**Module(SDLC)-1**

**1). What is software? What is software engineering?**

**Ans.**

**Software:-**

* Software is a set of instructions, data or programs used to operate computers and execute specific tasks.
* It is the opposite of hardware, which describes the physical aspects of a computer**.** The two main categories of software are application software and system software.

**Software Engineering:-**

* Software engineering is defined as a process of analyzing user requirements and then designing, building, and testing software application which will satisfy those requirements.

**2). Explain types of software.**

**Ans.**

* There are different types of software based on their classification. However, if we broadly classify the types of software in a computer, there are two major types as listed below :
* System Software
* Application Software

**System Software :**

* System software is usually defined as a set of various programs or instructions that help to control or manage the hardware devices connected to the computer and other important resources of the system.
* Specifically, it helps in making the working of the computer efficient, enables faster performance in a secure manner. In addition, the system software also establishes a platform to run the application software.

**Ex.:-**

* Mac OS, Linux, Android and Microsoft Windows.

**Application Software :**

* Application software refers to a set of programs and instructions that help perform specific tasks, on a computer system.
* It is mainly designed to meet certain requirements of a particular environment.
* Application software can be downloaded and installed manually on the computer system and these software have nothing to do with the system core functions.

**Ex.:-**

* Word Processor, Microsoft Word, Spreadsheet, Web browser.

## 3). What is SDLC? Explain each phase of SDLC

## Ans.

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

## 

## Phase Of SDLC shown Below:

## Planning :-

## The planning phase typically includes tasks like cost-benefit analysis, scheduling, resource estimation, and allocation.

## The development team collects requirements from several stakeholders such as customers, internal and external experts, and managers to create a software requirement specification document.

## Design :-

## In the design phase, software engineers analyze requirements and identify the best solutions to create the software.

## Implement :-

## In the implementation phase, the development team codes the product.

## They analyze the requirements to identify smaller coding tasks they can do daily to achieve the final result.

## Test :-

## The development team combines automation and manual testing to check the software for bugs.

## Quality analysis includes testing the software for errors and checking if it meets customer requirements.

## Deploy :-

## When teams develop software, they code and test on a different copy of the software than the one that the users have access to.

## The software that customers use is called production, while other copies are said to be in the build environment, or testing environment.

## Maintain :-

## In the maintenance phase, among other tasks, the team fixes bugs, resolves customer issues, and manages software changes.

## In addition, the team monitors overall system performance, security, and user experience to identify new ways to improve the existing software.

## 4). What is DFD? Create a DFD diagram on Flipkart.

## Ans.

## DFD is the abbreviation for DATA FLOW DIAGRAM. The flow of data of a system or a process is represented by DFD.

## DFD Diagram on Flipkart :

## 

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

## Ans.

## Flowchart is a diagrammatic representation of sequence of logical steps of a program.

## Flowcharts use simple geometric shapes to depict processes and arrows to show relationships and process/data flow.

## Addition of Two numbers Flowchart :-

## 

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

## Ans.

## A use case diagram is used to represent the dynamic behaviour of a system.

## It encapsulates the system's functionality by incorporating use cases, actors, and their relationships.

## It models the tasks, services, and functions required by a system/subsystem of an application.

## It depicts the high-level functionality of a system and also tells how the user handles a system.

## Use-Case Diagram on Bill payment on Paytm :-

## 