ASSIGNMENT

QUESTION:-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.

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. Software engineering includes a variety of techniques, tools, and methodologies, including requirements analysis, design, testing, and maintenance.

QUESTION:-2.EXPLAIN TYPES OF SOFTWARE.

There are several types of software based on their functionalities, which are as follows-

(1).System Software

System software allows the user to run computer software or hardware and is responsible for managing their interaction with each other. It perpetually runs in the background to maintain the basic functionalities and the hardware of the computer. It essentially acts as a mediator between the computer and the user to facilitate operations. System software is of four types, which are as follows

i).Operating System – The operating system is a collection of software that helps execute programs and offers a computer application's general services. There are various types of operating systems, such as iOS, macOS, Windows, Unix, Linux, and Ubuntu, among others.

ii).Device Drivers – Device drivers handle the operations of the hardware devices connected to a computer. They act as a software interface for the hardware devices so that applications and the operating system of a computer can run the hardware functions without having the knowledge of the hardware's exact specifications.

iii).Firmware – Firmware is embedded in the read-only memory of a system and is a type of permanent software that offers low-level control for certain device hardware.

iv).Utility – Utility software functions to configure, maintain, and offer support in the analysis and optimization of the computer.

(2).Application Software

Application software or application programs are end-user programs that serve specific functionality to help users accomplish certain tasks. This includes graphic designing, researching online, drafting documents, watching movies or playing games, and managing finance among others. Developers keep creating software applications based on the evolving needs of users. There are various types of application software, which are as follows-

i).Word Processors – Word processor software, as the name suggests, is designed for making notes, typing data, and documentation. Users can also format, store, and print their data and documents respectively using word processes.

ii).Database Software – Also known as Database Management System (DBMS), database software allows users to perform various operations on quickly retrieved data, such as creation, management, organization, and modification. Some popular examples of DBMS are MS Access, dBase, MySQL, Oracle, Microsoft SQL Server, and FileMaker.

iii).Multimedia Software – Users can perform certain actions on their computer, such as playing and recording music and video files as well as creating images with the help of multimedia software. This type of software has a massive application in the field of graphic designing where users create gifs, images, animations, and edit videos. Adobe Photoshop and Illustrator, Windows Movie Maker and Media Player, Corel Draw, and Picasa are some common types of multimedia processors.

iv).Web Browsers – Web Browsers are used for browsing the internet and their primary function is to allow users to fetch data across the web and also position the data. In simpler terms, you would access the internet with the help of web browsers so that you find the information that you need. Chrome, Opera, Mozilla Firefox, Microsoft Edge, Apple Safari, and UC Browser are very commonly used web browsers.

v).Freeware – Freeware software is made available free of cost for a lifetime and it can be downloaded from the internet. This type of software is generally created by companies to improve their reach and gain more popularity. Some such software that is available free of cost for different purposes are Skype, Audacity, Zoom, Adobe Reader, WhatsApp, etc.

vi).Shareware – Shareware, much like Freeware, can be downloaded from the internet. However, the main difference between both is that, while freeware can be used for an unlimited amount of time without having to make any payment, shareware can be used on a trial basis. Adobe Acrobat and Photoshop, WinZip, and PHP Debugger are some popular types of shareware software.

vii).Open-Source – Open-source software is also available on the internet free of cost. However, what differentiates them from freeware is that they are available with their source code. This means users who download open-source software can make changes and transformations to it and even add features to it.

(3).Programming Software

Programs and software are created by coders using different software tools, known as programming software. Some such programs used for software development by coders are as given below-

i).Compilers – The conversion of codes written by humans into lower-level machine code is performed by compilers. These machine codes can be interpreted directly by computer hardware. While compilers serve a very basic purpose, they are the basis for creating even the most complicated and sophisticated software.

ii).Debuggers – Debuggers play an essential role in ensuring your software or application performs well by testing and debugging the computer code.

iii).Linkers – Linkers are responsible for combining various individual files from a compiler into a single executable file. The file converted, as a result, runs on its own without requiring a programming environment.

iv).Malware – Malware is software developed to attack computers and their software in a harmful way to cause them to misbehave or seize to work. This includes viruses, ransomware, trojans, and worms. Since there are a variety of malware that may be mistakenly downloaded, it is crucial to have antimalware software on your computer to keep it safe from their attacks.

QUESTION :- 3. WHAT IS SDLC ? EXPLAIN EACH PHASE OF SDLC

SDLC (Software Development Life Cycle) is used in Every Software Development Company because it is the root of the Development Cycle, if that model would not exist in the world, firstly no software can build secondly if any how it would be made, it's not going to succeed it has no use, because of no maintenance, but Luckily SDLC model exist in Tech world But why we need it Actually!

EACH PHASE OF SDLC

I). Requirements gathering and analysis: This phase involves gathering information about the software requirements from stakeholders, such as customers, end-users, and business analysts.

II).Design: In this phase, the software design is created, which includes the overall architecture of the software, data structures, and interfaces. It has two steps:

High-level design (HLD): It gives the architecture of software products.

Low-level design (LLD): It describes how each and every feature in the product should work and every component.

III). Implementation or coding: The design is then implemented in code, usually in several iterations, and this phase is also called as Development.

things you need to know about this phase:

This is the longest phase in SDLC model.

This phase consists of Front end + Middleware + Back-end.

In front-end: Development of coding is done even SEO settings are done.

In Middleware: They connect both the front end and back end.

In the back-end: A database is created.

IV). Testing: The software is thoroughly tested to ensure that it meets the requirements and works correctly.

V). Deployment: After successful testing, The software is deployed to a production environment and made available to end-users.

VI). Maintenance: This phase includes ongoing support, bug fixes, and updates to the software.

QUESTION:-4 WHAT IS DFD? CREATE A DFD DIAGRAM ON FLIPKART

(data flow diagram)

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
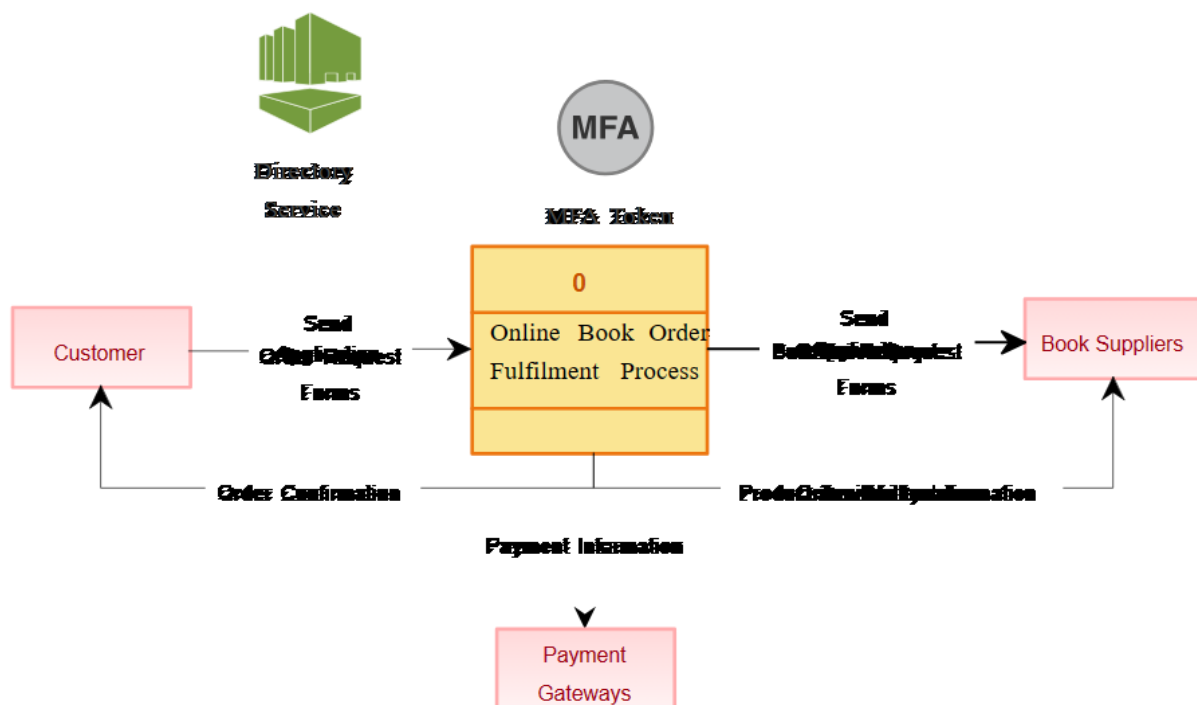
QUESTION :- 5 WHAT IS FLOW CHART? CREATE A FLOWCHART TO MAKE ADDITION OF TWO NUMBERS

Flow Chart

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.

CREATE A FLOWCHART TO MAKE ADDITION OF TWO NUMBERS
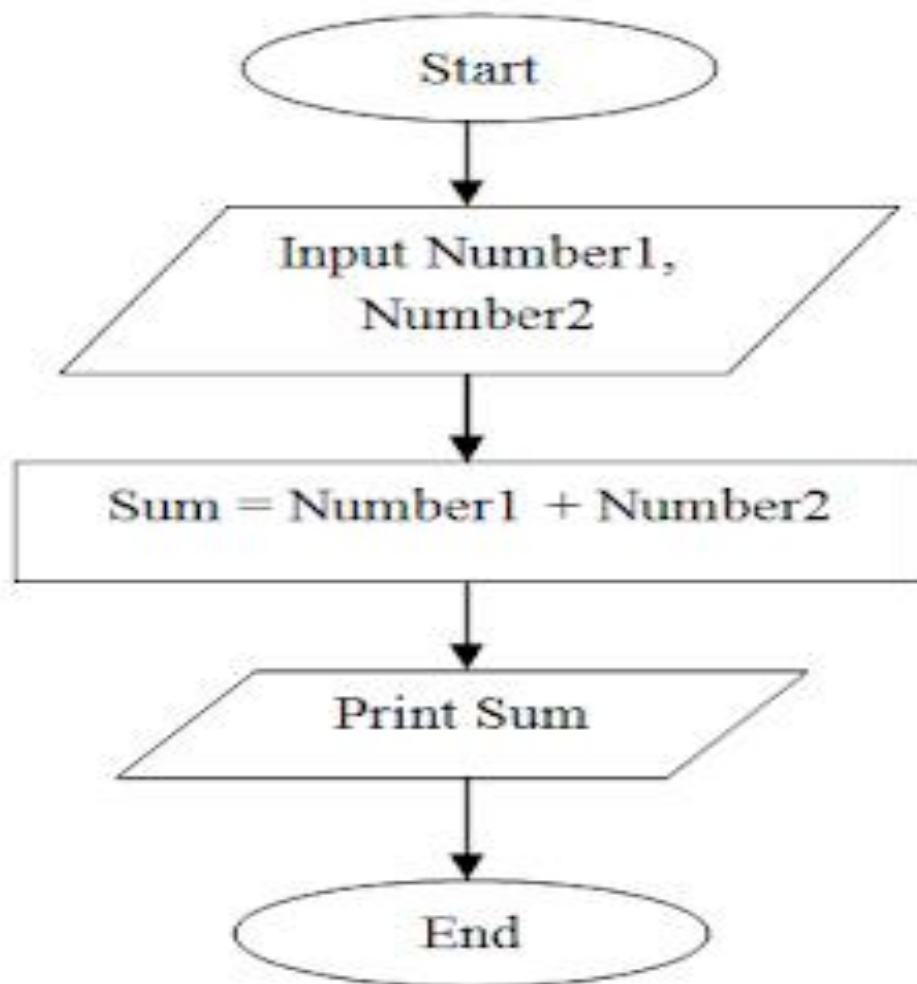
QUESTION:-6 what is use case diagram?create a use-case on bill payment on paytam

Use case Diagram

use-case diagrams model the behavior of a system and help to capture the requirements of the system. Use-case diagrams describe the high-level functions and scope of a system. These diagrams also identify the interactions between the system and its actors.

create a use-case on bill payment on paytam