Assignment 1

MODULE:1

Q.1: What is software? What is software engineering?

- **What if software?**

- Software is a set of programs, which is designed to perform a well-defined function.
- Software consists of lines of code written by computer programmers.

- **What is software engineering?**

- Software engineering is a branch in computer science that deals with developing application.it covers the technical part of building software system through designing, implementing, and modifying software. It also covers software management issues, such as directing programming teams, scheduling, and budgeting.
- Software engineering may be defined as the systematic design and development of software products and the management of the process.

Q.2: Explain types of software?

- **software layers are listed below.**
  1. **System software**
  2. **Application software**
  3. **Utility software**

- ## System software

- System software is a program designed to run a computer's hardware and applications and manage its resources, such as its memory, processors, and devices.
- It is responsible for controlling, integrating the hardware components of a system so the software and the users can work with them.

1. Operating System

- There are mainly 5 popular operating systems: Apple macOS, Microsoft Windows, Google's Android OS, Linux Operating System, and Apple iOS.

2.Driver software

- **A driver is a software component that lets the operating system and a device communicate**

2. Application software

- Application software is a type of computer program that performs a specific personal, educational, and business function.
- It is used to accomplish some specific tasks.
- It should be collection of small programs.
- Example: Microsoft Word, Excel etc.

3. Utility software

- Utility software is a program or tool that performs specific tasks to enhance productivity, efficiency, functionality, or maintenance of a computer system. These utilities are designed to assist users in managing and optimizing their computing experience.
- CAM→ Computer-Aided Manufacturing.
- CAD→Computer-Aided Design.

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

- **SDLC→Software Development Life Cycle.**
- A software life cycle model (also called process model) is a descriptive and diagrammatic representation of the software life cycle.
- A life cycle model represents all the activities required to make a software product.
- Software process models are adjusted to meet the need of software engineers and managers for specific project.
    1. **Planning.**
    2. **Analysis.**
    3. **Designing.**
    4. **Development / Implementation.**
    5. **Testing.**
    6. **Maintenances.**

- ## Planning
- The software development lifecycle It required defining resources, timelines, describing technical and management risks.

- ## Analysis
- The software development lifecycle is the cost-effective and time-efficient process that development teams use to design and build high-quality software.

- ## Designing
- The software development lifecycle is the cost-effective and time-efficient process that development teams use to design and build high-quality software.

- ## Development / Implementation

- The development phase is where the development team members divide the project into software modules and turn the software requirement into code that makes the product.
- This SDLC phase can take quite a lot of time and specialized development tools. It’s important to have a set timeline and milestones so the software developers understand the expectations and you can keep track of the progress in this stage.

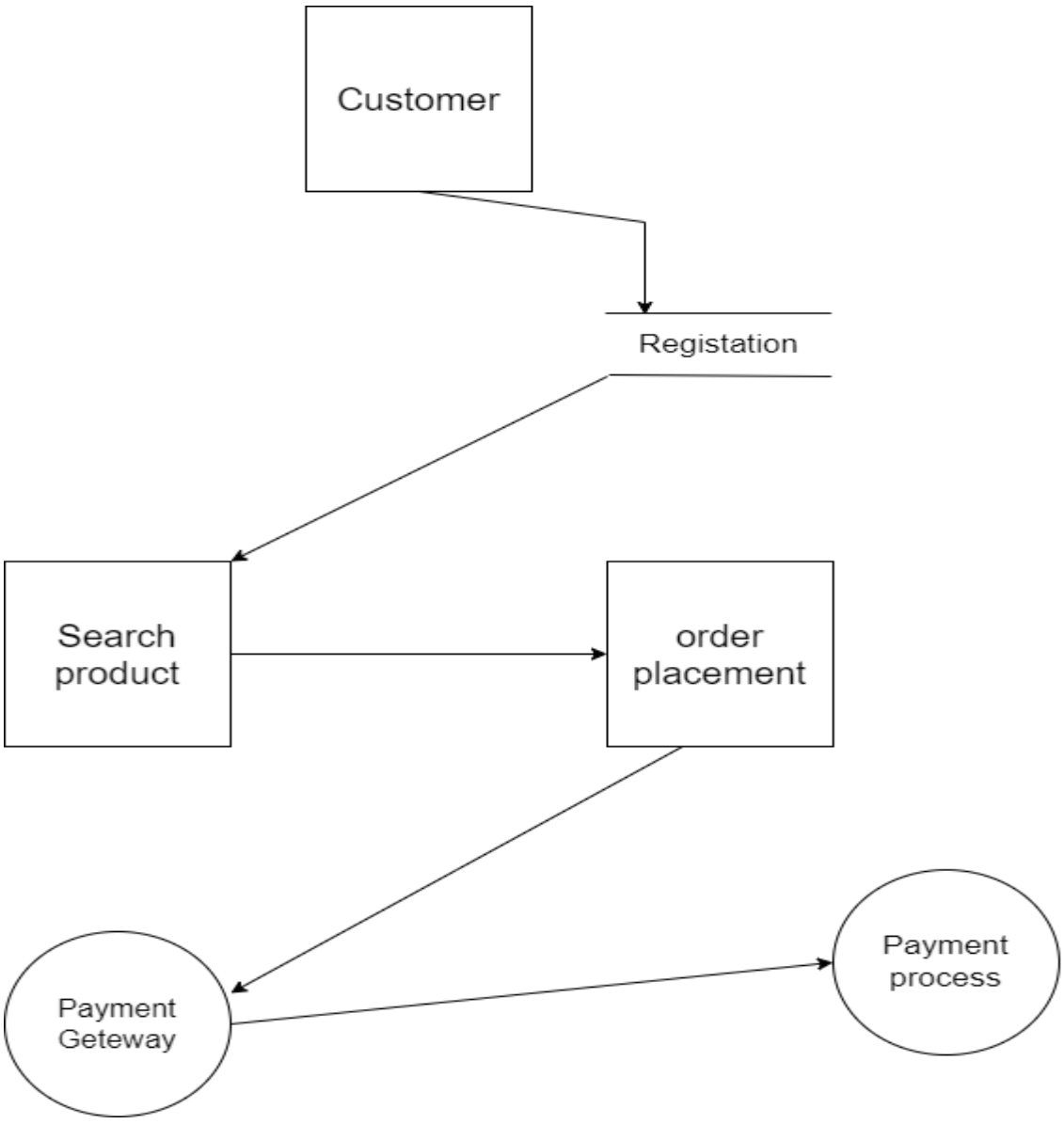
- **Implementation**
- the development team translates the design document into actual code. This process involves writing and configuring software modules, integrating them, and creating a working software system. In the Implementation Phase of SDLC, the development team translates the design document into actual code. This process involves writing and configuring software modules, integrating them, and creating a working software system.
- **Testing**
- The testing phase in a software development life cycle is a crucial stage that helps ensure the software meets the required standards. During this phase, the various components of the software are tested to ensure that they work as expected and conform to the specifications set out in the SDLC. Developers rectify any issues found during this testing phase, and a new version of the software is produced. In this fifth phase of SDLC, the testing is done to ensure that the entire application works according to the customer requirements.
- **Maintenances.**
- One of the primary activities during the maintenance phase is identifying and fixing software bugs or defects that may have been missed during the testing phase or have arisen in the production environment. SDLC occurs after the product is in full operation. Maintenance of software can include software upgrades, repairs, and fixes of the software if it breaks. Software applications often need to be upgraded or integrated with new systems the customer.

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

- **What is DFD?**

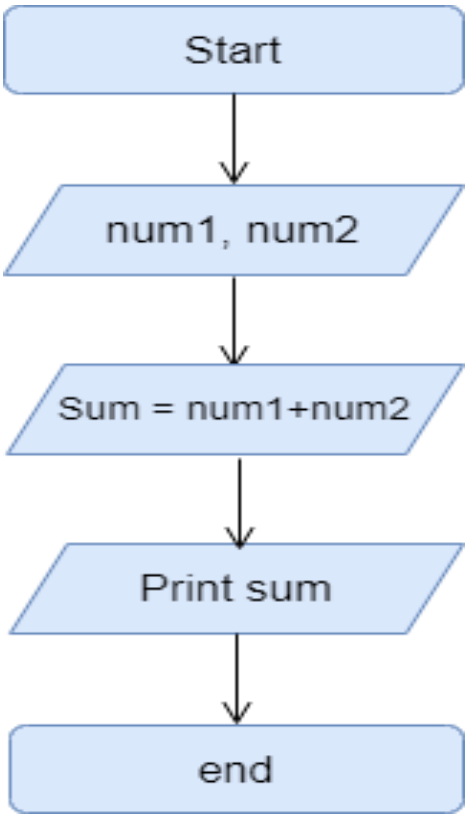
- The DFD (also known as a bubble chart) is a hierarchical graphical model of a system that shows the different processing activities or functions that system performs and the data interchange among these functions.
- Each function is considered as a processing station (or process) that consumes some input data and produces some output data. The system is represented in terms of the input data to the system, various processing carried out on these data, and the output data generated by the system.

- **Create a DFD diagram on Flipkart?**



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

- **What if Flow chart?**
- the flowchart symbols are used to show the steps, order and choices in a process. Together, they form a universal language that makes process analysis easy. I'm sure you've seen flowcharts before with various shapes, lines and arrows to depict stages within a bnprocess like where it begins or ends.
- **Create a flowchart to make addition of two numbers?**



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

- Use case model in UML provides system behaviour.
- Use cases represent the different ways in which a system can be used by the users.
- The purpose of use case is to define the logical behaviour of the system without knowing the internal structure of it.
- A use case represents a sequence of interactions between the user and the system.

- **Create a use-case on bill payment on Paytm?**