Introduction

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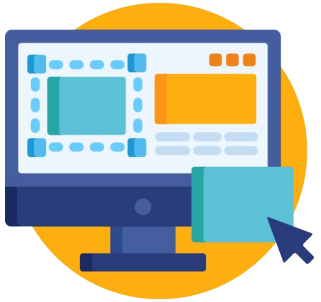
Outlines

- What is software design?
- Software Development Life Cycle (SDLC)
- Software models
- High-level design
- Low-level design

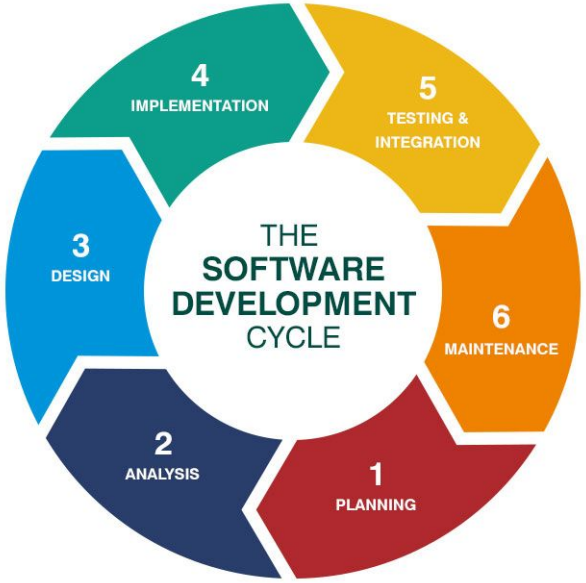
What is software design?

- Software design is a process to **transform** user **requirements** into some **suitable form**, which **helps** the programmer in **software implementation**.
- Software design is the **first step in SDLC** after SRS (System Requirement Specifications) analysis.
- **Levels of software design**:
  - **High-level Design**
  - **Low-level Design**



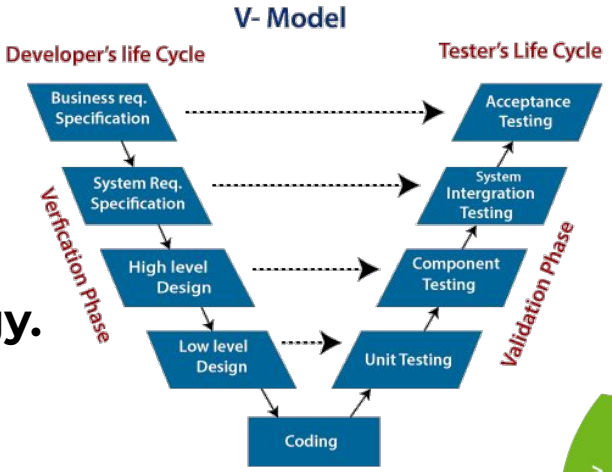
Software Development Life Cycle (SDLC)

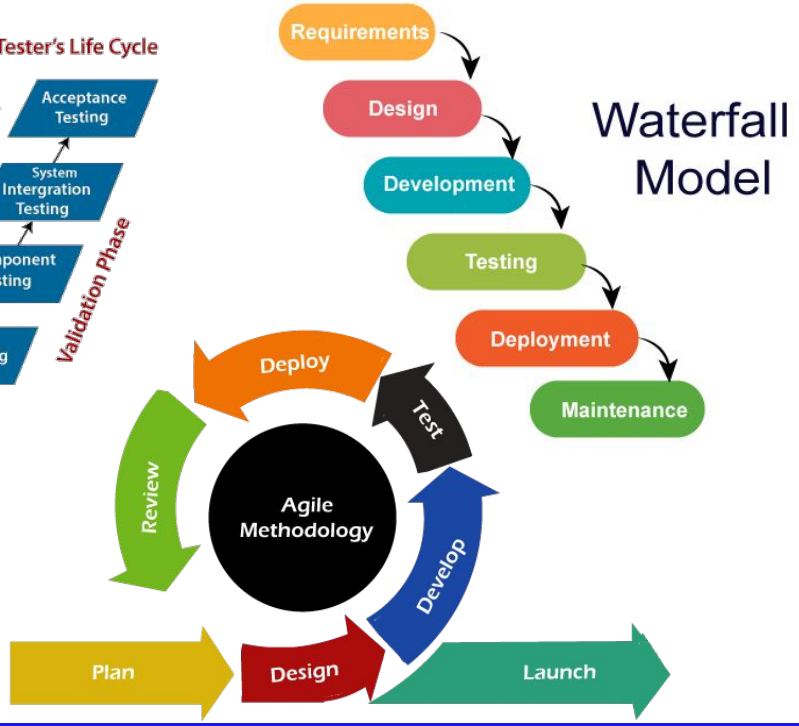
- It is the process/model that is used by software industry to design, code and test high quality software products.



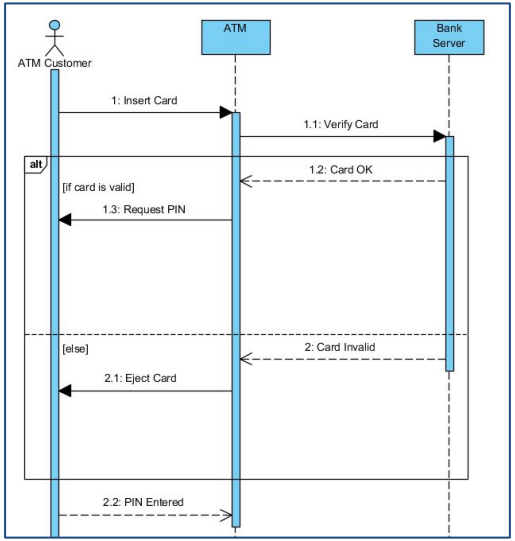
Software models

- **Waterfall model.**
- **V-model.**
- **Agile methodology.**





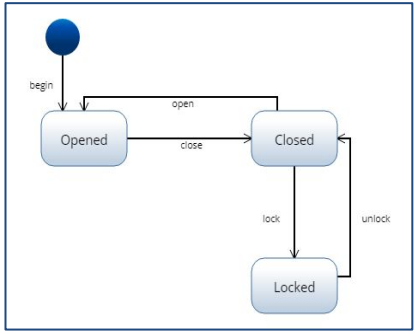
High-level design

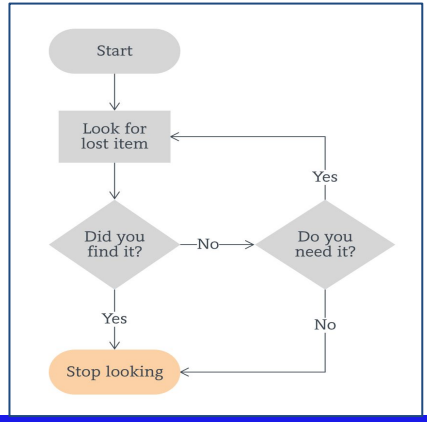


- It is the first phase of design in the SDLC.
- In this phase:
  - **System modules and components are defined**
  - **Interfaces between modules/APIs are defined**
  - **System timing constraints are defined**
  - **System in action behaviour is defined**
- Can be **visualized** using **layered architecture** and **sequence diagrams**.
- **Types of high-level design**:
  - **Static design**
  - **Dynamic design**

Low-level design

- It is the **second phase** design in the SDLC.
- In this phase:
  - **The internal structure of the components' APIs**
  - **The error handling for each module**
- Can be **visualized** through **flowcharts** or **state-machine**.





Summary

- You have learned what is software design.
- Now you understand the differences between waterfall, V, and Agile software models.
- Now you know the difference between high-level and low-level designs