

B.L.D.E. Association's

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



ASSIGNMENT

For B.A./ B.Sc.IV..... Semester
2022 - 2023

Name of the Student Gunjit Soni

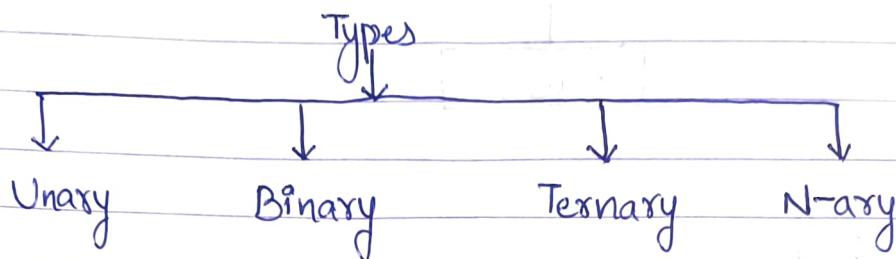
Roll No. 300 R.C.U. Seat No. U15KM21S0205

Subject Database Management System

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	18/8/23	5	5	Prof. L. A. Nuehhi	kl.
2					
3					
4					

1) What is meant by degree of relationship and explain there types?

→ In DBMS, a degree of relationship represents the number of entity types that associated in a relationship.



* Unary: In this type of relationship both the associating entity type are the same.

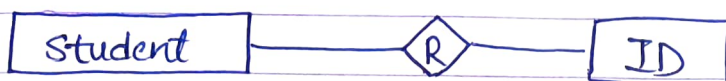
So we can say that unary relationships exists when both entity types are same, and we call them degree of relationship is 1.

Example:-



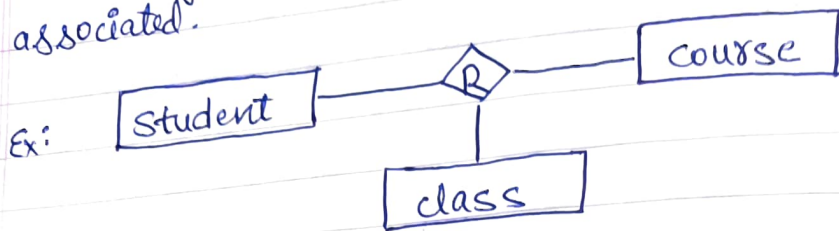
* Binary: In Binary relationship there are two types of entity associated.

In a relation when two entities are participating then such type of relationship is known as Binary relationship. We can easily convert into relational table.



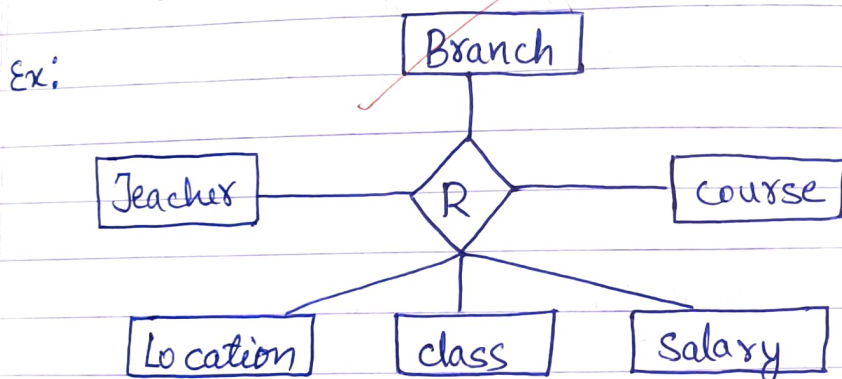
* Ternary (degree 3)

In ternary relationship degree of association is 3.
In ternary relationship there are three types of entity associated.



* N-ary (n-degree)

In N-ary relationship there are n -types of entity associated.
In N-ary relation degree of association is n .



2) What are characteristics of DBMS?

→ (i) Data stored into table: Data is never directly stored into database, Data is stored in table format, inside database, DBMS also allows to have relationship b/w tables which makes data more meaningful and connected.

(ii) Data redundancy: Unnecessary repetition of data in database was a big problem but DBMS allows normalization repetition of data.

(iii) Data consistency: On live data, it is being continuously updated and added maintaining the consistency of data can become a challenge but DBMS handles it by itself.

(iv) Query language: DBMS provides users with a simple query language, using which data can be easily fetched, inserted, deleted and updated in a database.

(v) Security: DBMS protects the data from unauthorised access. In DBMS we can create user account with different access permission.

(vi) Supports Multiple users: DBMS supports multiple users to work on it (update, insert, delete data) at same time and still manages to maintain data consistency.

- Super key: Super key is an attribute set that can uniquely identify a tuple. A super key is a superset of a candidate key.
- Foreign key: Foreign keys are column of table used to point to primary key of another table.
- Alternate key: There may be one or more attributes or a combination of attributes that uniquely identify each tuple in a relation. These attributes or combinations of attributes are called alternate key.
- Composite key: Whenever a primary key consists of more than one attribute is known as a composite key. This key is also known as composite key.

Handwritten notes in red ink:
✓
10/8/23

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



ASSIGNMENT

For B.A./ B.Sc. III Semester
20 23 - 20 24

Name of the Student Keerti Pawar

Roll No. 230 R.C.U. Seat No. VIS KPM 250280

Subject Computer Science

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	17/8/2023	05	05	Prof. S. G. Joshi [Signature]	
2					
3					
4					

2 Marks Question

1a) Differentiate between array and file.

File

1. Stored in and accessed from Secondary memory.
2. It is a collection of Heterogeneous elements.
3. The size of a file may grow or shrink.
4. Declaration
File $\rightarrow$ File pointer variable

Array

1. Stored in and accessed from main memory.
2. It is collection of Homogeneous element.
3. The size of an array is fixed.
4. Declaration: datatype arrayname[size]

2) Compare linear and Binary search.

Sequential search

1. It is not necessary to sort the element.
2. It takes more time when list is large.
3. It is useful when list is small.
4. Easily represent in array and linked list.
5. Number of comparisons are more.

Binary search

1. It works on only sorted element.
2. It takes less time for searching.
3. It is useful when list is large.
4. Easily represent in array not in linked list.
5. Number of comparisons are less.

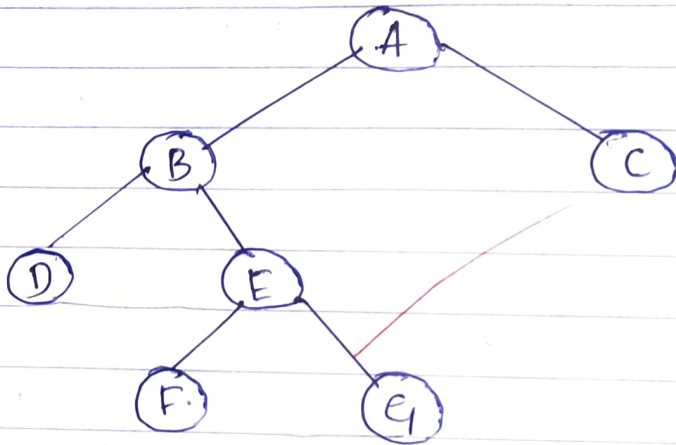
3. List two advantages of linked list over arrays.

1. Linked lists are dynamic data structures; that is they can grow or shrink during the execution of a program.
2. Efficient memory utilization: Here memory is not allocated already, memory is allocated whenever it is required. And is de.allocated (removed) when it is no longer needed.

4. Differentiate between Terminal and non terminal node with an example

* Terminal node:— A node without having children or a node with degree zero is called terminal node or leaf node.

* Non-terminal node:— Any node except root node whose degree is not zero is called non terminal node.



In the above tree B and E are the Non-terminal nodes.

D, F, G and C are the terminal nodes.

5. Advantages of singly linked list

* Accessibility of a node in the forward direction is easier.

* Insertion and deletion of nodes are easier.

6. Disadvantages of singly linked list

* There is no backward traversal.

- 7) Advantages of pointers.
- * Allocate the memory dynamically
 - * Return more than one value from function
 - * Data accessing is much faster than compared to array.

8) What is the use of size of and free function?

a) Size of (): The purpose of size of function is to find the size of the data type. It returns the integer values

Syntax: size of (datatype)

N: size of (int);

N: 2 Bytes

free(): The free function deallocates the memory which is already allocated

Syntax: free (pointname);

9) What is a partition element?

In quick sort we are taking one of the array element chose as a key value. Here list is partitioned into two parts.

All the element to the left of the key are smaller than the key value.

10) Ascending priority queue?

In this elements can be inserted in any order. But while deleting an element from the queue, only the smallest

```

    printf("enter the element");
    return;
void Q Delete()
{
    int ni;
    if (front == -1)
    {
        printf("In Queue is empty\n");
        return;
    }
    else

```

2) Convert the following infix expression to postfix expression:-

i) $(A+B) * (D-C)$

ii) $X^Y * Z - M + N + P/Q$

iii) $B * C - D + E / F / (G + H)$

iv) $(A+B) * (D-C)$

$$AB + * DC -$$

$$AB + DC - *$$

v) $B * C - D + E / F / (G + H)$

$$B * C - D + E / F / (G + H) *$$

$$BC * - D + E / F / GH +$$

$$BC * - D - + E / GH +$$

$$BC * D - EF - / GH + +$$

vi) $X^Y * Z - M + N + P/Q$

$$X^Y * Z - M + N + P/Q$$

$$X^Y * Z * - M + N + P/Q$$

$$X^Y * Z * M - + N + P/Q$$

$$X^Y * Z * M - N + + P/Q$$

$$X^Y * Z * M - N + P/Q +$$

```

scanf("%d", &n);
printf("Enter the elements");
for(i=0; i<n; i++)
scanf("%d", &a[i]);
for(i=0; i<n; i++)

```

```

{

```

```

for(j=i+1; j<=(n-i-1); j++)

```

```

{

```

```

if(a[i] < a[j])

```

```

{

```

```

    tmp = a[j];
    a[j] = a[i+1];

```

```

    a[i+1] = tmp;

```

```

}

```

```

}

```

```

}

```

```

printf("\n array elements  
are\n");

```

```

for(i=0; i<n; i++)

```

```

printf("%d\n", a[i]);

```

```

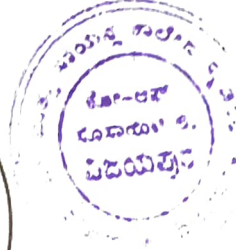
}

```

 17/8/2023

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



ASSIGNMENT

For B.A./ B.Sc. I st Semester
2022 - 2023

Name of the Student Sampat Biradar
Roll No. 124 R.C.U. Seat No. U15KM2250175
Subject Computer Science.

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	11/1/2023	05	05	Prof. S. G. Joshi <i>[Signature]</i>	
2					
3					
4					

1] Define Computer ?

Computer is a electronic device which accepts data from the user Process it and gives accurate result.

2] Define Algorithm and Flowchart ?

Algorithm :- Step by step representation of a program or instruction is called Algorithm

Flowchart :- Graphical representation of a program or algorithm or instruction is called Flow chart.

3] List the data type in c with its memory size ?
There are three types of data type

- ① Primitive data type
- ② Derived data type
- ③ user defined data type

Five Primary data type and their memory size.

int → integer have 2 byte of memory size

Float → Floating point have 4 byte of memory size

Char → character have 1 byte of memory size

double → double have 8 byte of memory size

Void → Void have 0 byte of memory size.

4] Define Variable and Keyword in C?

Variable :- A variable is an identifier which is used to store some value.

Keyword :- Keyword have fixed meaning and that meaning cannot be changed. They act as a building block of a C programme. There are total of 32 keywords in C. Keywords are written in lower case.

5] Define character set in C?

As every language contains a set of characters used to construct words, statements etc.

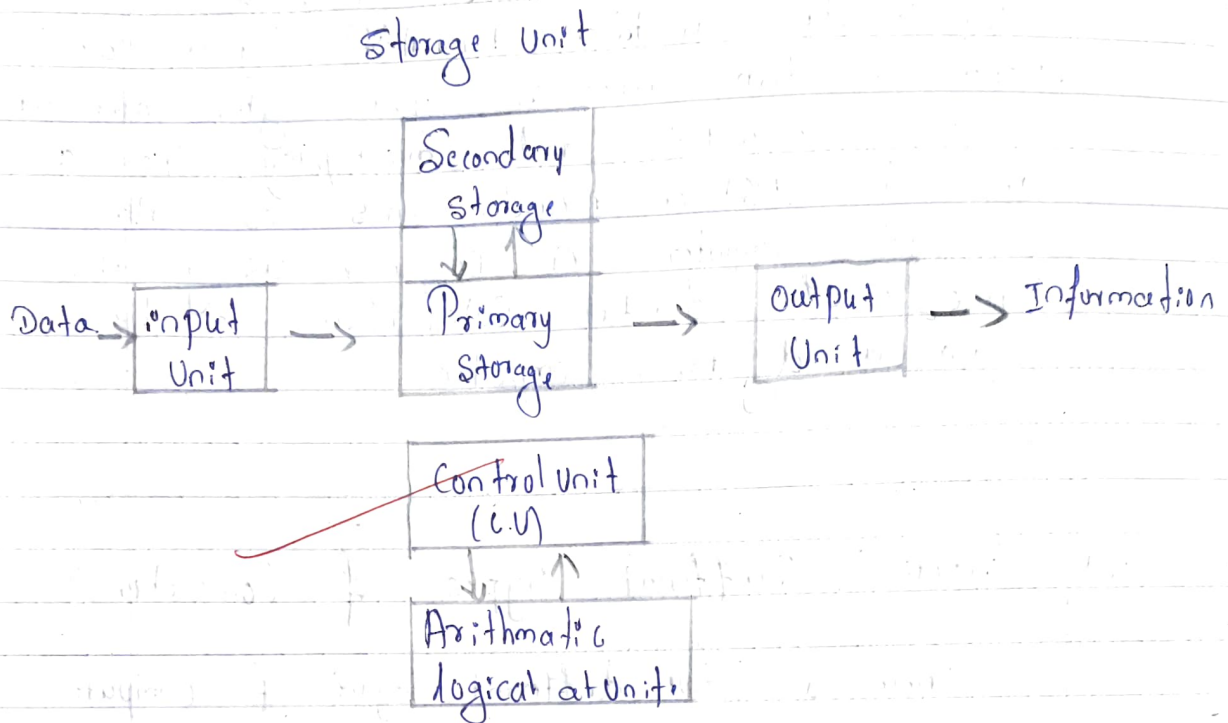
Language also as a set of characters include alphabets, digits and special symbols. 'C' language supports a total of 256 characters.

Every C programme contains statements. These statements are constructed using words and the words are constructed using characters from the character set.

6] Define looping in C?

In any programming language including C, loops are used to execute a single statement or a set of statements repeatedly until a particular condition is satisfied.

7) Explain Basic organization of a digital Computer with neat Diagram?



A digital Computer can Count and accept numbers and letters through various input device. The input devices convert the data into electronic pulse and perform arithmetic operation on numbers in discrete form. In addition to operations on numbers arithmetic operations they are also Capable of.

- i] Storing data for Processing
- ii] Performing logical operation
- iii] Editing / deleting the input data.

One of the main advantages in the use of digital Computer that any desired level of accuracy can be achieved by considering as many places of decimal as they are necessary and hence are most suitable for business application.

5] Personal Computer :-

It is also known as a micro Computer whose size, capabilities and price make it feasible for individual use. Personal Computers are intended to be operated directly by an end user rather than by a Computer expert or technician. Unlike large costly minicomputers and mainframes time sharing by many people at the same time is not used with Personal Computers.

i] Explain Characteristics of Computers ?

Characteristic of Computers

i] Speed :- A Computer works with much higher speed and accuracy compared.

ii] Accuracy :- Computer perform with 100% Accuracy. Error may occur due to data inconsistency or inaccuracy.

iii] Diligence :- A computer can perform millions of tasks of calculations with same consistency and accuracy.
→ It doesn't feel and fatigue, or task concentration. Its memory also makes it superior to that of human being.

iv] Versatility :- Versatility refers to the capability of computers to perform different kinds of work with same accuracy and efficiency.

5] Reliability :- A Computer is reliable as it gives consistent result for similar set of data i.e if we give some set of input any number of times we will get the same result.

6] Automation :- Computers perform all tasks automatically if perform tasks without manual instructions

7] Memory :- A Computer has built in memory called Primary memory and Secondary memories are removable devices CD, DVD, Pendrive etc.

10] Distinguish between while and do while loop in c?

	while	do while
→	It checks the condition first and then executes Statement	This loop will execute the Statement at least once. Then the condition is checked
→	while loop allows initialization of counter variables before starting of the body of the loop	Dowhile loop allows initialization of counter variables before and after the starting the body
→	It is Entry Controlled loop	It is Exist Controlled loop
→	we donot need to add a Semicolon at the end of the while condition	we need to add a Semicolon at the end of the while condition.

```

}
printf ("%.d", a[i]);
}
}

```

In a for loop of Array the number display until a condition is not satisfied if 'n' number is five then output becomes

0
1
2
~~3~~
4

12] write a programme to print N natural number?

```

#include <stdio.h>
int main()
{
    int i, n, sum;
    printf ("Enter the value of N");
    scanf ("%d", &n);
    for (i=0; i<n; i++)
    {
        sum = sum + i;
    }
    printf ("%d", sum);
}

```

Assum we put $n=5$ then $i=$

$i=0$

$i=1$

$i=2$

$i=3$

$$\text{Sum} = \frac{10}{\text{Natural number}}$$

if we want to add 100 number simply put
 $n = 101$, we get

$$\text{Sum} = 5051$$

$$n = 100$$

Then

$$\text{Sum} = 4951$$

$$n = 50$$

Then

$$\text{Sum} = 1226$$

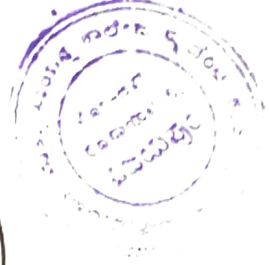
y Natural
 Numbers.

Q. 11/1/2023

— 0 —
 — 0 —

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



ASSIGNMENT

For B.A./ B.Sc. ^V Semester
2022 - 2023

Name of the Student Somesh. Hosatti
Roll No. _____ R.C.U. Seat No. 52028848
Subject Computer Networks

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	12/1/23	03	03	Prof. L. A. Puchhi	
2					
3					
4					

1) Write a note on ARPANET

→ ARPANET → Advanced Research projects Agency Network.
→ it was developed under the direction of the US advanced Research projects Agency & was based on a concept first published in 1967.

* characteristics:

- 1) Risk-tasking
- 2) experimental
- 3) dynamic
- 4) A head of industry at time.

Advantages:

- 1) ARPANET allowed remote login & was given the name telnet.
- 2) transfer of files becomes a part of FTP
- 3) it uses host-to-host protocol called as NCP.

disadvantages:

- 1) Maintaining & installation of SNA is complicated
- 2) SNA products are expensive

2) Explain LAN, MAN, WAN

→ 1) LAN : Local Area Network

LAN is usually limited to a few kilometers of area. it may be privately owned & could be a n/w inside an office on one of the floor of a building or LAN could be n/w consisting of the computers in a entire building.

2) WAN : Wide Area Network

WAN is made of all the network in a large area. the n/w in the entire state of Maharashtra could be WAN

3) MAN : Metropolitan Area Network.
MAN is of size b/w LAN & WAN. it is larger than LAN but smaller than WAN.

3) define switching? explain circuit switching & packet switching methods.
→ switching: when a user access the internet or another computer n/w outside their immediate location, messages are sent through the n/w of transmission media. this technique of transferring the information from one computer n/w to another n/w is known as switching.

* circuit switching: circuit switching is a connection-oriented service that uses a dedicated path from the sender to the receiver. before sending any data from the source to the destination. it needs to set-up an end to end path.

* Advantages:

- 1) circuit establishment
- 2) data transfer
- 3) Disconnect the circuit

* disadvantages:

- 1) the channel is blocked after the communication is ended.
- 2) Bandwidth is required for the dedicated channels.

2) packet switching: - packet switching is a connectionless n/w switching technique. Here, the message is divided & grouped into a number of units called packets. that are individually routed from the source to the destination. there is no need to establish a dedicated circuit for communication.

Advantages of packet switching:-

- 1) this type of switching has improved efficiency & had less bandwidth n/w wastage.
- 2) improved fault tolerance of the circuit
- 3) they are more reliable.

→ Disadvantages of packet switching:

- 1) can be a bit more complex
- 2) Rerouting can cause transmission delay.

4) discuss about OSI reference model with neat sketch.

→ OSI :- Open System Interconnection.

* OSI model was developed by international organization for standardization

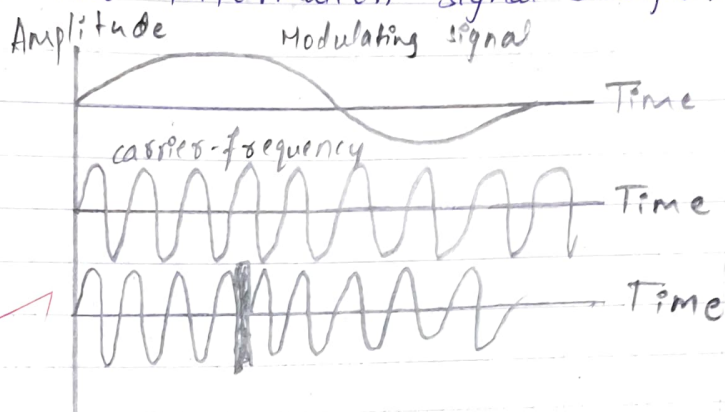
* it is reference model that describes how information from s/w application in one computer moves through physical medium to the s/w application in another computer.

* it has 7 layers:

- 1) Application layer
- 2) presentation layer
- 3) session layer
- 4) Transport layer
- 5) N/w layer
- 6) datalink layer
- 7) physical layer

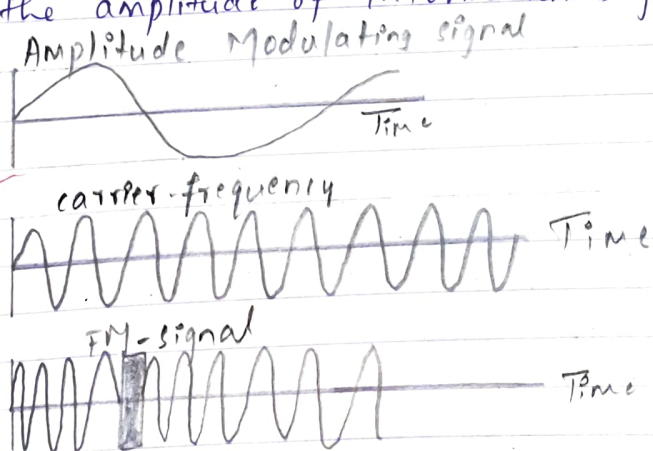
2) frequency modulation:

In FM transmission, the frequency of the carrier signal is modulated to follow the changing voltage level of the modulating signal. The peak amplitude & frequency of the carrier signal remain constant, but as the amplitude of the information signal changes.



3) phase modulation:-

In PM modulation, the phase of the carrier signal is modulated to follow the changing voltage level of modulating signal. The peak amplitude & frequency of carrier signal remain constant but as the amplitude of information signal changes.



Good

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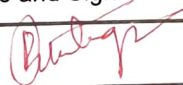
ASSIGNMENT

For B.A./ B.Sc. VI Semester
2022-2023

Name of the Student Sindhu. Basavakod

Roll No. _____ R.C.U. Seat No. S2028841

Subject Python

Assignment No.	Date	Marks Assigned	Marks Obtained	Name and Signature of Teacher	Remarks
1	26/8/23	03	03		
2					
3					
4					

1. Define Recursion Python program to find the factorial of a number using recursion

=> A function calls itself is called Recursion

```
def factorial(n):
```

```
    if n == 1;
```

```
        return 1
```

```
    else:
```

```
        return n * factorial(n-1)
```

```
num = int(input("Enter the number:")) if
```

```
num < 0;
```

```
print("Sorry factorial number doesn't exist  
negative num") elif
```

```
num == 0;
```

```
print("The factorial 0 is 1")
```

```
else
```

```
print("The factorial num" "is" factorial(num))
```

2. To check whether the number is perfect or not

```
num = int(input("Enter a number"))
```

```
Sum = 0
```

```
for i in range(1, num):
```

```
    if (num % i == 0):
```

```
        Sum = Sum + i
```

```
    if num == Sum
```

```
print("num is perfect number")
```

```
else
```

```
print("num. is not perfect number")
```

3. Syntax for the built-in function

```
max() - max(iterable)
```

```
pow() - pow(num1, num2)
```

```
len() - len([object])
```

```
sqrt() - math.sqrt(x)
```

4. Diff b/w list & tuple

- | | |
|---|--|
| <ul style="list-style-type: none">* Ordered and changeable (mutable)* List are enclosed in brackets []* List can be removed | <ul style="list-style-type: none">* Tuple are unchangeable (immutable)* Tuple are enclosed in parentheses ()* Tuple can't be removed |
|---|--|

5. Explain String built-in function

- ① islower(): Return True if all the characters in the string are lowercase. False otherwise.
- ② isupper(): Return True if all the characters in the string are uppercase. False otherwise.
- ③ capitalize(): Return a string with its first character capitalized.

6. Diff b/w list & string

- | | |
|---|---|
| <ul style="list-style-type: none">* List* Mutable* Element can be assigned at specified | <ul style="list-style-type: none">* String* Immutable* Element can't be assigned at specified |
|---|---|
- Ex:

```
>>> l = [3, 4, 8, 9]
>>> l[2] = 6 # valid
```
- Ex:

```
>>> str = "python"
>>> str[2] = 'p' # invalid
```

Condition Execution

There are three type of Condition Execution

1. if Statement
2. if-else Statement
3. elif Statement

1. if Statement

=> It is a simple if Statement. when Condition is true then code which is associate with if Statement will execute

Ex: $a = 4$

$b = 2$

0

if $a > b$:

print ("a is greater than b")

2. if-else Statement

=> when Condition is true. Then code is associated if Statement will execute, other wise code associated with if-else Statement will execute.

$a = 14$

$b = 20$

if $a > b$:

print ("a is greater")

else

print ("b is greater")

3. elif Statement

=> It is short form of else-if then previous condition is not true it also known as nested Statement

$a = \text{input}(\text{"Enter first number"})$

$b = \text{input}(\text{"Enter second number"})$

if $a > b$:

```

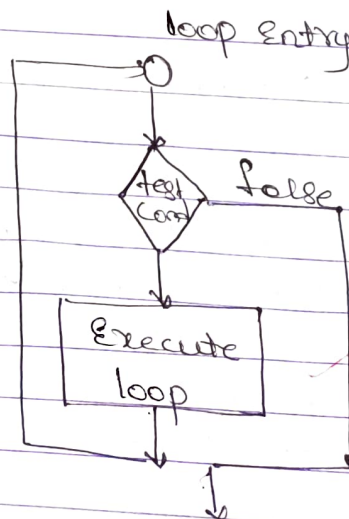
print ("a is greater")
elif a == b
print ("both no. are Equal")
else
print ("b is greater")

```

Q8. what is a tuple? Explain different tuple operation in python
 => Tuple is a Collection of Element which is ordered and ~~un~~changeable

1. joining operator + = It joins two or more tuples
2. Repetition operator * = It replicates a tuple specified number of times
3. Slice operator : Elements b/w indices start + end - 1
4. comparison operator : compare two tuples

Q9. what is loop? Explain different looping state in python
 => Execute a Set of Statements repeatedly until a particular condition is satisfied



1. while loop
2. for loop

while loop : we can execute a set of statements as long as a condition is true. It requires to define an indexing variable.

for loop : The for loop iterates over a given sequence (it may be list, tuple & string).

10. Define class & object

Python a class is a blueprint for creating objects that share common attributes & behaviors. It defines the structure & behavior of an object.

Syntax : `class className:`
 # class definition

Ex : `class Bike:`
 `name = ""`
 `gear = 0`

objects : An object is called an instance of a class.

Syntax : `(object Name = class name())`

Ex : # create class
 `class Bike:`
 `name = ""`
 `gear = 0`

11. Define Exception

The unusual & unexpected condition other than syntax / logical errors, encountered by a program at the time of execution is called Exception.

```
finally :  
print ("Executing finally block")  
x = 0
```

```
y = 0  
print ("out of try Except, else & finally block")
```

18. mention the membership operators with Exmples

in - Returns true if a sequence with the specified value is present in the object

Ex : x in y

not in - Returns true if a sequence with the specified value is not present in object

Ex : x not in y

19. list the modes of python interpreter
⇒ Two modes to use the python interpreter
i) interactive mode
ii) script mode

20. mutable Data type & immutable Data type
⇒ There are changeable. In the same memory address new value can be stored
Ex : list, set, Dictionary

⇒ There are unchangeable. In the same memory address new value cannot be stored
Ex : string, float, tuple, Boolean, integer