SE-(Software Engineering Assignment)

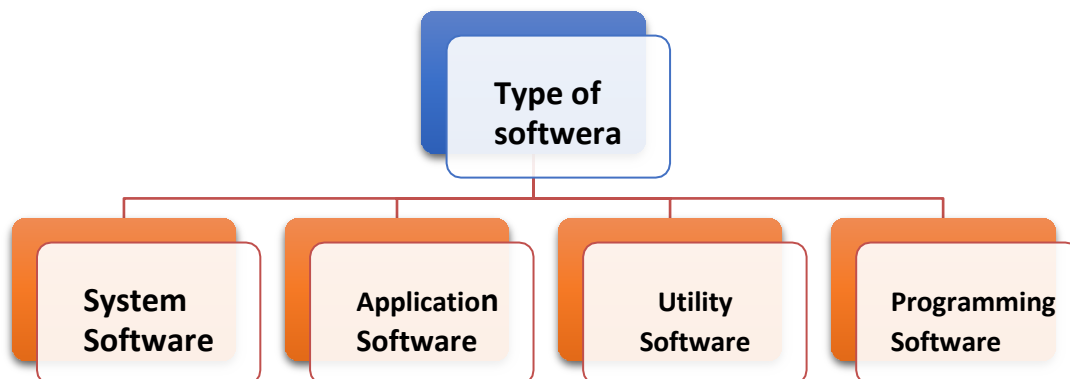# Q-1.What is software? What is software engineering?

* **Software** is a program or set of programs containing instructions that provide desired functionality. Engineering is the process of designing and building something that serves a particular purpose and finds a cost-effective solution to problems.

* **Software Engineering** is the study of methods, principals and techniques for creating and maintaining computer software. The main objective of software engineering is to create high-quality software and maintain it well. It focuses on different stages of software development such as analysis ,design, coding, testing and maintenance, If the software is developed keeping in mind all these stages ,it can be done in a short time with high quality and cost-effective.
        In short software engineering means the process of developing and maintaining high-quality software.

Q-2. Explain types of software

There are different types of software that help our computers or electronic devices perform different functions. Here are some major types of software:

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                    ┌──────────────┐
                    │   Type of    │
                    │   softwera   │
                    └──────┬───────┘
       ┌───────────────┬───┴────────────┬───────────────┐
┌──────────────┐┌──────────────┐┌──────────────┐┌──────────────┐
│    System    ││  Application ││   Utility    ││ Programming  │
│   Software   ││   Software   ││   Software   ││   Software   │
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1.System Software - This software controls the basic systems and hardware of the computer. Such as operating systems (OS) such as Windows, MacOS, Linux. Without OS, computers and other devices cannot run because they communicate with the hardware and provide an interface to the user.

2. Application Software - This software is used to perform specific tasks. Like Microsoft Word, Excel, Photoshop, or video editing software like Adobe Premiere.Every application software has its own specific purpose.

3. Utility Software - This software is used to improve the performance of our computer or device and handle specific tasks. Like antivirus software, disk cleanuputilities, or file compression software.
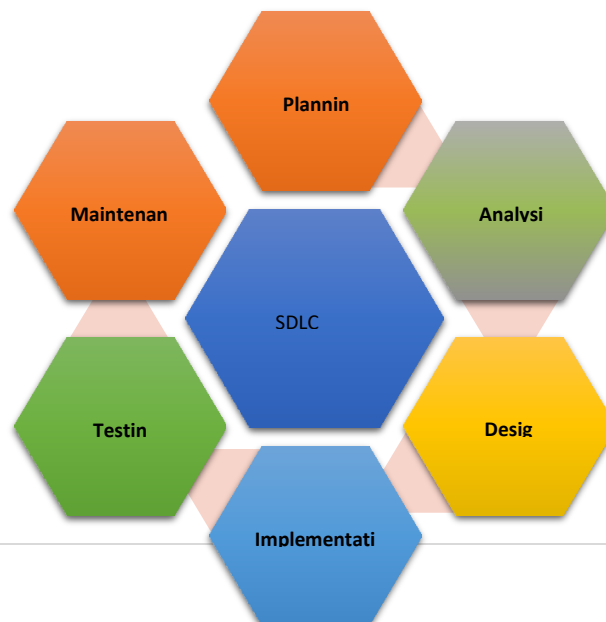
4. Programming Software - This is for software developers or programmers, who create new software or applications. Like Integrated Development Environments (IDEs) like Visual Studio, Eclipse, or code editors like Sublime Text, Atom.

Q-3. What is SDLC? Explain each phase of SDLC

Software Development Life Cycle (SDLC) is a process used by software development team to design, develop, test, and deploy high-quality software.

The main objective of SDLC is to produce high quality software that meets the needs of its users. By following a structured process, SDLC helps reduce risks, improve efficiency, and ensure software projects are delivered on time and on budget.

The Software Development Life Cycle (SDLC) usually involves the following s

1. Planning & Requirement gathering

This phase involves defining the project's objectives, identifying key stakeholders, and developing a detailed project plan.

2. Analysis

During this phase, the collected requirements are analyzed in detail. This includes understanding the functionalities to be performed by the software, user interface requirements, and any other relevant aspects.

3. Design

In the design phase, the system architecture and software design are planned out based on the requirements gathered and analyzed. This includes creating high-leveland low-level design documents.

4. Implementation

Also known as the coding phase, this is where the actual software development takes place. Developers write code based on the design documents prepared in the previous phase.

5. Testing

In this phase, the developed software is tested rigorously to ensure it meets the specified requirements and functions correctly. Testing can include unit testing, integration testing, system testing, and user acceptance testing.
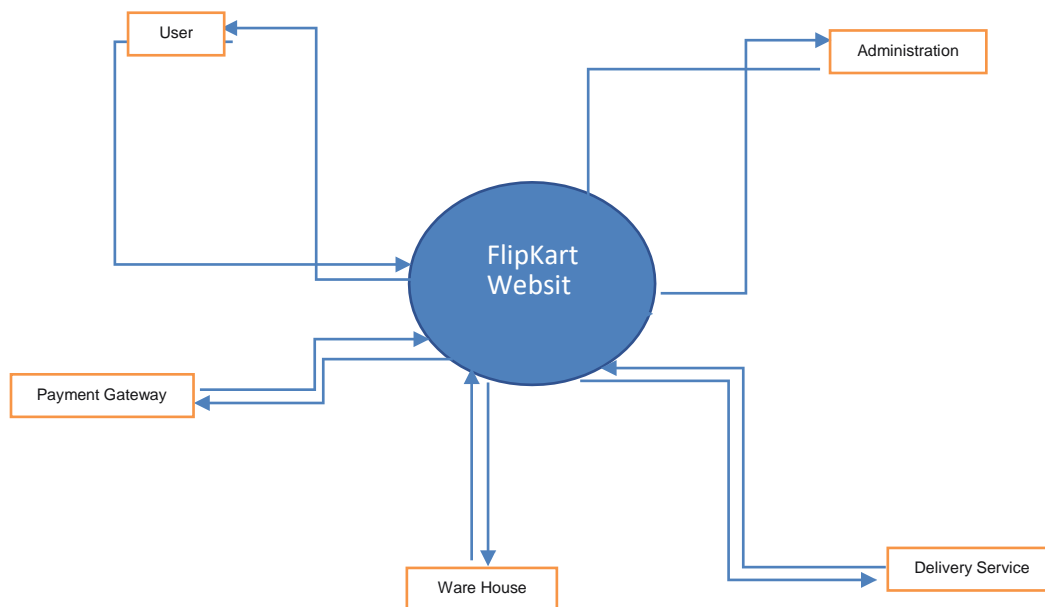
6. Maintenance

After deployment, the software enters the maintenance phase. During this phase, any issues discovered post-deployment are addressed, updates and patches are released, and ongoing support is provided to ensure the software continues to function effectively.

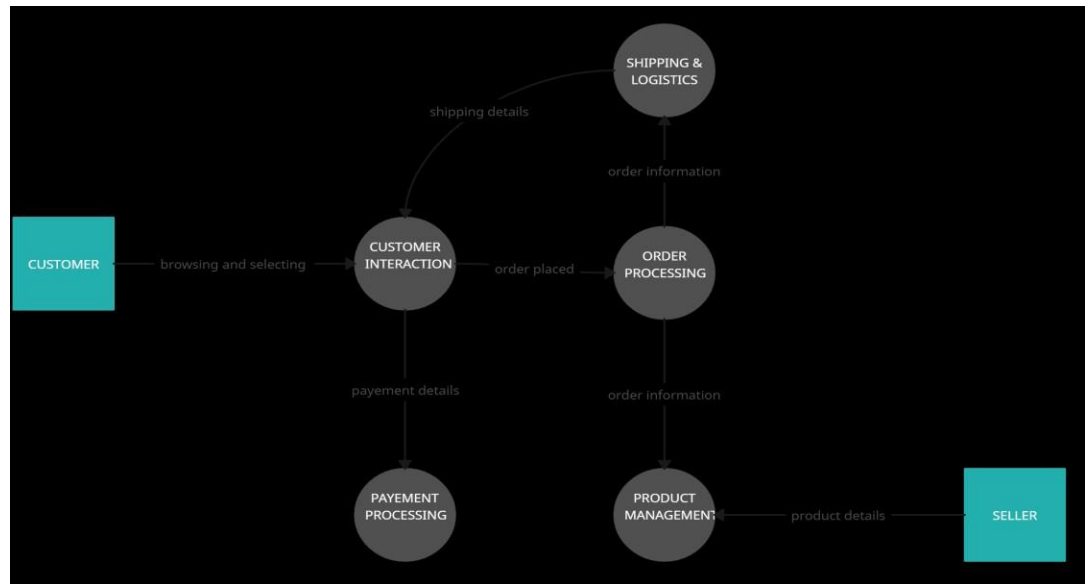The SDLC is a structured Process for software development teams to

producehigh-quality software that meets user needs.

Q-4. What is DFD? Create a DFD diagram on Flipkart

. DFD stands for Data Flow Diagram, which is a graphical representation of how data moves through a system, including its sources, destinations, and changes. This tool is widely used to visualize and comprehend intricate systems, such as online shopping platforms like Flipkart

User

Administration

FlipKart
Websit

Payment Gateway

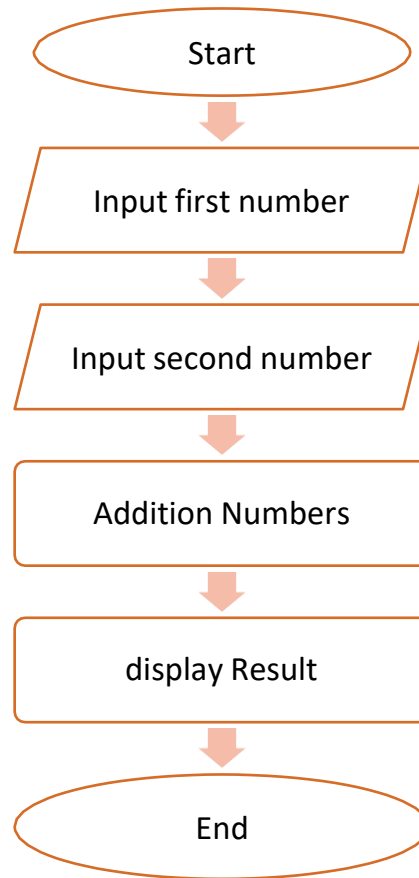Ware House

Delivery Service

Level 0 DFD (Data Flow Diagram) Of Flipkart

Q-5. What is Flow chart? Create a flowchart to make addition of two numbers

A flowchart is a graphical representation of a process or algorithm, using standard symbols to illustrate the steps involved and the logic behind them. It is like a map for computer programs or any process that requires clear instructions.

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         │    Start    │
         └─────────────┘
                ↓
         ╱───────────────╱
        ╱ Input first number ╱
       ╱───────────────╱
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         ╱────────────────╱
        ╱ Input second number ╱
       ╱────────────────╱
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         ┌─────────────────┐
         │ Addition Numbers │
         └─────────────────┘
                ↓
         ┌─────────────────┐
         │  display Result  │
         └─────────────────┘
                ↓
         ┌─────────────┐
         │     End     │
         └─────────────┘
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Q-6. What is Use case Diagram? Create a use-case on bill payment on paytm.

A Use Case Diagram is a diagrammatic representation of how actors (users or external systems) interact with a system to achieve specific goals. It shows the functionalities provided by the system and the actors involved in these functionalities. Use case diagrams are extensively used in software engineering to model the system's behavior from a user's perspective.
Mmm

Login/Register → User

View Bills → Bill

Pay Bills → Payment

View Payment → Payment