Module - 1

SE - Overview of IT Industry

Que.1.What is software? What is software engineering?

Ans. Software is a set of instruction,data and computer programs which have perform any specific task or action. Software engineering is the part of computer science it include designing , developing , testing and maintain software applications.

Que.2. Explain types of software.

Ans. Software are 2 types:

1. **System Software :** System software refers to essential programs that manage and control to computer system.here are some key components of system software.I.Operating System II.Device Drivers III.Language processors IV.Utilities

   I.Operating system: The software that interact with hardware and manages resources like that memory and CPU and provides an interface for users and other software.**Its Example.,Windows,macOS,Linux**

   II.Device Drivers: The software modules allow the OS to communicate with hardware devices like that printers, graphics cards and network adapters.

   III.Language Processors: These softwares convert high-level programming languages like Java, C++, or Python into machine-readable instructions.**Its Example.,Compilers and Interpreters**

   IV.Utilities: These software perform essential tasks such as disk management, file compression, backup, and security.**Its Example.,antivirus software,disk cleanup tools**

2. **Application Software :** Application software refers to computer programs

specifically designed to handle specific tasks for end-users. These programs are distinct from system software, which manages the computer's operation.**Its Example., Microsoft Word , Microsoft Excel , Microsoft Access , Chrome , Firefox**

Que.3.What is SDLC? Explain each phase of SDLC.

Ans. **The Software Development Life Cycle (SDLC)** is a systematic process that guides software developers through planning, designing, developing, testing, and deploying software.

Followings are **6 phases** of SDLC:

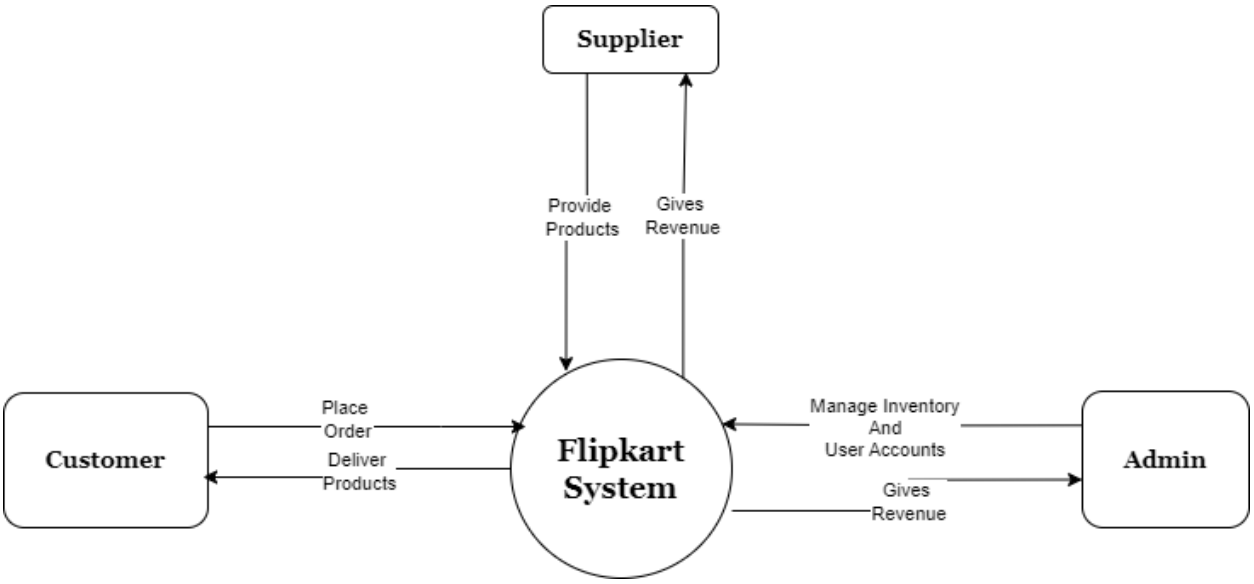
- **Planning:** This initial phase involves defining project scope, objectives, and requirements. It's essential to create a clear roadmap for development.
- **Requirements Elicitation:** In this stage, the team gathers detailed requirements from stakeholders. Understanding user needs and expectations is crucial.
- **Application Design:** Here, the architecture, system components, and data flow are designed. It includes high-level design (system architecture) and low-level design (detailed component design).
- **Development and Testing:** Developers write code based on the design, and testers verify its functionality. Iterative testing ensures quality and identifies defects.
- **Deployment:** The software is deployed to production servers or made available to end-users. This phase involves installation, configuration, and user training.
- **Maintenance:** After deployment, ongoing maintenance and support are necessary. Bug fixes, updates, and enhancements are part of this phase.

Que.4.What is DFD? Create a DFD diagram on Flipkart.

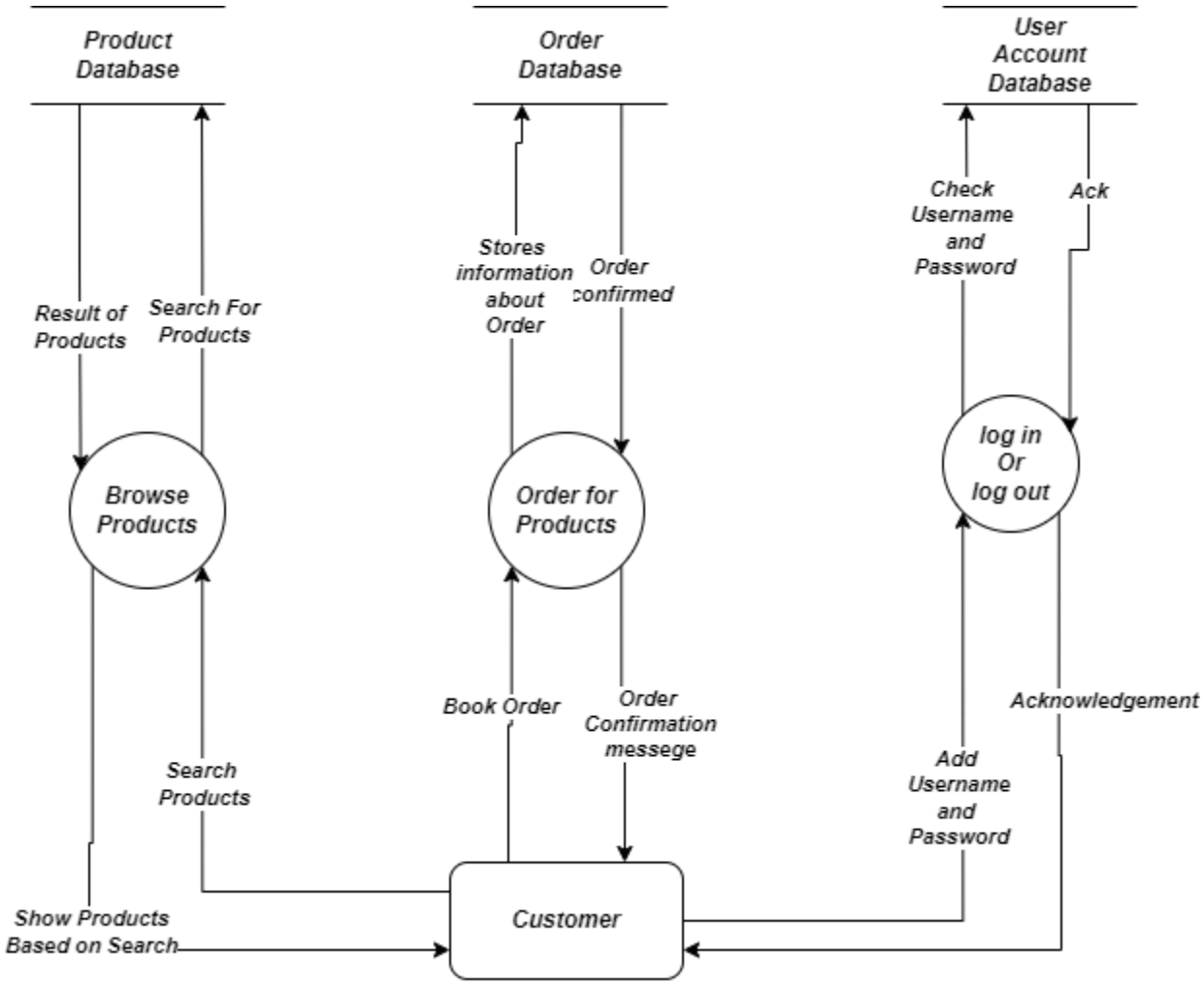
Ans. A **Data Flow Diagram (DFD)** is a visual representation of how information

flows within a system or process.

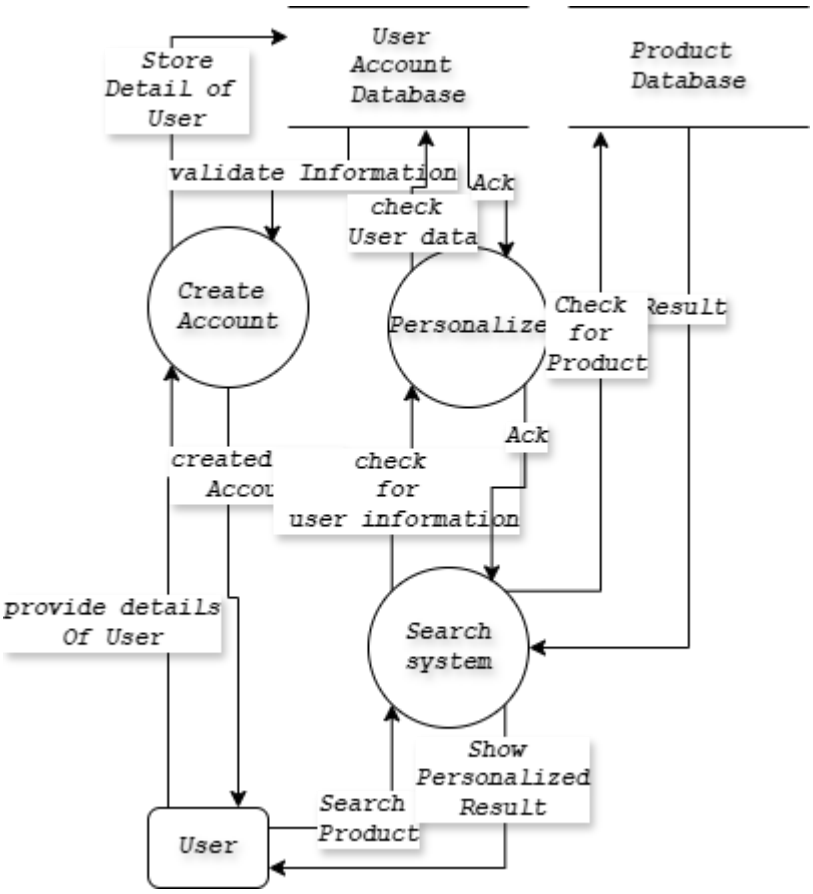
- 0 level Data Flow Diagram:



- 1 level Data Flow Diagram:



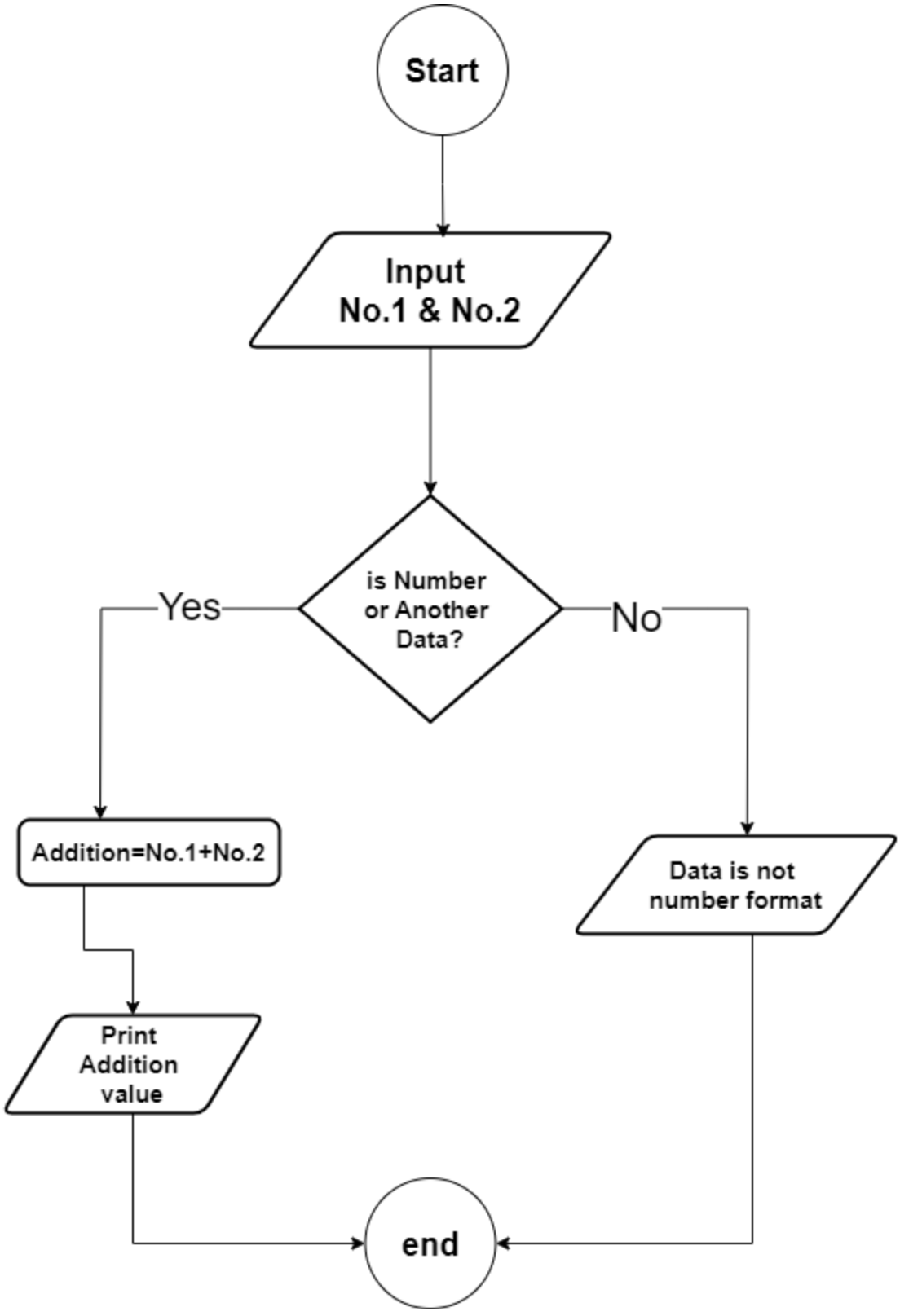
- 2 level Data Flow Diagram:



Que.5.What is Flowchart? Create a flowchart to make addition of two numbers.

Ans. **A Flowchart** is a diagram that shows step by step progression through a procedure or system , especially using connecting lines and set of conventional symbols.

- **Flowchart:-**



Que.6. What is Use case Diagram? Create a use-case on bill payment on paytm.

Ans. A use case diagram is a visual representation that summarizes interactions and relationships within a system. It provides a broad view of how users (actors) interact with the system and the various use cases (functional requirements) associated with it.

Use case Diagram:-