1)What is software? What is software engineering? :

software is a set of programs (sequence of instructions) that allows the users to perform a well-defined function or some specified task."

Software is a collection of codes, documents, and triggers that does a specific job and fills a specific requirement.

Engineering is the development of products using best practices, principles, and methods.

2)Explain types of software :

3 types of software:

System software:

System software is a computer program that helps the user to run computer hardware or software and manages the interaction between them. Essentially, it is software that constantly runs in the computer background, maintaining the computer hardware and computer's basic functionalities, including the operating system, utility software, and interface.

Utility software:

Utility software is developed to provide support in analyzing, optimizing, along configuring and maintaining a computer**.**

Application software:

Application programs or software applications are end-user computer programs developed primarily to provide specific functionality to the user. The applications programs assist the user in accomplishing numerous tasks such as doing online research, completing notes, designing graphics, managing the finances, watching a movie, writing documents, playing games, and many more**.**

3)What is SDLC? Explain each phase of SDLC:

SDLC means software development life cycle,The software development life cycle refers to a methodology, with clearly defined processor for creating high-quality software.

Phase of SDLC:

*Planning:

The planning stage (also called the feasibility stage) is exactly what it sounds like: the phase in which developers will plan for the upcoming project.

*Analysis:

The analysis stage includes gathering all the specific details required for a new system as well as determining the first ideas for prototypes.

Developers may:

- Define any prototype system requirements
- Evaluate alternatives to existing prototypes
- Perform research and analysis to determine the needs of end-users

*Designing:

In this phase, the software design is created, which includes the overall architecture of the software, data structures, and interfaces. It has two steps:

High-level design (HLD): It gives the architecture of software products.

Low-level design (LLD): It describes how each and every feature in the product should work and every component.

*Implementation:

Implementation/Coding starts once the developer gets the Design document. The Software design is translated into source code. All

the components of the software are implemented in this phase.

*Testing:

The software is thoroughly tested to ensure that it meets the requirements and works correctly.

*Maintaince:

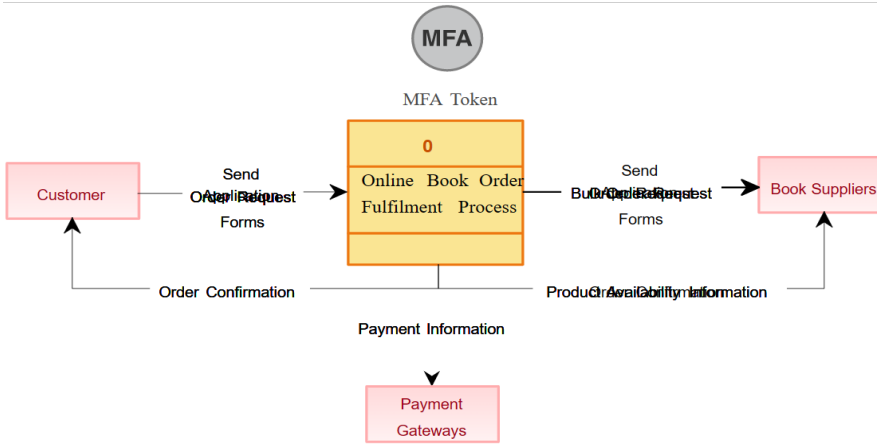
After the deployment of a product on the production environment, maintenance of the product

i.e. if any issue comes up and needs to be fixed or any enhancement is to be done is taken care by the developers.

4)What is DFD? Create a DFD diagram on Flipkart:

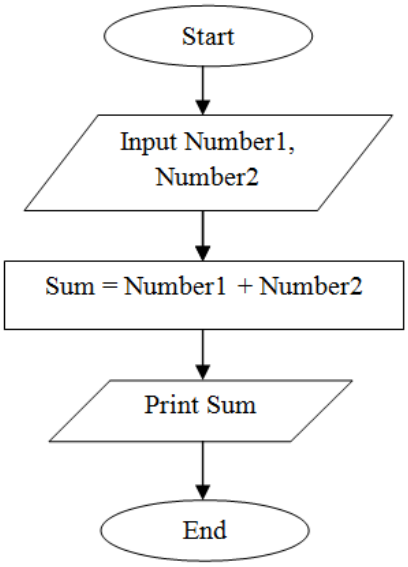
Data flow diagram (DFD) is **a diagram being used frequently in software design**.

It visually represents the flow of data throughout processes in a given system. DFD shows the kind of information that will be input to and output from processes as well as where the data will be stored.



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

A **flowchart** is a type of diagram that represents a workflow or process. A flowchart can also be defined as a diagrammatic representation of an algorithm, a step-by-step approach to solving a task. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows.



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

Use-case diagrams describe the high-level functions and scope of a system. These diagrams also identify the interactions between the system and its actors. The use cases and actors in use-case diagrams describe what the system does and how the actors use it, but not how the system operates internally.