First Assignment

Q1 WHAT IS PROGRAM?

A program is a set of instructions that a computer follows to perform a specific task or solve a problem. It is written in a programming language and can range from simple tasks, like adding numbers, to complex tasks, like running a website.

Q2 WRITE A SIMPLE "hello word" PROGRAM ?

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Hello World</title>
</head>
<body>
    <h1>Hello, World!</h1>
</body>
</html>
```

Q3 WHAT IS PROGRAMMING?

Programming is the process of writing instructions (called code) that tell a computer how to perform specific tasks. It involves using a programming language to create software, applications, or websites.

Q4 TYPES OF PROGRAMING LANGUAGE?

c++, PYTHON, JAVA ,JAVASCRIPT ,NODE.JS, ETC

Q5 DIFFRENCE BETWEEN HIGH-LEVEL & LOW-LEVEL PROGRAMMING LANGUAGE?

HIGH-LEVEL= High-level languages provide more abstraction from machine hardware.
LOW-LEVEL=Low-level languages are closer to the machine’s native code and hardware.

Q6 WHAT IS WORD-WIDE-WEB?

The World Wide Web (WWW) is a system of websites and web pages that are linked together and can be accessed over the internet. It's where you find things like websites, videos, and online content, which you view using a web browser like Google Chrome or Safari.

Q7 DESCRIBE THE ROLE CLIENT AND SERVER IN WEB COMMUNICATION.

Client: The client is the device (like a computer, phone, or tablet) that requests information from the web. It usually uses a web browser (like Chrome or Safari) to visit websites.

Server: The server is a computer that stores websites and responds to requests from clients. When the client asks for a webpage, the server sends the requested page back.

Q8 DEFINE NETWORKING LAYER ON CLIENT AND SERVER SIDE.

1-Application Layer:
The server receives requests from the client through application protocols like HTTP/HTTPS.
2-Transport Layer:
The server uses TCP or UDP to ensure reliable communication with the client.
3-Network Layer:
The server's IP address is used to identify where the server is located on the internet or network.
4-Data Link Layer:
The server communicates with the network using the appropriate local network protocols (e.g., Ethernet or Wi-Fi)

5-Physical Layer:
Just like the client-side, the physical layer on the server side involves the actual hardware and medium that facilitate the transmission of data packets over the network.

Q 9 explain client server communitaion?
Client-server communication is a way of exchanging data between two devices: the client (like a computer or smartphone) and the server (a computer that provides services or resources).

Q 10 types of internet connection ?

1 Broadband

2 Satellite

3 Cable

4 Fiber Optic

5 Wireless (Wi-Fi)

Q 11 difference between broadband and fiber-optic interent ?

1 Broadband:

Definition: Broadband is a general term for any high-speed internet connection that offers fast data transfer. It can be delivered through different technologies, such as DSL, cable, satellite, or fiber-optic.

2 Fiber-Optic Internet:

Definition: Fiber-optic internet is a specific type of broadband that uses light signals sent through glass or plastic fibers to deliver ultra-fast internet.

Q 12 what is difference between http and https protocol?

1 HTTP (Hypertext Transfer Protocol):

Definition: HTTP is a protocol used for transferring data (like web pages) over the internet. It is not secure,

2 HTTPS (Hypertext Transfer Protocol Secure):

Definition: HTTPS is a secure version of HTTP.

q 13 difference between system software and application software?

1 system software
Definition: System software helps run the computer and manage hardware. It provides a platform for running application software.
Example: Operating systems (like Windows, macOS, Linux) and device drivers

2 Application Software:
Definition: Application software is designed to perform specific tasks for the user, like word processing, web browsing, or playing music.
Example: Microsoft Word, Google Chrome, Spotify.

Q14 types of layer in improtant software architecture?

1. Presentation Layer (User Interface Layer)

2. Application Layer (Business Logic Layer)

3 Data Layer (Persistence Layer)

4 Service Layer (API Layer)

Q 15 what is difference between source code and machine code?

Source Code:

Definition: Source code is the human-readable set of instructions written by a programmer using a programming language (like Python, Java, or C++).
Example: A Python script that prints "Hello, World!" (print("Hello, World!")).

Machine Code:

Definition: Machine code is the binary code (composed of 0s and 1s) that the computer's processor (CPU) understands and executes directly.
Example: A series of 0s and 1s like 10101100 01101001 10110010.

Q16 why version control in software development?

1 Track Changes:

2 Collaboration:

3 Backup and Restore:

4 Code History:

Q17 types of software ?

1 System Software:

2 Application Software:

3 Development Software:

4 Firmware:

Q NO 17 create DFD Digram ?

ans => To create a Data Flow Diagram (DFD), start by identifying the system's processes, data stores, and external entities. Use online tools like Lucidchart, Canva, or Visual Paradigm to easily design your DFD with templates and drag-and-drop features. Steps to Create a Data Flow Diagram (DFD)

Identify Components

Processes: Define the main activities that transform data.
Data Stores: Identify where data is stored (e.g., databases).
External Entities: Determine who or what interacts with the system (e.g., users, other systems).
Choose a Tool

Use online diagramming tools such as:
Lucidchart: Offers templates and collaborative features.
SmartDraw: Provides a SmartPanel with symbols for DFDs.
draw.io: Allows for easy shape selection and linking.
Start with a Template

Select a DFD template from your chosen tool to save time and ensure you have the correct symbols.
Add Symbols

External Entities: Represented as squares.
Processes: Shown as circles or ovals.
Data Stores: Depicted as open-ended rectangles.

Data Flows: Arrows indicating the direction of data movement.
Connect Components

Use arrows to connect processes, data stores, and external entities, indicating how data flows between them.
Label Everything

Clearly label each component and data flow to ensure clarity and understanding.
Review and Refine

Check the diagram for accuracy and completeness. Ensure that all necessary components are included and that the data flow is logical.
Share and Collaborate

Once completed, share the DFD with stakeholders for feedback. Most tools allow easy sharing options.
Example of DFD Components

Processes: Order Processing, Payment Processing
Data Stores: Customer Database, Order Database
External Entities: Customer, Payment Gateway
By following these steps, you can create a clear and effective Data Flow Diagram that visually represents the flow of data within your system.

Share
New
Edit
Continue

Q NO 18 CREATE A FLOWCHART DIGRAM IN PROCESS ?

ANS => Steps to Create a Flowchart
Define the Purpose: Determine what process you want to illustrate with the flowchart.

Identify the Steps: List all the steps involved in the process.

Choose a Flowchart Tool: Use online tools like:

Lucidchart
Microsoft Visio
draw.io
Canva
Select Flowchart Symbols:

Oval: Start/End
Rectangle: Process/Action
Diamond: Decision
Arrow: Flow of control
Start with the Start Symbol: Place an oval at the top labeled "Start."

Add Process Steps: Use rectangles to represent each step in the process.

Include Decision Points: Use diamonds to represent any decision points that affect the flow.

Connect the Symbols: Use arrows to show the direction of the flow from one step to the next.

End with the End Symbol: Conclude with an oval labeled "End."

Review and Refine: Ensure the flowchart accurately represents the process and is easy to understand.

Example Flowchart

Here's a simple text representation of a flowchart for a basic process, such as making a cup of coffee:

Verify

Open In Editor

Run

Copy code

```
[Start]
   |
   v
[Boil Water]
   |
   v
[Add Coffee Grounds]
   |
   v
[Pour Water]
   |
   v
[Stir Coffee]
   |
   v
[Add Sugar?] -- Yes --> [Add Sugar]
   | No
   v
[Add Milk?] -- Yes --> [Add Milk]
   | No
   v
[Serve Coffee]
   |
   v
[End]
```

Creating the Flowchart Visually

To create this flowchart visually:

Open your chosen flowchart tool.

Use the symbols mentioned above to create the flowchart.

Connect the symbols with arrows to indicate the flow of the process.

Label each step clearly.