Q1. What is software ?

Software is a computer system, 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,ETC.

Q1-WHAT IS SOFTWARE ENGINEERING ?.

Software Engineering is 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.

**Q2.EXPLAIN TYPES OF** SOFTWARE.

CUSTOMISED

SOFTWARE,RAILWY RESERVATION SYSTEM,ETC.

PHOTOSHOP ,MS WORD,ETC

DRIVER SOFTWARE

COMPILER

ETC…

OPERATING SYSTEM

WINDOWS, ETC…

APPLICATION

SOFTWARE

SYSTEM

SOFTWARE

TYPES OF

SOFTWARE

UTILITY SOFTWARE

1CAM.

2CAD.

There are several types of software based on their functionality and purpose

1. System software 🡪

:System software is essential for running computer hardware and providing a platform for running application software. Examples include operating systems (such as Windows, macOS, Linux), device drivers, and utility programs like antivirus software and disk defragmenters

1. Application software 🡪

: Application software is designed to perform specific tasks or applications for end-users. Examples include word processors (Microsoft Word, Google Docs), spreadsheets (Microsoft Excel, Google Sheets), web browsers (Google Chrome), and multimedia players (VLC Media ).

3.Utility software 🡪

: Utility software provides tools to perform maintenance and optimization tasks on a computer system. Examples include antivirus software, backup software, disk cleanup tools, and file compression utilities.

**Q3**. What is SDLC? Explain each phase of SDLC

SDLC stands for Software Development Life Cycle, which is a structured process used by software developers to design, develop, and test high-quality software efficiently. The SDLC consists of several well-defined phases, each with its own set of activities and deliverable.

1.Planning phase.->

project goals, requirements, and constraints are identified and documented. A project plan is created outlining the scope, timelines, resources, and budget

Requirements gathering and project planning.

2.Analysis phase.->

During this phase, detailed requirements are gathered, analyzed, and documented. The focus is on understanding the user needs and defining the system's functionalities

3.Design phase.-> The design phase focuses on transforming the requirements into a detailed system design. Architectural design, database design, user interface design, and system design are created.

High level desing,detailed desing and system architecture.

4.Implementation phase.->

In this phase, the actual coding and development of the software system take place based on the detailed design specifications. Developers write code, integrate components, and conduct unit testing.

Unit testing ,code reviews and debugging

5.Testing phase.->

The testing phase involves verifying that the software system meets the specified requirements and functions correctly. Different types of testing such as unit testing, integration testing, system testing, and acceptance testing are performed.

Test reports.

6.Deployment phase.->

During deployment, the software is released to the end-users or customers. Installation, configuration, training, and user acceptance testing are conducted.

User manuals, trainning materials.

7.Maintenance phase.->

The maintenance phase involves post-deployment activities such as bug fixing, software updates, enhancements, and ongoing support to ensure the software continues to meet user needs

Q4. What is DFD? Create a DFD diagram on Flipkart

A Data Flow Diagram (DFD) is a visual representation of how data flows within a system. It illustrates the processes, data stores, data sources, and data destinations in a system and shows how data moves through the system. DFDs are commonly used in software engineering and business analysis to understand, document, and communicate the flow of data in a system.

External Entities->

- Customer

- Seller

- Payment Gateway

Processes🡪

- Place Order

- Process Payment

- Update Inventory

- Generate Invoice

Data Stores->

- Product Database

- Customer Database

- Order Database

Data Flows🡪

- Customer submits order details

- Order details flow to Place Order process

- Payment details flow to Process Payment process

- Inventory updates flow to Update Inventory process

- Invoice details flow to Generate Invoice process

- Confirmation message flows to Customer

Sample DFD Diagram:

Online Shopping

System

|

|

Customer

|

|

v

Customer

Database

|

|

Order details

|

|

v

Place Order

Process

|

|

Payment details

|

|

v

Process Payment

|

|

Inventory updates

|

|

Update Inventory

|

|

Invoice details

|

|

Generate Invoice

|

|

Confirmation Message🡪 Customer (Confirmation)

**Q5. What is flow chart ? Create a flowchart to make addition of two numbers.**

A flowchart is a visual representation of a process or algorithm that uses different shapes and arrows to show the steps involved, the sequence of steps, decision points, and the flow of control in a system**.**

END

Num1 is big

Num2 is big

Num1 >Num2

Num1, num2

Start

No yes

**Q5** • **What is Use case Diagram? Create a use-case on bill payment on paytm.**

A Use Case Diagram is a visual representation of the interactions between a system and its users to capture the system's functionalities or features from a user's perspective. It illustrates the different ways users interact with a system to achieve specific goals

🡪Paytm

|

Initiates

v

Customer

|

Make Bill Payment

|

View Bill Details

|

Save Bill Payment Method

V

Payment Gateway

|

Process Payment

v

Bill Payment Service.