B.L.D.E. Association's

S. B. Arts & K.C.P. Science College, VIJAYAPUR- 586 103.

ASSIGNMENT

For B.A./ B.Sc. ..I..... Semester

2021 - 2022

Name of the Student RENUKA . M. PAWAR

Roll No. 447 R.C.U. Seat No. U15KM21S0249.

Subject COMPUTER SCIENCE

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	5/2/22	10	10	Prof. A.P. Nuchi	Good
2					
3					
4					

Q.No.1 Answer any five of the following.

1. What is meant by computer?
→ A computer is an electric device operating under the control of instructions stored in its own memory that can accept data (input), process the data according to specified rules, produce information (output) and store the information for future use.

2. Define RAM and ROM.
→ RAM - Random Access Memory is temporary storage for a computer to handle data.
ROM - Read only Memory is non-volatile memory type.

3. What is mean by Algorithm?
→ Writing a logical step-by-step method to solve the problem is called Algorithm.

4. List various types of computer.
→ Types of computer -
- Mainframe Computer.
- Supercomputer
- Workstation Computer
- Personal Computer
- Apple Macintosh (Mac)
- Laptop computer (notebook)
- Tablet and Smartphone.

5. What is meant by Pseudo code?
→ Pseudo code is an informal - high level description of the operating principle of a computer program or an algorithm.

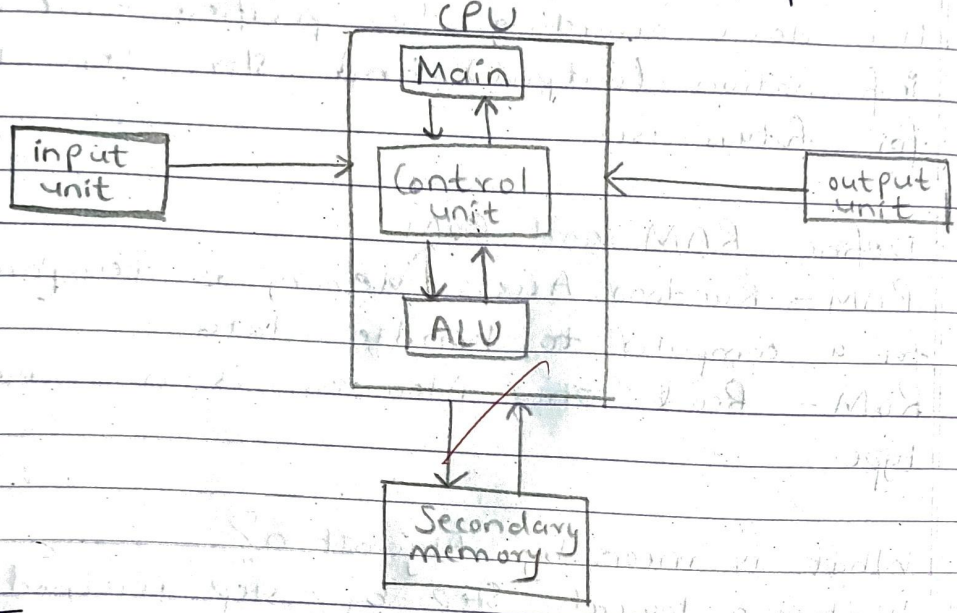
6. List the characteristics of Computer System.
→ Speed, Accuracy, Diligence, Versatility, Reliability

Automation and memory.

Q. NO. 2 Answer any two of following.

7. Explain with neat diagram Basic organization of a Digital Computer.

→ Basic organization of a Digital Computer.



- Input Unit - It accepts (or reads) instructions and data from outside world.
  - It converts these instructions and data in computer acceptable form.
  - It supplies the converted instructions and data to the computer System for furthur processing.
- Output Unit - It accepts the results produced by the computer, hence cannot be easily understood by us.
  - It supplies the converted results to outside world
- Storage Unit - Data and instructions required for processing
  - Intermediate results of processing
  - final results of processing before they are released to an output device.
  - Types - Primary Storage (RAM, ROM)
    Secondary Storage (CD, Pendrive) etc.

ii. Second Generation (1956-1963)
- Hardware → transistors and magnetic tapes.
- Features - Batch operating system.
  - Faster and smaller in size.
  - less costly than previous generation.
- Memory = 32,000 bits
- Data Input - punched cards

Example - CDC 1604, IBM 7030

iii. Third Generation (1964 - 1971)
- Hardware - Integrated circuits made from Semi-conducts
  - large capacity disk and magnetic taps
- Features - supports time-sharing O.S
  - Faster, smaller than previous generation.
  - Easy to access.
- Memory - 128,000 bits
- Data input - keyboards and monitors

Example - IBM 360/370, CDC 6600

iv. fourth Generation (1972-2010)
- Hardware - IC's with VLSI
  - Semiconductor memory
  - Magnetic tapes and floppy
  - Microprocessor.
- Features - Multiprocessing and distributed O.S
  - OOp's program level supported.
  - This generation saw development of networks
- Memory - 100 million bits.
- Data input - keyboard / mouse.

Example - Apple II, VAX 9000.

v. fifth Generation (2010 - present)
- Hardware - IC's with VLSI and Nano technology.
  - Large capacity hard disk with RAID support

| | | |

- Data input - CDROM, optical disk and other touch and voice sensitive input devices.

Example - IBM, PARAM.

II Internal Question Paper.

Q.No. 1 Answer the following.

1. What is Computer?

→ A computer is an electric device operating under the control of instructions stored in its own memory that can accept data, process the data according to specified rules, produce information (output) and store the information for furthur use.

2. List out different types of Data types.

→ i. Basic datatypes - Int, float, char, double
ii. Enumerated types
iii. Void types [empty]
iv. Derived types

3. What is the use of break statements?

→ In C programming, break statements is used with conditional if statements. The break used in terminating the loop immediately after it is encounted.

4. Define function defination with example Syntax.

→ A function is a collection of statements that perform a task, like the addition of two numbers.

Syntax - main()

5. What is Array?

→ A array is a connection of similar data items in an array is identity by index enclosed in [] with array name.

Q.No. II Answer the following

7. List different types of relational operators with examples.

→ Following are the types of relational operators-

- "==" ⟹ checks if the values of two operands are equal or not. If yes, then the condition becomes true.

Example- (A==B) is not true.

- "!" ⟹ checks if the value of two operators are equal or not. If the values are not equal then the condition becomes true.

Example- (A!=B) is true.

- ">" ⟹ checks if the value of left operand is greater than the value of right operand. If yes, then the condition becomes true.

Example- (A>B) is not true.

- "<" ⟹ check if the value of left operand is less than the value of right operand. If yes, then the condition becomes true.

Example- A<B is true.

8. Write a short note on - a. continue b. goto

→ a. Continue - It is sometimes desirable to skip some statements inside the loop.

Syntax- Continue;

Just like break; continue is also used with conditional if statements.

b. goto - In the C programming goto statements is used for altering the normal sequence of program execution by transfering it to some other part of the program

Syntax:
```
goto label;
_ _ _ _ _ _
_ _ _ _ _ _
_ _ _ _ _ _
_ _ _ _ _ _

label;
Statement;
```

9. Write advantages and disadvantages of pointer?

→ Advantages of pointers -

i. Direct access to memory
ii. It prevent on array excess
iii. Time complexity efficiency
iv. Dynamic memory allocation.

Disadvantages of pointers -

i. Pointers are little complex to understand
ii. It is responsible for memory leakage
iii. If an incorrect value is provided to pointer, it may cause memory corruption

Q. III Answer the following.

10. Write a note on following with an example.
a. nested if b. for c. while.

→ a. nested if - It is always legal in the program to rest if else if statement inside another if or else if statement(s).
If the statement is FALSE, it goes to the next statements.

Example - Syntax :

```
if (booleon Exp. 1)
{
    Statement 1
    if (booleon Exp 2)
    {
        Statement 2
    }
}
if ( booleon Exp 1)
{
else if ( booleon Exp 2)
{
    Statement 2
}
else if ( booleon Exp 3)
{
    Statement 3
}
else
{
    Statement 4
}
```

b. for loop - A for loop is a repetation control structure that allows you to efficiently write loop needs to execute a specific number of times.

Syntax - for { intialisation (int); condition, increment}

```
{
    Statement 1;
}
```

c. While - It is repeatedly executable a target statements as long as a given condition is true.

Syntax - while (condition) {

```
    (statement);
}
```

11. Write a detail note on string and its function,

→ A string in C also known as C string. It is an array of characters followed by a null character to prevent a string the set of characters are enclosed within double cotes.

- Functions –

i. Strcpy (s_1, s_2); –
Copies string s_2 into string s_2

ii. Strcat (s_2, s_2); –
Concatenates String s_2 onto the end of string s_1

iii. Strlen (s_1);
return the length of string s_1;

iv. Strcump (s_1, s_2); –
return the length of string s_1;
returns 0 if s_1 and s_2 are the same less than 0 if $s_1 < s_2$; greater than 0 if $s_1 > s_2$

v. Strchr (s_1 ch);
return a pointer to the first occurence of character ch in string s_1.

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S. B. Arts & K.C. P. Science College, VIJAYAPUR-586 103

ASSIGNMENT

For B.A. / B.Sc. IV Semester

2021 -2022

Name of the Student : Sushmita S. Patil

Roll No. : 89 R.C.U. Seat No. : S2028894

Subject : Computer Science (Operating System)

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	12/7/22	5	5	Prof. S. G. Joshi	Good.
2					
3					
4					

Vijayalaxmi, 252106

① Define Operating System.

Operating System is a System Softw -are which act as interface between computer user and computer hardware.

② Define Process

A Process is basically a program Exception the Exclusion of a Process must Progress in a Sequential fashion.

③ List different types of Operating System.

1) Batch operating system
2) Time Sharing O.S
3) Distributed O.S
4) network O.S
5) Real time O.S
6) multi processing O.S
7) multi - tasking O.S
8) multi - programming O.S

④ Define Thread

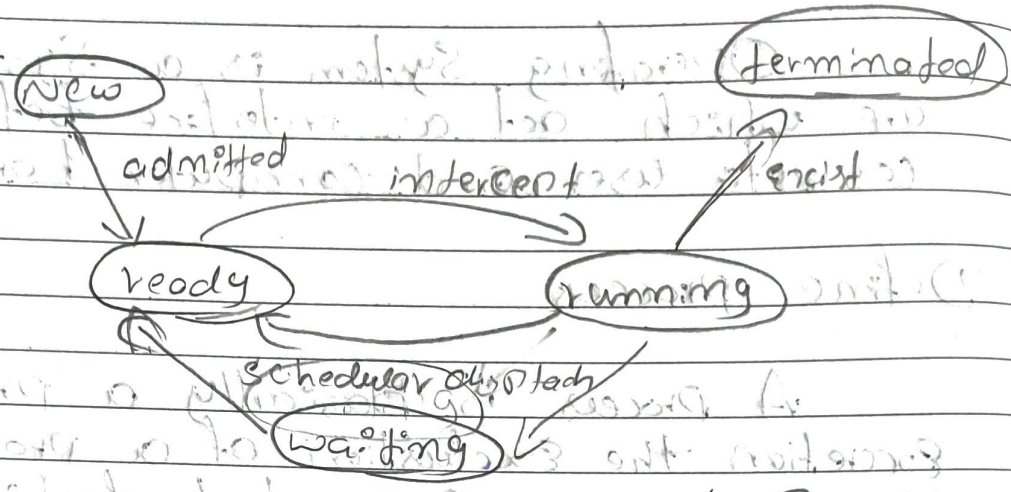
A Process is divided into number of light weight process, each light weigh Process is said to be a thread.

⑤ List different types of Thread

1) User Threads

2) Kernal Threads

⑥ Sketch Process life cycle



⑦ List the important functions of O.S

1) Memory management
2) Processor management
3) Device management
4) File management
5) Security
6) Control over System performance
7) Job accounting
8) Error detecting
9) Coordination between other software and users

⑧ Define Process Control Blocks

Process control Blocks (PCB) is a data structure that stores information about a particular process.

(9) List important of PCB.

* PCB of Each process resides in the main memory.

* There exists only one PCB corresponding to Each process

* PCB of all the processes is present in a linked list.

(10) Define context Switching

A context Switching occurs when a computer's CPU switches from one process @ thread to a different process @ thread.

(11) what are the 3 major triggers for context Switching

-> multitasking
-> Interrept Handling.
-> User & Kernal mode Switching.

(12) when does context Switching happens

-> When a high-priority process comes to ready state.

-> An intercept occurs.

-> User and kernal mode switch

-> Pre-emptive CPU Scheduling used.

(13) List advantages of Thread

-> Threads minimize the context switching time

-> Efficient communication

-> It is more economical to create context switch threads

-> It is more economical to create switch threads

-> Threads allow utilization of multiprocessor architectures to a greater scale & efficiency

(14) Define process scheduling

The act determining which process is in the ready state, and should be moved to the running state is known as process schedul

(15) List types of process scheduling

-> Long term scheduler
-> Short term scheduler
-> medium term scheduler

(16) List the advantages of FCFS

-> Simple
-> Easy
-> First come, First

(12) Define SJF & Expand SJF

Shortest Job First & scheduling works on the process with the shortest burst time @ duration first.

SJF → Shortest Job first.

(18) Difference between Process & Thread.

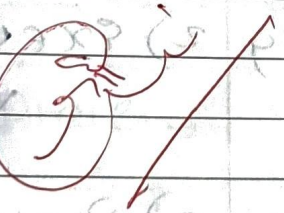
Process	Thread
1) Process takes more time to create.	1) Thread takes less time to create.
2) Execution is very slow	2) Execution is very fast
3) Process is loosely coupled.	3) Process is tightly coupled.
4) requires more resource to execute	4) Requires few resource to execute.
5) Communication between 2 Processes is difficult.	5) Communication between 2 Processes is very Easy.

(19) Define critical Section

The portion in any program that accesses a share resources.

(20) Define race condition

The idea that multiple proces or to soon up (2) hand shake at a certe Point in order to reach an agrement a commit to a certain sequence of a ac co-ordination of simultaneous proces to complete a task is known as race condition.



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ASSIGNMENT

For ~~B.A./~~ B.Sc. ..V th..... Semester

2021 - 2022

Name of the Student Veeresh S Bhonkopure

Roll No. 233 R.C.U. Seat No. 51925337

Subject Computer Science – II (DBMS)

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	2/2/22	03	03	Prof. A. Y. Muchhi	Good
2					
3					
4					

2 Marks questions

1) ① Define Schema Explain types of Schema.

① Designing of a database is called Schema

There types of schema.

1] physical level schema

2] Logical level schema

3] View level schema

2) ① Define ① DBMS.

① Database Management System is a software design to store, retrieve, define and manage data in data base is called ① DBMS

3) ① Data Model

Its define how data is connected to each other and how they are processed and stored

4] Example for attribute

Students has a attribute like student id, age, rollno, phone no, class - - etc

Attributes

4] Define Entity and Weak entity

Entity :- Entity is a table or attribute of a table in data by showing relationship among table and attribute is called Entity

Weak Entity :- It's a key attribute which Uniquely identifies each Entity in the Entity set, but there Exist some Entity type for which key attribute can't define this is called weak Entity

5] ① Data Redudancy

① Data Redudancy means duplication of a data removing a some data in db is called data redudancy

6] primary key

It's defined as In a Coloumn or group of coloumn in a table that Uniquely identify Every row in table is called primary key

7] Expand DDL, TCL, DML, DCL

DDL — ① Data ② Definition Language
DML — Data manipulation Language
DCL — Data Control Language
TCL — Transcation Control Language

8] what's SQL?
(Sequential Query Language)
=> SQL is the data Computer language designed for retrial and Management of data in realtional database.

9] Write a Syntax for Create table
CREATE TABLE (Column1, data type);

10] Explain Drop & Comment
Drop — To Drop database instance
Comment — To Comment

11] Normalization
It's a data base techinque to reduce data redundancy eliminates Undesirable characteristic like insertion, update & deletion.

12] Relational Algebra
Relational Alegebra is a procedural query language, that works on relational data model is called relational algebra.

13] Responsiblits of System analyst
* Examing Current System
* Taking to Users
* Producing specification for new or Modified System

22) Types of Cardinality ratio
One to one
Many to one
Many to many

5 Marks questions

1] what DBMS Architecture and explain types of DBMS Architecture?

⇒ DBMS Architechur help us to understand the components of database system and relation among them is called DBMS architecture

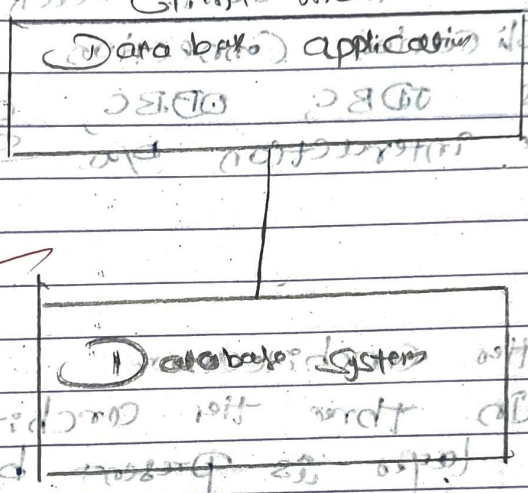
Types of Architecture
1) Single tier architecture
2) Two tier architecture
3) Three tier architecture

Single tier architecture

In this type of architecture the database is readily available on the client machine any request made by client doesnot require a network connection to perform the action on database

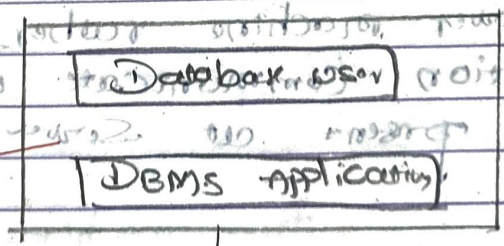
For Example:

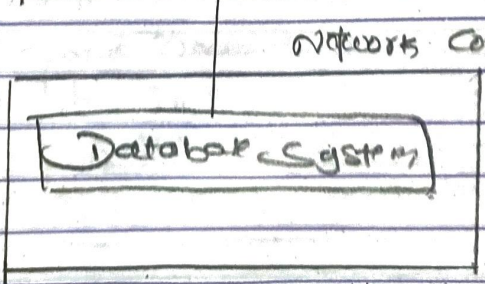
Let's say you want to fetch the records of employee from the database and the database is availble on your computer system, So the request for fetch employee data will be done by computer and the records will be fetched from the database by your computer as well this type of system is generally refered as Local db System



Server machine

Two tier architecture



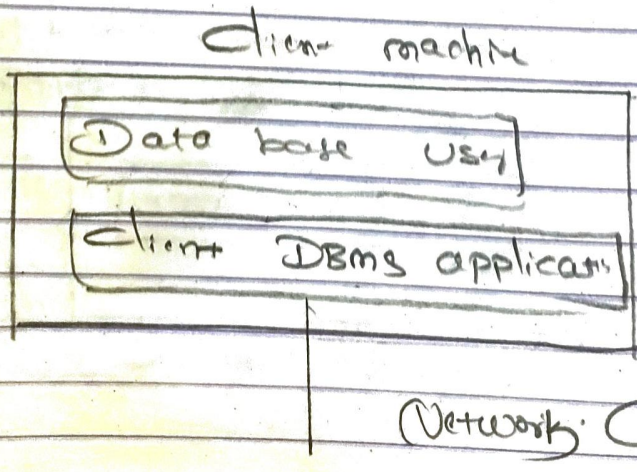


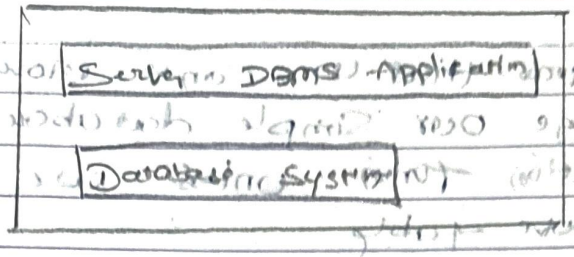
Server machine

In a 2-tier architecture the database system is present at the server machine and the DBMS application is present at the connected with each other through a reliable network as shown in above diagram whenever client machine makes a request to access the db present at server using a query language like Sql the server perform the request on the database and return the result back to client the application connection interface such as JDBC, ODBC, are used for the interaction b/w server and client

(3) Three tier architecture

In three tier architecture another level or layer is present b/w the client machine and server machine in this architecture the client application doesn't communicate directly with database system present at server machine rather the client application communicate with the db system present at server





Server machine

Explain 1 NF (1st normal form) 2nd NF, 3rd NF

* 1 NF

Each table Cell should contain a single

Each records needs to be Unique

~~1NF~~

full name	Physic address	movie rented	Salutation
Jaan Jons	1st street	Pirates of Caribbean	Ms
Jaan Jons	1st Street	Clash of titans	Ms
Robert phil	3rd street	forgettion Sarah marshal	Mr.
Robert phil	3rd street	Daddy little girls	Mr.
Robert phil	5th Avenue	Cloth of titans	Mr.

* 2NF (Second normal form)

Rule -1 - be in 1NF

Rule -2 - Single Column primary key

Its a clear that we can't move forward to make our simple database in 2nd normalization form unless we partition the above table

Table - 1

membership - ID	full Name	Physical addition	Salutation
	James Jong	street Hill	Ms.
	Robert phil	3rd street	Mr.
	Robert phil	5th Avenue	Mr

Table - 2

Membership - ID	movie Rented
1	Pirates of the Caribbean
1	Clash of titans
2	Forgetting Sarah Marshall
2	Daddy little girls
3	Clash of titans

3 NF (third Normal form)

Rule - 1 - Be in 2 NF

Rule - 2 - No transitive functional dependency

We have again divided our table and created new table which store Salutations

4] Advantages of DBMS over file System

1] No Redundant data
→ Redudancy removed by data normalization
No data duplication saves storage and improve access time

2] Data Consistency and Integrity
→ As we discussed earlier the root cause of data inconsistency is data redudancy since data normalization take care of the data

3] Data Security
→ It's easier to apply access constraints on db system so that only authorized user is able to access the data is secured from the issues such as identity theft, data leaks and misuse of data

4] primary → Restricted access means primary of data

5] Easy recovery → Since db system keeps the backup of data its easier to do a full recovery of data on case of a failure.

6] Flexible → Database System are more flexible than file processing System.

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ASSIGNMENT

For B.A. / B.Sc. VI Semester

2021 -2022

Name of the Student : Shresti. A. Bujite

Roll No. : 440 R.C.U. Seat No. : S1925237

Subject : Computer Science - II

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	12/7/22	5	5	S.G. Joshi	Good
2					
3					
4					

Vijayalaxmi, 252106

(1) What is AWT?
⇒ Abstract window Toolkit is a application programm interface which is created by java program to create Graphical User Interface objects. AWT is a part of java foundation classes.

(2) Advantages of Applet?
⇒ (i) It works at client side so less response time.
(ii) Secured
(iii) It can be executed by browsers running under many platforms, including Linux, Windows,

(3) What are the different Operation used in Javascript?
⇒ The Operation used in Javascript are
(i) Arithmatical Operation
(ii) Logical operation
(iii) Relational or Conditional Operations
(iv) Special Operation
(v) String Operation
(vi) Bitwise Operation

(4) List out Perl Variables?
⇒ There are mainly three types of perl variables.
(i) Scalar Variable $
(ii) Array Variable @
(iii) Hash Variable %

(5) What is Scalar Variable in Perl.
⇒ A Scalar Variable that stores a single unit of data at a time. The data that will be stored by the scalar Variable can be of the different type like string, character, floating point, a large group of string.

(6) What is XML & CGI?
⇒ XML: Extensible markup language it is text based markup language which is derived from Standard generalised markup language (SGML).

(*) XML is programming language for storing & transfering of data.

(**) XML is more like HTML language.

CGI: Common Gateway Interface:

(*) It a program that is runs on webserver

(*) It helps to create interactively webpage dynamically provided by the user

(7) Explain different html lists.

⇒ Html lists are used to specify lists of information. all lists may contain one or more list elements.

There are 3 different types of html list

(1) Ordered list (or) numbered list

(2) Unordered list (or) Bullet list

(3) Description list (or) Definition

(1) In the ordered list all the list items are marked by numbers by default

(*) It is also known as numbered list

(*) & list items start with <li> tag

ex:
 Preeti
 Snehna
 Madhu

(*) Unordered list: all the list items are marked with bullet. It is also known as bullet list. The unordered list starts with <ul> tag & list items start with <li> tag.

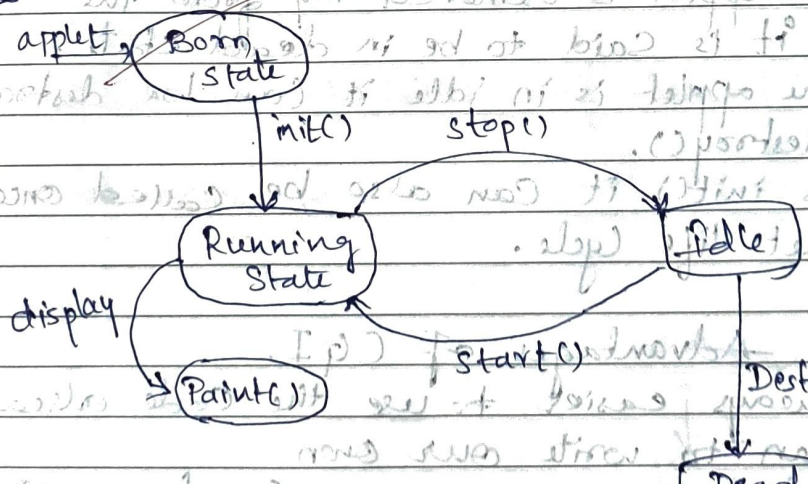
```
<ul>
  <li> Spoorthi </li>
  <li> Rekha </li>
</ul>
```

(3) Description list is also a list style which is supported by HTML. It is also known as def^n list where entries are listed like dictionary or encyclopedia

<dl> tags def^n the start of the list
<dt> tags defines term
<dd> tag defines the terms definition

```
<dl>
  <dt> heat </dt>
  <dd> Its a source of energy </dd>
</dl>
```

(8) Explain Applet life Cycle.



(1) Born state:

(*) When applet is loaded it is in born state
(*) At this state we can create objects for applet & initilising can be done.

(2) Running State:

(*) The applet is said to be running state by using init()

(*) when the user is serving on internet at that time applet is at running state.

(*) Since initiliasing can only once in the applet life cycle. That is

(3) Idle State:

(*) when the applet is running in running state & forced to enter idle by using stop().

(*) And when a leave a web page for a while & Surve after some time at that time again applet goes from idle state to running state. By using start() method.

(4) Destroy (Dead) state:

(*) When a applet is removed from the memory. it is said to be in dead state.

(*) When the applet is in idle it can be destroyed using destroy().

(*) Since as init(), it can also be called once in a applet life cycle.

(9) What are Advantages of CGI.

(1) It is always easier to use the code already written than to write our own

(2) CGI Specifies that the program can be written in any language & on any platform

(3) CGI-based counters & CGI code to perform simple tasks are available in plenty

(10) Write a Perl Program to array. Creation & accessing its elements.

⇒ # Declaring an array.

@empno = (23, 28, 30, 32);

It will create an array of integers that contains the value 23, 28, ... 32

To Access a single element of an array we use $ sign.

ex: $a=10;

@empno = (23, 24, 26, 28);

@name = ("Sadar", "by", "BLDEA");

print "\$empno[0] = $empno[0]\n";

print "\$empno[1] = $empno[1]\n";

print "\$empno[2] = $emp[2]\n";

print "\$name[0] = $name[0]\n";

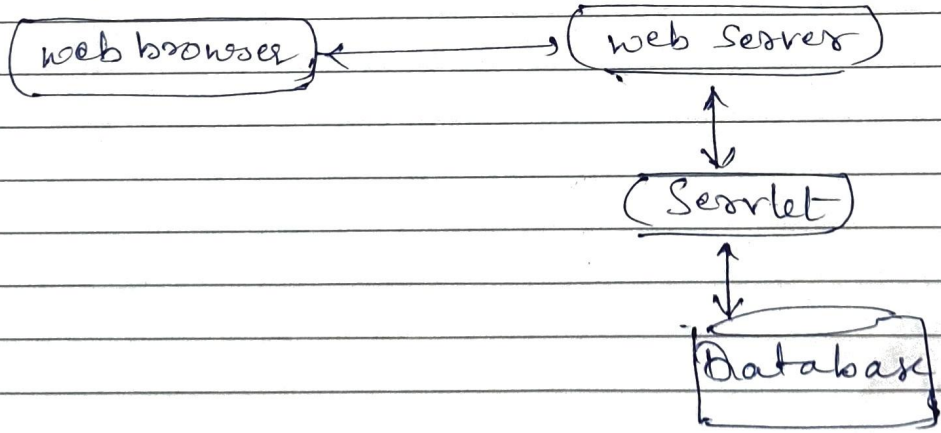
o/p: $empno[0] = 28

$empno[1] = 24

$emp[0] = Sadar

(11) Explain the Architeture of Servlet?

⇒



Servlet are the java programs that run on the java-enabled web server or application server. They are used to handle the request obtained

from the webserver, process the request produce the response, then send a response back to the webserver.

Properties of servlet
* Servlet work on the server-side
* Servlet are capable of handling complex request back to the webserver

Execution of servlet basically involves
(1) The clients send the request to the web server.
(2) The web server receives the request
(3) The web server passes the request to the corresponding servlet
(4) The servlet sends the response back to the client & the client browser displays it on the screen.

(12) Difference between Seelet & CGI

