1. What is software? What is software engineering?

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

The process of analyzing user needs and designing, constructing, and testing end-user applications that will satisfy these needs through the use of software programming languages.

Indeed, Margaret Hamilton, renowned mathematician and computer science pioneer, is credited with having coined the term software engineering while developing the guidance and navigation system for the Apollo spacecraft as head of the Software Engineering Division of the MIT Instrumentation Laboratory.

1. Explain types of software ?

## =} The two main categories of software are application software and system software. An application is software that fulfills a specific need or performs tasks.System software is designed to run a computer's hardware and provides a platform for applications to run on top of.

## A list of some of the most well-known computer software examples includes: Operating systems (such as Microsoft Windows, Linux, macOS) Productivity Software (for example, Microsoft Office Suite including Word, Excel, and PowerPoint) Internet Browsers (including Firefox, Chrome, and Safari)

## Commonly, software(allows a user to simplify tasks in their system).These programs usually include a graphic user interface that enables users to access the software and its functions, even if they don't know or use computer programming.

1. What is SDLC? Explain each phase of SDLC.

=} An SDLC (software development life cycle) is a big-picture breakdown of all the steps involved in software creation (planning, coding, testing, deploying, etc.).Companies define custom SDLCs to create a predictable, iterative framework that guides the team through all major stages of development.

The(software development) lifecycle (SDLC) is the cost-effective and time-efficient process that development teams use to design and build high-quality software. The goal of SDLC is to minimize project risks through forward planning so that software meets customer expectations during production and beyond.

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

## =} DFD is the abbreviation for (Data Flow Diagram). The flow of data of a system or a process is represented by DFD. It also gives insight into the inputs and outputs of each entity and the process itself. DFD does not have control flow and no loops or decision rules are present.

## A data flow diagram (DFD)(maps out the flow of information for any process or system). It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination.

## It helps us to understand the functioning and the limits of a system.It is a graphical representation which is very easy to understand as it helps visualize contents. Data Flow Diagram represent detailed and well explained diagram of system components.

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

=} Algorithm: To find the sum and product of two given numbers: Step 1: Read A , B Step 2: Let Sum= A+B Step 3: Let Product=A\*B Step 4: Print Sum, Product Step 5: Stop. Flowchart: To find the sum and product of two given numbers: Ex: What are the advantages and limitations of flowcharts when used to solve a problem? A flowchart is a picture of the separate steps of a process in sequential order. It is a generic tool that can be adapted for a wide variety of purposes, and can be used to describe various processes, such as a manufacturing process, an administrative or service process, or a project plan.

Flowcharts are sometimes called by more specialized names such as Process Flowchart, Process Map, Functional Flowchart, Business Process Mapping, Business Process Modeling and Notation (BPMN), or Process Flow Diagram (PFD).

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

=} 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. Use-case diagrams illustrate and define the context and requirements of either an entire system or the important parts of the system.

Start by drawing the system boundary and giving a name to the system. Identify the actors and add them to the workspace, outside the system boundary. They are the external entities that interact with your system and can be a person, another system or an organizatio.

A use case diagram is  in usually simple. It does not show the detail of the use cases: It only summarizes some of the relationships between use cases, actors, and systems. It does not show the order in which steps are performed to achieve the goals of each use case.