Features of Python

1) simple Syntax / Easy to learn
2) libraries (Everything is readymade)
3) Open source (freely usable)
4) platform independent (we can use in Linux, windows, google etc)
5) less memory
6) Executes faster compared to some Programming.

→ Applications of Python: (Where we can apply).

1) Web development
2) Mobile app development
3) Machine learning / deep learning
4) AI
5) Cyber security
6) Graphics
7) IOT (Internet of things)
8) Automation
9) Desktop app development.

4/9/25

Comments - is used to Explain the code how it is Executed.

They are part of code but they wont Consider in Execution time

2 types of comments

1) single line comment :- Presented by #
2) Multi line comment :- presented by """ """ or

Eg: a = 5
↓ variable

Key words :- They are reserved words used for particular task and they can't be used as identifier (Variable, function name etc.)
Ex :- True, False, for, if, else, While, break, Try Exact, except, Except, Finally, ... etc.

Identifier - nothing but identifying the name for Variables, functions in user define functions
Variables :- It is place to store our values.
for eg:- we add 5+5 and multiply by 2.
we need to write the number again and again.
So instead we can give value like a=5
Sum = a+b ; 10 → b=5
a = 5 ; a is Variable ↑ value.

Conditions for Variable :-
Valid Variable declaration - we can use any below -ω.
a = 5
A = 7
num = 11
NumI = 89
NUM2 = 15
empid = 123
emp_name = "priyanka" or 'priyanka' ; anytime we use string with quotes.
emp_no = 9123456780.

Invalid Variable declaration : we should not start with numbers, and apart from _ can't use any special characters. The below can't be used and not valid means Invalid variable declaration
In = 35
Stu_name@ = "arun"
Stu id = 345

Data types :- It's pre defined component and specify the data category.

→ Currency always - decimal (float)
→ Anything has decimal = float
→ DOB = we don't have direct data type to use like Sql
More Strings data = we do analysis, More numerical data — we do calculations.
→ ~~Discuss data~~ :-
Note: On any number like Adhar number, Emp ID, Phone number though its 'Int' data type we consider 'Str' since we dont perform any Calculations.

name = Str
Ph.no = Str (not Int since no Calculation performed)
Age = Int
salary = float } since decimal comes into picture.
Height = float
Weight = float
Fav food = Str

→ Phython data types (~~numeric~~)
Int } numerical database
float
Complex → Real or Imagin ([redacted]) → Eg 7+ Complex (5J+8)
Str
Bool (True or false)

Special data types (Data structures)
list
Tuple
set
dict (dictionary)

→ ~~...~~ When we wants assign multiple Values in Same line follow the below :-
1) a=4 ; b=6 ; c=7
2) a,b,c = 4,6,7

// = Whole division with decimal

// = Co

Input and Output functions:-

Input :- Anything Output we take from the user.
: input ()

Output : Anything data we give the user or display it : print ().

Examples for Output function
Print ("Hello good morning").

- Input function :- we are taking data from the user so need to store in variable before performing function.

a = int (Input) ("enter a number"))
↳ optional to give name

variable name

enter a number 7

Area of triangle : 0.5 x b x h

Area of circle : 3.142 x r x r

Operators : (symbols to perform Calculations)

Arithmetic Operators = +, -, *, /, %, //, **

Relational Operators : >, <, >=, <=, ==, !=

Logical operators = and, or, not, xor, xnor

A	B	AND	OR
		FALSE	FALSE