MODULE – 1

SE – Overview of IT Industry

1.What is Software? What is software engineering?

- Software refers to the collection of data,programs,procedures and instruction that tell a computer how to perform specific tasks. Itt can be cateforized into two main types:

1. Sysyem Software: This includes operating systems like (Windows,macOS,Linux),device drivers and utilitiesthat help Manage computer resources and provide a platform for application software to run.

2.Application Software: These are programs designed to perform specific tasks for users,such as word processors,web browsers and games.

-Software Engineering is a discipline that invloes the application of engineering principles to the design,development,maintenance,testing and evaluation os software.

1.Requirements

2.Design

3.Implementation

4.Testing

5.Maintenance

6.Project Management

2.Explain types of software.

-Software can be broadly categorized into several types based on its functionality and purpose:

1. System Software

-This type of Software provides the basic functions needed to operate and manage computer hadware and software resources. It includes:

- **Operating System**
- **Device Drives**
- **Utility Programs**

2. Application Software

These are programs designed to help users perform specific tasks.

They include:

- **Productivity Software**
- **Web Browsers**
- **Media Players**
- **Grphic Design Software**
- **Database Management Systems**

3. development Software

These tools are used by developers to create,debug and maintain other software and applications. They include:

- **Integrated Development Environments**
- **Compilers**
- **Version Control Systems**

4. Embedded Software

This type of software is designed to operate hardware or devices that are not typically considered computers.

- **Firmware**
- **Control Systems**

5. Middleware

Middleware acts as a bridge between different software aaplications or between software and hardware.

- **Database Middleware**
- **Message-Orientend Middleware**

6. Web Software

This category includes software applications that run on web servers and are accessed through web browers.

- **Content Management System**
- **E-commerce Platforms**
- **Web Apllications**

7. Mobile Software

Mobile applications are designed too run on smartphones and tablets.

- **Native Apps**
- **Cross-Platform Apps**

8. Enterprise Software

These are large-scale applications designed to support business processes and operations.

- **Enterprise Resource Planning**
- **Customer Relationship Management**

3. What is SDLC? Explain each phase of SDLC

- The Software Development Life Cycle is a systematic process used by software development teams to design,develop,test and deploy software applications.It provides a atructures approach to software development and ensures high-quality software production.The SDLC typically consists of the following phase:

1. Planning

- Define the scope,objectives and resources required for the project.

2. Requirements Analysis

- Gather and analyze the requirements of the software.

3. Design

- Outline the architecture and design of the software.

4. Implementation

- Write the actual code for the software based on the design documents.

5. Testing

- Ensure the software is free of defects and meets the specified.

6. Deployment

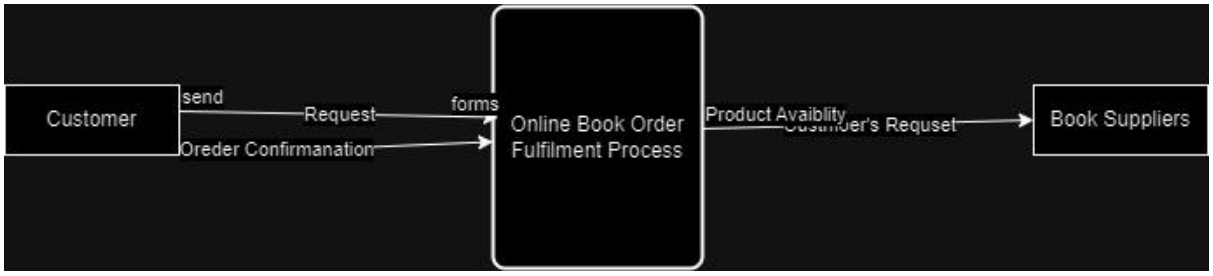
- Deployment the software to the production environment where it will be used by end-users.

7. Maintenance

- Ensure the software continues to fuction correctly and is updated as needed.

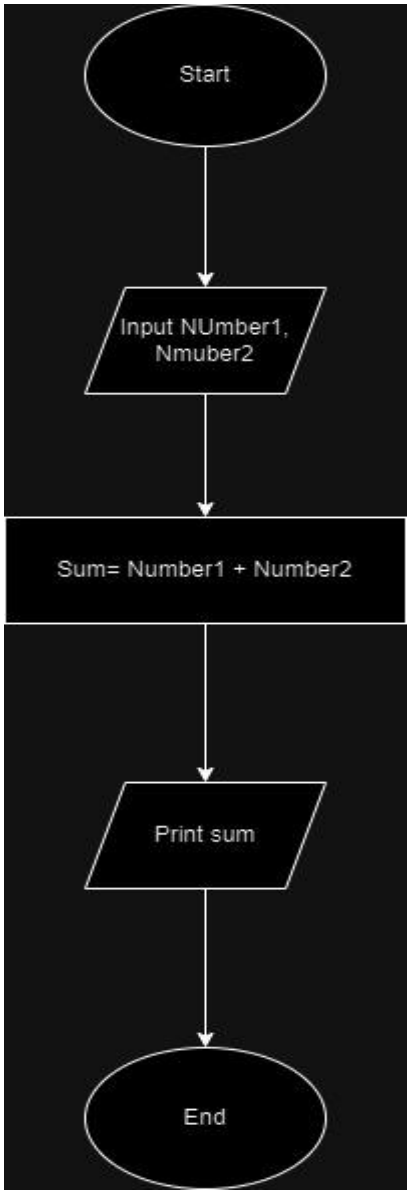
4. What is DFD? Create a DFD diagram on Flipkart

- A Data flow Diagram is a graphical representation of the flow data within a system.It shoes how data moves from input to processing and storage and then to ouput.DFDs helps in understanding the process and data interactions within a system.



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

- Flowchart is a diagram that represents a process,system or computer algorithm. It uses various shapes to denote different types of steps or actions, connected by arrows that indicate the flow or sequence of operations.



6. What is use Case diagram?Create a use-case on bill payment on payment.

- A Use Case Diagram is a type of behavioral diagram defined by the Unified Modeling Language (UML) that represents the functional requirments of a system,showing the interaction between the system and its ecternal entities(actors). It helps in visualizing the system's functional requirements and the relationship between various use case and actors.