MODULE:-1 OVERVIEW OF IT INDUSTRY

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Question:-1) Write a simple "Hello World" program in two different programming languages of

your choice. Compare the structure and syntax.

Answer ---->

1) c program:-

#include<stdio.h>

int main() {

printf("hello world!");

return0;

} ;

2) html program:-

<!DOCTYPE html>

<head>

<title>hello world</title

</head>

<body>

<h1>hello world</>

</body>

</html>

\*compare the structure & syntax

1)structure:-

i) c program :- in c program starting as #include<stdio.h> and return with return 0; between main function has included.

ii) html program:- in html starting as <!DOCTYPE html> and end with </html> between <head>in<title> and the <body>in main content then return type </html>

2) syntax:-

i):- c program:- in c program #include<stdio.h>and return 0;and many type syntax and keywords like: printf,scanf,float,char,int,double int,that type of 32 keywords

ii):- html program;- in html <!DOCTYPE html>then return </html>type of syntax more like

<head></head>,<body></body>,<title></title>,<h1></h1>,colors many types of syntax

and keyword and atributes

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Question:-2) Research and create a diagram of how data is transmitted from a client to a server over the internet.

Answer ----> when client needs any type of data then client request for that data on web browser to server then server find the domain and connect via internet and data sent and received via packets then server tranmit the data with TCP/IP protocols securely data retrives at client.

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Question:-3) Design a simple HTTP client-server communication in any language.

Answer ----> HTTP is stand for hyper text transfer protocol.

its use in web browser on world wide for websites and web documents and web servers.

DIAGRAM:-

CLIENT

SERVER

HTTP REQUEST

HTTP RESPONSE

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Question:-4) Research different types of internet connections (e.g., broadband, fiber,

satellite)and list their pros and cons.

Answer ----> 1)broadband:-this cable made by coper with decent speed limits and broadband is affordable connection cable with normal flexibility.

2)fiber:-this cable lnown as optic fiber cable with extereme speed any place and more flexibility in usage and with very high latency.the material is fiber in made it and its expensive and better than broadand cable.

3)satellite:-satellite connections are fastest connection as any more with high speed,no latency and use anywhere without any pshycal connections with high flexibility.but this connection is so expensive & everyone can not afford it

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Question:-5) Simulate HTTP and FTP requests using command line tools (e.g., curl).

Answer ----> HTTP:-hypertext transfer protocol

this protocol used by client and server for data or web communication

FTP:-file transfer protocol

with HTTP we encrypt the file via web browser and transfer server or clients

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Question:-6) Identify and explain three common application security vulnerabilities.Suggest possible solutions.

Answer ----> 1)inbuilt device security applications

2)some security apk have we used to install from websites or stores

3)some security apk we used to pshycal installation like antivirus disk for windows

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Question:-7) Identify and classify 5 applications you use daily as either system software or application software.

Answer ----> 1)Linux,windows type of system software

2)google crome,firefox,mozilla type of applications software

3)Microsoft word, google docs type of applications software

4)antivirus software types of system software

5)file explorer that types of system software applications

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Question:-8) Design a basic three-tier software architecture diagram for a web application.

Answer ----> three layers

1)client layer:-client layer is user interface and front end components

2)business layer:-in this layer api process and communication

3)database layer:-to store and retrieves apk data

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Question:-9) Create a case study on the functionality of the presentation, business logic, anddata access layers of a given software system.

Answer ----> this type of architecture use in e commerce or business apk firstpresentation layer is used for user interface and front end components then the second layer is business layer layer api process and communication with client to server. then last layer is database layer to store and retrieves apk data

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Question:-10) Explore different types of software environments (development, testing,production).Set up a basic environment in a virtual machine.

Answer ----> i)development:-development phase is part of development environment of any website or apk when we on any apk then front end and back end developer make code run anddo changes for better interface or performance and without bugs and virus with security systems.

ii)testing:- when our developer should be developed or devlop any type of apk then to check that apk they test the apk and find out errors and weakpoints of that apk and security for changes and make better user interface and experience

iii)production:-production phase is when apk is make over then time to deploying the production phase willwork in and upload or store that apk data on server.

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Question:-11) Write and upload your first source code file to Git hub.

Answer ---->here is my first source code file to git hub

FILE\_NAME:- 1.c

SOURCE CODE:-

#include<stdio.h>

int main()

int a=10,b=20,e=30;

float f=25.30

char d='D';

printf("\nValue of a=%d,a");

printf("\nValue of f=%,4f");

printf("\nValue of d=%c,c");

return 0;

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Question:-12) Create a Git hub repository and document how to commit and push code changes.

Answer ----> created file from our pc upload into GitHub repository desk then if we need to change that code than open our repository and edit or code changes options choosed and to commit and push code changes.

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Question:-13) Create a student account on Git hub and collaborate on a small project with a classmate.

Answer ----> >install and open git hub

>click on sign in option if you have fresher

>then fill necessary details like username,email\_id,password,mobile number and create student account.

>than visit GitHub education and get free access to the student developer pack in that type you have used to many type of tools and resources

>make one repository and invite your friend via email or other and then you both linked collaborators should work on small project with classmate.

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Question:-14) Create a list of software you use regularly and classify them into the following categories: system, application, and utility software.

Answer ----> i) system software:- in software system has hardware components for software support or device drivers,operating systems are included those are main components.

ii) application software:- application software is basically we have used to apps in our system like mediaplayer,project files,file transfer apps,sound player,vs code programming software,chatting apps alsomanny apk that give us many type of different features.

iii) utility software:-

1)CAM(computer aided manufacturing):-this software is used in manufacturing company in computer design automation like cnc, vmc machines emroderry factory also many places uses

2)CAD(computer aided designing):-this software is used to create design any 2d or 3d designs,modifying,analyzing and optimizing.

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Question:-15) Follow a GIT tutorial to practice cloning, branching, and merging repositories.

Answer ----> NOT YET

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Question:-16) Write a report on the various types of application software and how they

improve productivity.

Answer ----> 1)Linux,windows type of system software

---->this type of software is allows all the application to working envienment

2)google crome,firefox,mozilla type of applications software

---->this type of software is give any output that we ask anything and this apk

reply well

3)Microsoft word, google docs type of applications software

---->this apks is for creating any design or file and edit or make that type of

environment provide us.

4)antivirus software types of system software

---->this type of software work in our device as all type of security perpose .

5)file explorer that types of system software applications

----->this apks help to secure and store our data safely in our storage

6)Instagram,whatsapp,telegram is system software:-

----->this apks must be social media or media apks or chating apps also.

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Question:-17) Create a flowchart representing the Software Development Life Cycle (SDLC).

Answer ----> software development life cycle represent in 7 steps:-

STEP:-1) PLANNING

STEP:-2) ANALYSIS

STEP:-3) DESIGNING

STEP:-4) DEVELOPMENT

STEP:-5) TESTING

STEP:-6) DEPLOYMENT

STEP:-7) MAINTANANCE

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Question:-18 )Write a requirement specification for a simple library management system.

Answer ----> library management system is nacesarry for any type of device for too store file securely in that device storage LMS is divide in so many folders when we need or store the data then open that particular folder in our file form that we saved in that folder.library management system is usefull to find our many of files into search one particular file so it is usefull and necessary management system to secure share and move in or out or store our data.

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Question:-19) Perform a functional analysis for an online shopping system.

Answer ----> in online shopping system analysis there are many types of management like user interface management,user management,product management,product price and market analysis,chart and orders management,discount interface, customer care ,refund return policy,rating&reviews,adminprofile management,security changes ,updates,user's count,there are most of analysis informationare included in an online shopping system.

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Question:-20) Design a basic system architecture for a food delivery app.

Answer ----> NOT YET

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Question:-21) Develop test cases for a simple calculator program.

Answer ----> 1)ADDITION

\* input: 5+3

\* output: 8

2)SUBTRACTION

\* input: 7-2

\* output: 5

3)MULTIPLICATION

\* input: 7\*2

\* output: 14

4)DIVISION

\* input: 20/2

\* output: 10

5)DIVISION BY ZERO

\* input: 2/0

\* output:ERROR

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Question:-22) Document a real-world case where a software application requiredcritical maintenance.

Answer ----> NOT YET.

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Question:-23) Create a DFD for a hospital management system.

Answer ---->

STAFF

ADD MASTER RECORDS HOSPITAL REPORTS

CREATE STAFF ACCOUNT DISCHARGE BILLS

REPORT PAYMENTS

PATIENT

ADMINISTRATOR

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Question:-24) Build a simple desktop calculator application using a GUI library.

Answer ----> NOT YET.

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Question:-25) Draw a flowchart representing the logic of a basic online registration system.

Answer ---->

ANSWER:-

IS USER ALREADY REGISTERED

DISPLAY REGISTRATION

FORM

REDIRECT TO LOGIN PAGE

NO NO YES

USER SUBMITS FORM

NO

VALIDATE INPUT

IS INPUT VALID

YES

SAVE USER DATA

CONFIRMATION

REGISTRATION

SUCCESSFUL