Module – 1

SE - Overview of IT industry

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

Ans:

Software: The software is basically a set of instructions or commands that tell a computer what to do. In other words, the software is a computer program that provides a set of instructions to execute a user’s commands and tell the computer what to do. For example like MS-Word, MS-Excel, PowerPoint, etc.

Software engineering: Software Engineering is the process of designing, developing, testing, and maintaining software. It is a systematic and disciplined approach to software development that aims to create high-quality, reliable, and maintainable software.

(2) Explain types of software?

Ans:

Here are some common types of software:

A) System Software:

This software is designed to provide a platform for other software to run on. Examples include operating systems like Windows, macOS, and Linux, as well as device drivers and utility programs that help manage computer hardware and resources.

B) Application Software:

Application software is designed to perform specific tasks or functions for end-users. It includes a wide range of programs such as word processors (e.g., Microsoft Word, Google Docs), spreadsheet applications (e.g., Microsoft Excel, Google Sheets), web browsers (e.g., Google Chrome, Mozilla Firefox), and multimedia players (e.g., VLC Media Player, iTunes).

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

Ans:

SDLC stands for Software Development Life Cycle.

SDLC is a process used by software development organizations to plan, design, develop, test, deploy, and maintain software applications.

1. Planning: In this initial phase, the project's scope, objectives, and requirements are defined. Key stakeholders are identified, and a project plan is developed, outlining the schedule, resources, and budget.
2. Requirement Gathering: This phase involves gathering information about the software requirements from stakeholders, such as customers, end-users, and business analysts.
3. Analysis: In the analysis phase, the gathered requirements are analyzed and refined to ensure clarity, completeness, and consistency.
4. Design: The design phase involves creating a blueprint or architectural design for the software system based on the analyzed requirements.
5. Implementation: In the implementation phase, the actual coding or programming of the software system takes place based on the design specifications. Developers write, test, and integrate the source code for individual components or modules of the system. This phase also involves activities such as code reviews, unit testing, and debugging to ensure the code meets quality standards and works as intended.
6. Testing: Once the software is developed, it undergoes rigorous testing to identify and fix defects or bugs.
7. Deployment: In the deployment phase, the software is released and installed in the production environment. This may involve activities such as data migration, user training, and configuration management to ensure a smooth transition from development to production.
8. Maintenance: The final phase of SDLC is maintenance, where the software is monitored, updated, and improved to address issues, accommodate changes, and enhance functionality over time.

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

Ans:

A Data Flow Diagram (DFD) is a graphical representation of the flow of data within a system. It illustrates how data is input, processed, and output in a system, showing the interactions between various components or processes.

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

Ans:

A flowchart is a visual representation of a process that uses geometric shapes connected by arrows to illustrate the steps and decision points. It's a way to break down a problem or task into smaller, easier-to-understand steps.

Flowchart:

Input Number 1,

Number 2

Print Sum

Sum = Number 1 + Number 2

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

Ans:

A use case diagram is a visual representation of a system's functionality from the perspective of its users. It shows the interaction between actors (users or external systems) and the use cases (functional units) within the system.

Is payment Successful

Process payment

Fetch bill information

Open paytm app,select bill provider