Q1=what is program?

ans=a program is a set of instruction writtrn in a programming language that tell a computer what to do

Q2=what is programming?
ans=programming is the process of writing,instruction that tell a computer how to perform task.

Q3=what are the key steps involved in the programming process?type of programming languges
ans=1>problem analysis
2>algorithm design
3>coding
4>testing
5>execution
types=low,high,

Q4=what are the main difference between high-level and low-level programming language?
ans=ease of use:high-level are easy to read and write
abstraction:low-level work close to hardware
protability:low-level are hardware-dependent

Q=data transmission daigram

Q5=describe the role of the cilent and server in web communication network layer on cilent and server?
ans=

#cilent=send request and display the response
#server=receives request,process them,and send back the data.
1=application layer
2=transport layer
3=network layer
4=data link layer
5=physical layer

Q6=explain the function of the tcp/ip model and its layer?
ans=
#1=application layer:provide network services to user
#2=transport layer:ensure reliable data transfer
#3=internet layer:handel addressing and routing
#4=network access layer:tranmits data over physical network

Q7=explain cilent server communication?
ans=cilent-server communication is a process cilent send a request to server
#1=dial-up
#2=dsl

#3=fiber-optic
#4=cable internet
#5=mobil data

Q8=how does broadband-connection differ from fiber-optic cable
ans=broadband:uses copper cable
fiber-optic:uses fiber cable
protocols:are the ruels difine in network
example:hhtp,ftp,smtp

Q9=difference between http and https
ans=http/https,s means secure,the website is secure it mean that.

Q10=what is the role of encryptionin securing application?
ans=encryption is the process to protect the data converting it into readable format.protect the data
during storage.

Q11=difference between system software and application software?
ans=system software manages hardware and provides a platform for appliction (eg.os)application software help user perform specific task.

Q12= What is the significance of modularity in software architecture? Layers in Software Architecture
ans=
1#=Breaks a system into independent, manageable modules

2#=Improves maintainability and readability

3#=Enables reuse of components

4#=Makes testing and debugging easier

5#=Layers in Software Architecture
Q13= Why are layers important in software architecture?

Software Environments
ans=Separate concerns, making the system easier to understand.Simplify maintenance and future changes.Support scalability and flexibility.Enable independent development and testing

Q14= Explain the importance of a development environment in software production.
ans=Provides tools for coding, building, and debugging software.Helps developers test features early and fix errors quickly.Improves productivity and code quality.Supports collaboration and version control.Human-readable program instructions written in a programming language.Serves as the foundation for compiling and running software

Q15= What is the difference between source code and machine code? Github and Introductions
ans=Source Code: Human-readable instructions written in programming languages (e.g., C, Java, Python).Machine Code: Binary instructions (0s and 1s) directly executed by the computer's CPU.
A cloud-based platform for hosting, managing, and collaborating on source code using Git.Introduction (short):GitHub supports version control, teamwork, code sharing, and project management in software development.

Q16=Why is version control important in software development? Student Account in Github
ans=Tracks changes in code over time.Allows multiple developers to work together safely.Helps revert to previous versions when errors occur.Improves code management and collaboration.Student Account in GitHub (short):GitHub Student account provides free access to premium tools.

Q17=What are the benefits of using Github for students? Types of Software

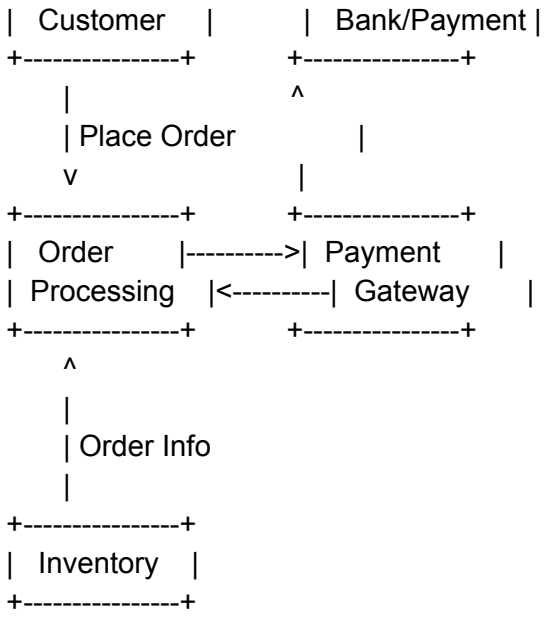
ans=Build and showcase projects in a public portfolio.Access free tools and resources via GitHub Student Pack.Improve coding, teamwork, and project management skills
Types of Software (short):System Software – Manages hardware (e.g., Operating Systems)Application Software – Used by users (e.g., MS Word, Browsers)

Q18= Create a list of software you use regularly and classify them into the following categories: system, application, and utility software
ans=System Software: Windows, macOS, Linux
Application Software: Microsoft Word, Chrome, Zoom, Spotify,Utility Software: Antivirus (Norton), Disk Cleanup, WinRAR

Q19= What are the differences between open-source and proprietary software? GIT and GITHUB Training
ans=Open-Source: Source code is publicly available; free to use, modify, and distribute.Proprietary: Source code is closed; usage and modification are restricted and usually paid.Git: A version control system to track code changes locally.GitHub: A cloud platform to host Git repositories, collaborate, and share projects online.

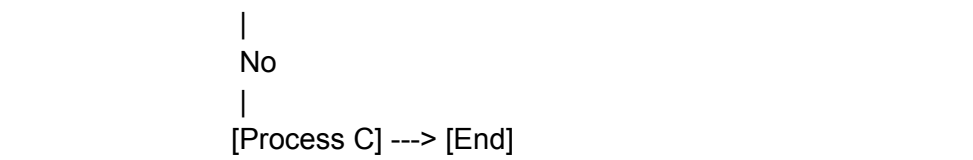
Q20= How does GIT improve collaboration in a software development team?
ans=Tracks changes made by each team member.Enables multiple developers to work on the same project simultaneously.Allows merging of code and resolving conflicts efficiently.Maintains a history of all changes for easy rollback and accountability

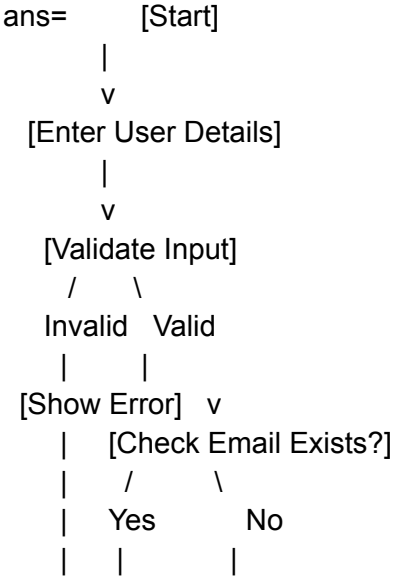
Q21= What are the differences between native and hybrid mobile apps?
ans=Native Apps: Built for a specific platform (iOS or Android); high performance and better access to device features.Hybrid Apps: Built using web technologies (HTML, CSS, JavaScript) and run on multiple platforms; easier to develop but slightly lower performance.
Q22= DFD (Data Flow Diagram)
ans=

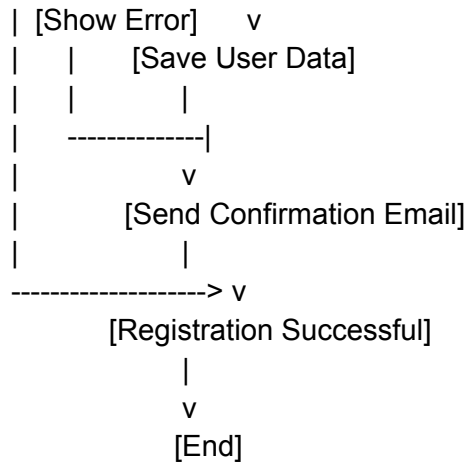


Q23=What is the significance of DFDs in system analysis?
ans=Visualizes how data flows within a system.Helps identify processes, inputs, outputs, and data stores.Simplifies understanding of complex systems.Aids in detecting inefficiencies or redundancies.Serves as a blueprint for system design and development

Q24=: What are the pros and cons of desktop applications compared to web applications?
ans=Pros: Fast performance, works offline, full access to system resources

Cons: Platform-specific, installation required, harder to update
Q25=Flow Chart
ans= 

Q26= Draw a flowchart representing the logic of a basic online registration system.
ans= 



Q30= How do flowcharts help in programming and system design?Visualizing logic: They show the flow of steps clearly.

Simplifying complex processes: Break down tasks into manageable parts.Identifying errors early: Makes it easier to spot logical mistakes.Improving communication: Helps team members understand the system quickly.Guiding coding: Acts as a blueprint for writing programs.
ans=