**PYTHON NOTES:**

Python is a high-level interpreted object-oriented programming language, dynamically typed, and an indented programming language

**Level of the program**

1. binary level
2. machine level
3. assembly level
4. high level

**Features**

1. simple syntax
2. indent
3. open source
4. libraries
5. Support all kinds of development
6. less memory

**level of Python**

1. Python 1= 1987- 1991
2. Python 2= 2000
3. Python 3= 2008

**. ipynb** supported by Jupiter Notebook, VS Code, Google Colab

Py= python IDES

Markdown = is used as text executed without cells

Row = is used as text; it is executed within the cell

Esc+R= row esc+m= markdown

**Comments:** It is a part of the code, but I want to take any place in execution

**Types of comment**

1. Single line comment: #

#my 1st program

1. Multiline comment: “” “” or ‘’’’’’ ‘’’’’

‘’’write a program ’’’

Or

**Keywords:**

They are special reserved words that have special meaning and cannot be used as identifiers.

(variable, function name, etc.)

Ex: true, false, try, for, else, etc.

**Data types:**

It maintained what type of data it was

1. String
2. Integer
3. Float
4. Booleans
5. Complex

**Special data types/sequence**

str, list, tuple, set, dict

**variable:**

Variables are the names which we use to store our values

**Rules:** declare a variable

Valid variable declaration

Ex: a=2, A=4, num=20, num1=31, num2=90 num3=12, stuid=123, stu\_id=127, \_stu\_name= “Priya”, (a, b, c=4,6.1) or x=4; y=2; z=3;

**Invalid variable:**

* We cannot start the variable name with a number
* We cannot use space and any other special characters apart from underscore
* 1num=5
* Stu's name= “Priya”
* @num$=30

**Collect a person's data**

Name= str

Age= int

Phone num= str

Email id=str

Address= str

Weight= str

Education=str

Work exp= float

Dob=date= str

Salary= float

**Input and output function**

Print () = output function

Input () = input function

**3/9/25**

Operators:

It is a special symbol that performs a certain operation b/w operands

Ex: a=3

a,3 operand

= operation

Ex: z=x+y

Z, x, y operand

=, + operation

**Types:**

1. Arithmetic operator:

+, -, \*, /, %, //, \*\*

1. Comparison operator /relational

>, <, >=, <=, ==, !=

1. Logical operator

And, or, not

1. Assignment operator

=, +=, -=, \*=, /=, %=, //=, \*\*=

1. Bitwise operator

&, |, ~, >>, <<

1. Identity operator

Is, is not

1. Membership operator

In, not in

**Conditional statement:**

It allows us to make decisions in code. They check the condition (expression that results in true or false) and execute different blocks of code accordingly

TYPES OF CONDITIONALS:

1. If statement: executes a block only if the condition is true

Syntax:

If(condition):

Stmt

Example: eligibility checking for election voting in India

Age=int (input (“enter your age:”)

Country = input (“Enter your country:”)

If(ag>=18 and country== “India”):

Print (“eligible for voting”)

1. If-else statement: provides two paths: one if the condition is true, another if false

Syntax:

If(condition):

Stmt

Else:

Stmt

Example:

Age=int (input (“enter your age:”)

Country = input (“Enter your country:”)

If(age>=18 and country== “India”):

Print (“eligible for voting”)

Else:

Print (“not eligible for voting”)

1. If-Elif-else ladder: multiple condition check one by one

Syntax:

If(condition):

Stmt

Elif(condition):

Stmt

Elif(condition):

Stmt

Else:

Stmt

Example:

n= int(input("enter the number:"))

if(n>0):

print("positive")

elif (n<0):

print("negative")

else:

print("zero")

1. Nested if: using one if inside another

syntax: if(condition1): #outer if

if(condition2): #inner if

stmt of condition 2

else: #inner if else

stmt for inner if else

else: #outer if

stmt for outer if else

Example:

n= int(input("enter a num:"))

if(n>=0):

if(n>0):

print("+ve")

else:

print("zero")

else:

print("-ve")