==> WHAT IS PYTHON?

- Python is a dynamically typed general purpose programming language that supports OOP approach as well as a functional programming approach.
- Python is an interpreted and a high-level programming language.
- It was created by Guido Van Rossum in 1989.

==> FEATURES OF PYTHON

- Simple and easy to understand, User Friendly
- Faster
- Best package for AI
- Extensively used in industry
- Read code line by line
- Portable
- Platform independent

==> Identifier

- It can be any alphabet between A to Z or a to z
- it cannot be started with any digit
- it cannot be started with any special character except underscore(_)
- A keyword cannot be an identifier.

Examples:

```
a=10
print(a)
---------

A=20
print(A)
---------

_abc = 100
print(_abc)
---------
```

==> KEYWORDS:

- Keywrods are the restricted words in python which cannot be used as identifiers • To know the keyword -- command is: help('keywords')

==> SINGLE LINE STATEMENT:-

- a = 'This is my python class' [with single quotes]

- a = "This is my python class" [with double quotes]
- a = '''This is my python class''' [with triple-single quotes]

==> MULTIPLE LINE STATEMENT:-

```
a = '''This is
me'''
print(a)
```

==> DATATYPES

1. Numeric Datatypes

- int
- float
- complex

2. Sequence Datatypes

- list
- tuple
- dictionary
- string
- set

3. Boolean Datatypes

- True
- False

NUMERIC DATATYPES

```
a = 10
b = 10.6
c = 2+3i

print(a)
print(type(a)) # will print the datatype of a
print(id(a)) # will print the memory location of a

print(b)
print(type(b)) # will print the datatype of b
print(id(b)) # will print the memory location of b

print(c)
print(type(c)) # will print the datatype of c
print(id(c)) # will print the memory location of c
```

INPUT FROM USER

```
num = int(input("Enter any no.: "))
print(num)


num = float(input("Enter any float no.: "))
print(num)


num = complex(input("Enter any complex no.: ")) print(num)
```

 # WAP to showcase usage of arithmetic operators

```
print("[ + ] Please enter first no. greater than second no. [ + ]") num1
= int(input("Enter first no. "))
num2 = int(input("Enter second no. "))

print(f"Addition: {num1+num2}") print(f"Subtration:
{num1-num2}") print(f"Multiplication:
{num1*num2}") print(f"Division: {num1/num2}")
print(f"Floor Divison (Integer division): {num1//num2}") print(f"Modulus:
{num1%num2}")
```

1. Arithmetic Operator

+ → Addition,
- → Subtraction,
* → Multiplication,
/ → Division,
// → Floor Division,
% → Modulus,
** → Exponential .

Eg. 1.

```
a = 10
b = 20
c = a+b
print(c)
```

Eg. 2.

```
a = 10
b = 5
c = a-c
print(c)
```

Eg. 3.

```
a = 10
b = 2
```

```
c = a*b
print(C)
```

Eg. 4.

```
a = 10
b = 3
c = a/b
print(C)
```

Eg. 5.

```
a = 20
b = 5
c = a//b
print(C)
```

Eg. 6.

```
a = 15
b = 2
c = a%b
print(C)
```

Eg. 7.

```
a = 4
b = 2
c = a**b
print(C)
```

2. COMPARISION OPERATOR

== → Comparision
> → Greater then
< → Less then

Eg. 1.

```
a = 10
b = 20
print(a==b) -- False
```

Eg. 2.

```
a = 20
b = 10
print(a>b)  -- True
print(a<b)  -- False
print(a!=b) -- True
```

Eg. 3.

```
a = 10
b = 2
print(a>=b) -- True
print(a<=b) -- False
```

==> LOGICAL OPERATOR

and , or , not

NOT operator:
print(not(True)) -- False
print(not(False)) -- True
print(not(1)) -- False
print(not(0)) -- True
print(not(10)) -- False
print(not(-10)) – False

AND operator:
print(True and True) -- True
print(True and False) -- False
print(False and True) -- False
print(False and False) -- False

print(10 and 10) -- 10
print(0 and 0) -- 0
print(1 and 0) -- 0
print(-10 and -10) -- -10
print(1 and 1) -- 1
print(10 and 20) -- 20
print(20 and 10) -- 10

OR operator
print(True or True) -- True
print(True or False) -- True
print(False or True) -- True
print(False or False) -- False

print(10 or 10) -- 10
print(0 or 0) -- 0
print(1 or 0) -- 1
print(-10 or -10) -- -10
print(1 or 1) -- 1
print(10 or 20) -- 10
print(20 or 10) – 20

==>Assignment Operator

a = 20

a += 10 --> a = 20 + 10 = 30
a -= 10 --> a = 20 - 10 = 10

a *= 10 --> a = 20 * 10 = 200
a /= 10 --> a = 20 / 10 = 2
a //= 10 --> a = 20 // 10 = 2
a %= 10 --> a = 20 % 10 = 0

==> MEMBERSHIP OPERATOR

In, not in, is, not is

in → IN Keyword

eg.
a = "This is my Python class"
print('This' in a) -- True
print('y' in a) -- True

not in → NOT IN Keyword

eg.
a = "This is my Python class"
print('This' not in a) -- False
print('f' not in a) -- True

is → IS Keyword

a = "This is my python class"
print("This" is a) -- False

a = "This is my python class"
print("This is my python class" is a) -- True

c = "This"
print('This' is c) -- True
print("This" is not c) -- False