(1)What is software?What is software engineering?

Ans-Software is the set of instructions and data that tell computers what to do. It's the programs that make computers useful for tasks like browsing the internet, editing documents,playing games.

Software engineering is the process of creating and maintaining software in a systematic way. It involves planning, designing, coding, testing, and improving software to make sure it works well, is reliable, and can be easily updated.

(2)Explain types of software?

Ans-1)System Software: This includes operating systems and utility programs that manage and control the computer hardware, provide a platform for other software, and help maintain the overall system.

2)Application Software: This encompasses software designed for specific tasks or activities that users want to perform, such as word processing, web browsing, graphics editing, and more.

3)Programming Software: These are tools used by developers to create software applications, including integrated development environments (IDEs), code editors, compilers, and debuggers.

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

Ans-Software Development Life Cycle, is a step-by-step process that software developers follow to create and manage computer programs. It includes stages like planning what the software will do, designing how it will work, writing the code, testing it for problems, putting it into use, and keeping it working well over time.

The SDLC process is typically divided into several phases, each with its own specific objectives and tasks.

1)Requirements-

In this phase, project stakeholders (including clients, users, and developers) collaborate to gather and define the project requirements. These requirements outline the functionality, features, and constraints of the software.

2)Analysis-

Analysts and developers work together to clarify and document the requirements, ensuring a clear understanding of what the software should achieve.

3)Design-

The requirements are transformed into a detailed system design. The design includes architectural decisions, data structures, interfaces, and other technical specifications. This phase serves as a blueprint for the development team to follow.

The design can be divided into high-level design (HLD) and low-level design (LLD), focusing on overall structure and component-level details, respectively.

4)Implementation (Coding)-

This is the phase where actual coding takes place based on the design specifications. Developers write code according to the chosen programming languages and coding standards. The implementation phase involves creating software modules, integrating components, and performing unit testing to ensure that individual parts of the software work as intended.

5)Testing-

Once the coding is complete, the software is subjected to rigorous testing. This phase includes various types of testing such as:

Unit Testing: Testing individual components or modules to verify their functionality.

Integration Testing: Testing the interaction between different components to ensure they work together correctly.

System Testing: Testing the entire system as a whole to validate that it meets the defined requirements.

User Acceptance Testing (UAT): Testing performed by the end-users to ensure the software meets their needs and expectations.

6)Deployment-

After successfully passing testing and quality assurance, the software is deployed to a production environment. This phase involves installation, configuration, and setting up the software for end-users. It can also involve data migration and user training.

7)Maintenance-

Once the software is deployed, it enters the maintenance phase. This phase involves monitoring the software in the production environment, addressing any issues or bugs that arise, and making necessary updates and improvements. Maintenance can be categorized as corrective, adaptive, perfective, and preventive maintenance.

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

Ans-DFD stands for Data Flow Diagram. It's a visual representation used to show how data moves through a system or process. DFDs use various symbols and arrows to illustrate the flow of data from sources to destinations, as well as the transformations that occur along the way.

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

Ans-A flowchart is a graphical representation of a process or algorithm using various symbols and arrows to depict the sequence of steps and decisions involved. It is commonly used to visually explain complex processes in a clear and concise manner.

Flowcharts are widely used in various fields, including programming, engineering, business, and more.

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

Ans-A use case diagram is like a map that shows how different people or systems interact with a computer program or a system to get things done. It's a simple way to understand who does what and how things happen in a software system.