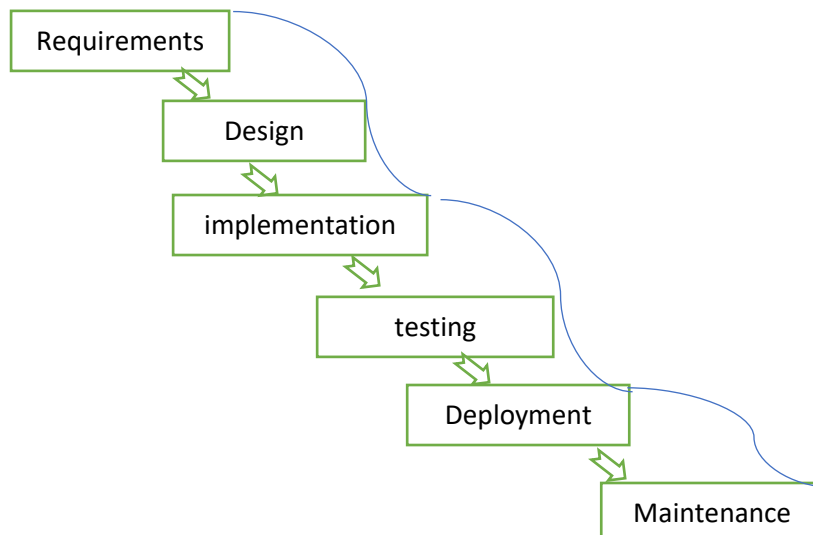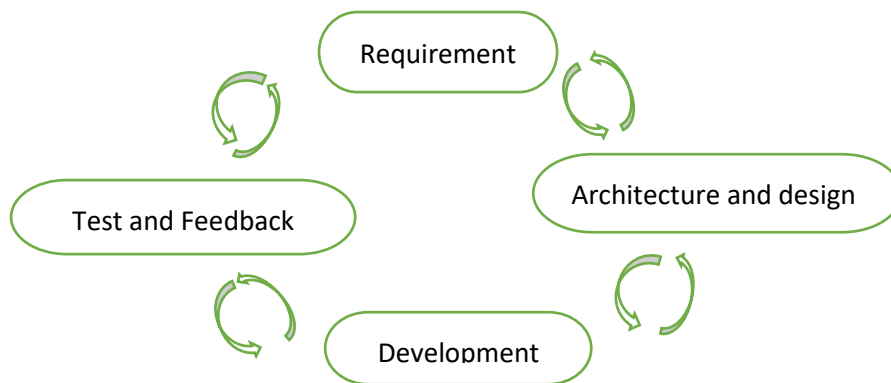   The methodologies include
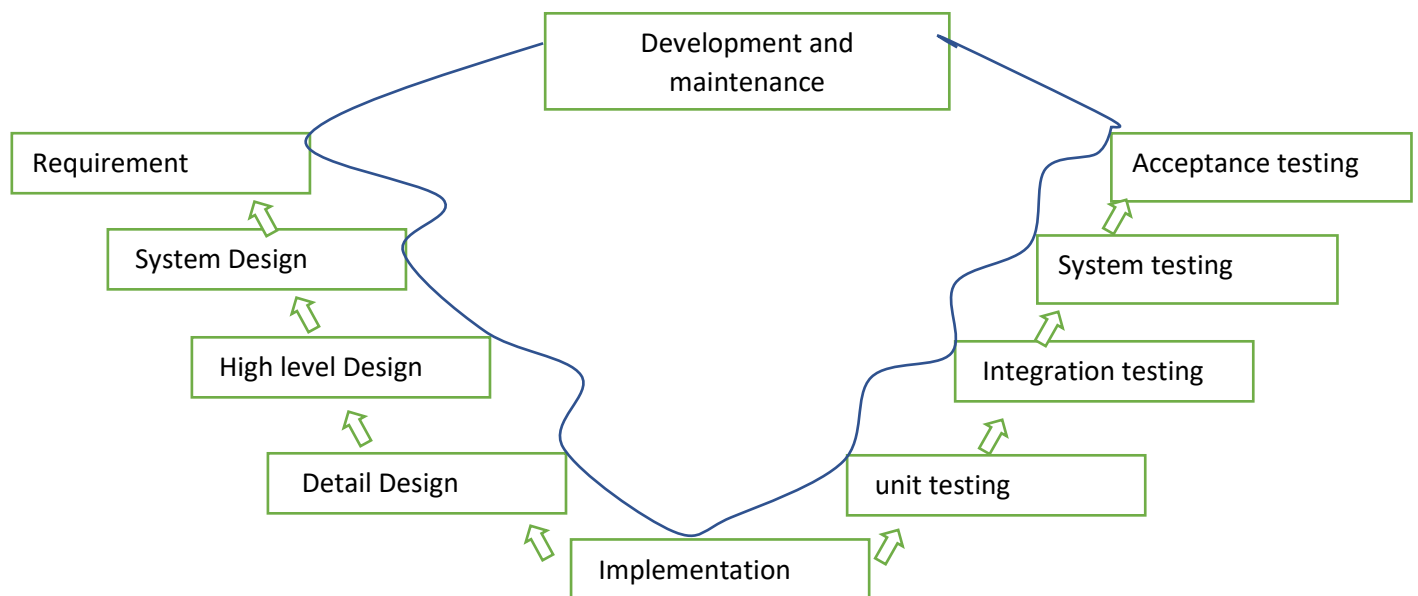   Waterfall
   Agile
   v-model
   Iterative
   Spiral
   Waterfall is model is a linear and sequential approach where each phase must be completed before the next phase initiates

Requirements

Design

implementation

testing

Deployment

Maintenance

Agile is a project management approach that emphasizes flexibility, collaboration and rapid delivery.

Requirement

Architecture and design

Test and Feedback

Development

v-model (verification and validation model) is an extension of the waterfall model where each development phase is associated with a corresponding testing phase.

Development and maintenance

Requirement

Acceptance testing

System Design

System testing

High level Design

Integration testing

Detail Design

unit testing

Implementation

3. Advantages and disadvantages of each methodology:
   - Waterfall:
   Advantage: easy to manage, clear phases, predictable outcome
   Disadvantage: inflexible, no feedback loop, high risk
   Agile:
   Advantage : flexibility, iterative, continuous improvement.
   Disadvantage: complex, require skilled team and challenging.
   - V-model
   Advantages: Emphasizes testing, validation and verification
   Disadvantage: rigid, sequential, limited flexibility
   - Iterative

Advantage: flexible, iterative, continuous improvement.
Disadvantage: complex, requires skilled team, challenging to scale

- Spiral

Advantages: flexible, risk-driven, iterative
Disadvantage: complex, challenging scale

4. Recommended methodology and why?

Based on the project requirements, I recommend using the agile methodology.
Agile is suitable for the projects that require flexibility, continuous improvement, and rapid delivery. Its iterative approach allows for feedback loops, reducing the risk of project failure. Additionally, agile promotes teamwork collaboration, and adaptability, ensuring that the project meets the organization's needs.