Kushagra Jaiswal
IT-1
Python
2000910139004

DATE / / PAGE
NOTEBOOK

Part-A

1)

List	Tuple
• Lists are mutable	Tuples are immutable.
• Implication of iterations is time-consuming	The implication of iterations is comparatively faster.
• List consumes more memory.	Consumes more memory.

2) Python is an ~~interrupted~~ interpreted, object oriented, high level programming language with dynamic semantics.

3) Python is called an ~~interrupted~~ interpreted language because it goes through an interpreter. An interpreter execute the statement of code 'one by one' where the compiler executes the code entirely and lists all possible errors at a time.

4) The scope of global variables is the entire program whereas the scope of local variable is limited to the function where it is defined.

5) join ( ) :- The join ( ) method takes all items in an iterable and joins them into one string.

split ( ) method in python split a string into a list of strings after breaking the given string by the specified seperator.

A string is mutable in python eg :-

The string object 'h' will always represent the python value 'h'.

Part-B

7) Function :-

A function is a block of code which only runs when it is called.
We can pass data, known as parameters, into a function.
A function can return data as a result.

To define a function :-
In python a function is defined using the def keyword.

Eg. :

```
def my_function():
    print("Hello")
```

To use or call a function:-
To call a function we use a function as:-

Eg. :

```
def my_function():
    print("Hello")

my_function()
```

8) Arithmetic operators:-
Arithmetic operators are used to perform mathematic operations like addition, substraction, multiplication & division.

Eg:

```
val1 = 2
val2 = 3
res = val1 + val2
print(res)
```

Assignment operators:-
Assignment operator are used to assign values to python.

Eg:-

= → x = 5

+= → x += 3 → x = x+3

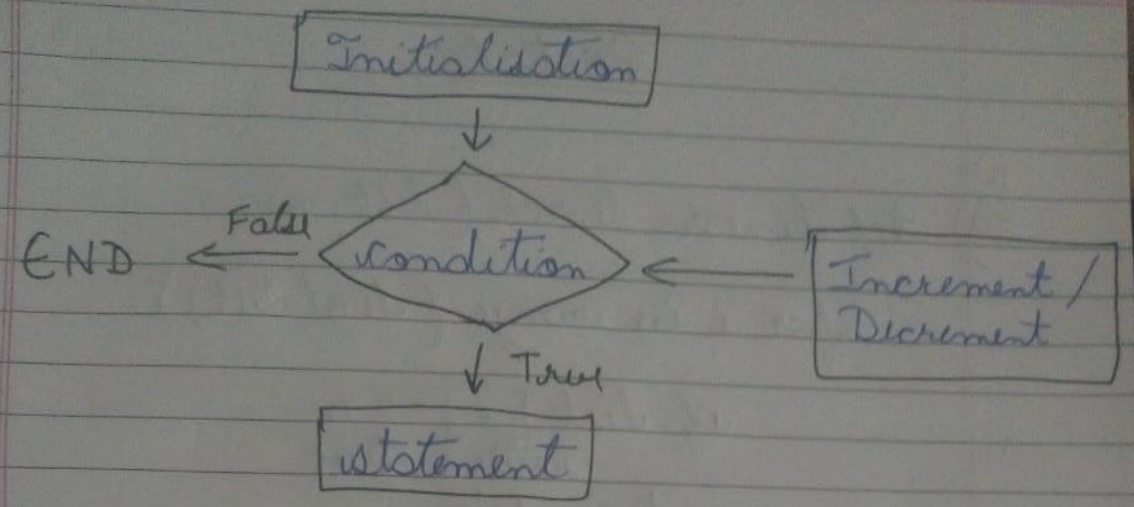
Comparison operator:-
Comparison operator are used to compare two values:-
Eg:-
== → Equal → x == y
!= → Not equal → x != y.

Logical operator:-
Logical operators are used on conditional statements (either true or false). They perform Logical AND, logical OR, logical Not operation.
Eg:-
and → Logical AND: True if both the operands are true.

9) Loops:-
A loop statement allows us to execute a statement or group of statements multiple times.

Purpose in loops:-
Loops in python allows us to execute a group of statements several times.

Working of loops:-
loops are used for for iterating over a sequence (that is either a list, a tuple, a dictionary, a set or a string).



Break :- The break statement terminates the loop containing it.

Eg :-

```
for val in "string":
    if val == "l"
        break
    print (val)
print ("the end")
```

continue :- The continue statement is used to skip the rest of the code inside a loop for the current iteration only.

Eg :-

```
for val in "string":
    if val == "i":
        continue
    print (val)
print ("the end")
```

Part-C

11)

a)

```
def linear_search (list, n):
    for i in range (len(list)):
        if list[i] == n:
            return true
    return false

list = [1, 2, 3, 4, 5, 6]

n = 5

if search (list, n)
    print ("found")
else
    print ("Not found")
```

b) Program to print factorial of a number using function.

```
def factorial (num):
    fact = 1
    i = 1
    while i <= num:
        fact = fact * i;
        i = i + 1
    return i

num = input ("Enter a number"),
result = factorial (num)
print ("factorial of the number %d" result)
    factorial (num).
```