**Data types in Python:**

- Integer : int

- Float: decimal values

- Boolean: True,False

- String, varchar : alphabets

- Complex: real and imaginary values.

**Comment:**

-It is denoted by # symbol

-It gives Information but it will not be executed (ignored).

**Operators:**

**1. Arthimetic operator:**

• Addition (+): Returns sum of 2 numbers. Ex: 3+2= 5

• Subtraction (-): Returns difference of 2 numbers.Ex:3-2=1

• Multiplication(\*): Returns product of 2 numbers.Ex:3\*2=6

• Division(/): Returns quotient of 2 numbers.Ex:3/2=

• Modulus(%):Returns reminder of division of 2 numbers.

• Floor division(//):Returns the integer( value without decimal number).

Example:

a=3  
b=2  
sum=a+b  
mul=a\*b  
div=a/b  
floordiv=a//b  
modulus=a%b  
print("sum is:",sum)  
print("mul is:",mul)  
print("div is:",div)  
print("floordiv is:",floordiv)  
print("modulus is:",modulus)

Output:

sum is: 5

mul is: 6

div is: 1.5

floordiv is: 1

modulus is: 1

**2. Assignment operator:**

• Equal to(=): Assigns a value to variable.

• Add and equal to(+=): adds value from variable and assigns result.

• Substract and quality to(-=): substract value from variable and assigns result.

• Multiply and equal to(\*=):multiply value from variable and assigns result.

• Divide and equal to(/=):divides a variable by value and assigns result.

• Floor division(//=): same as division but it returns integer value as a result.

• Modulus and equal to(%=):calculate modulus of variable and assigns the result.

Example:

x=5  
y=10  
print("assigment:",x)  
x+=y  
print("Add and assign:",x)  
x-=y  
print("substract and assign:",x)  
x\*=y  
print("multiply and assign:",x)  
x/=y  
print("div and assign:",x)  
x//=y  
print("floordiv and assign:",x)  
x%=y  
print("modulus and assign:",x)

Output:

assigment: 5

Add and assign: 15

substract and assign: 5

multiply and assign: 50

div and assign: 5.0

floordiv and assign: 0

modulus and assign: 0

**3. Logical operator:**

• And(and): Returns True if both conditions are True.

• Or(or): returns True if either condition is True.

• Not(not):Returns opposite of condition.

Example:

a=True  
b=False  
print(a and b)  
print(a or b)  
print(not a)

Output:

False

True

False

**4. Comparision operator:**

• Equal(==): Returns true if 2 values are equal.

• Not equal(!=) Returns True if 2 values are not equal.

• Greater than(>): Returns True if first value is greater than second value.

• Less than(<): Returns True if first value is less than second value.

• Greater than or equal(>=): returns True if first value is greater than or equal to second value.

• Less than or equal(<=): Returns True if first value is less than or equal to second value.

Example:

a=3  
b=2  
print(a==b)  
print(a!=b)  
print(a>b)  
print(a<b)  
print(a>=b)  
print(a<=b)

Output:

False

True

True

False

True

False

**5. Identity operator:**

* It is used to compare identity of 2 objects.
* It has 2 identity oprators: is, is not

Ex:

a=[1,2,3]  
b=[1,2,3]  
c=a  
print(a is b)

Output:

False

a=[1,2,3]  
b=[1,2,3]  
c=a  
print(a is not b)

Output:

True

**6.Membership operator:**

* It is used to check if value is present in a sequence or not.
* There are 2 membership operator: in, not in

Ex:

fruits=["apple","banana","mango"]  
print("banana" in fruits)

Output:

True

fruits=["apple","banana","mango"]  
print("banana" not in fruits)

Output:

False

Bitwise operator:

* It is use to do operations on binary representation of numbers.
* Bitwise operators are: and(&), or(|), not(~), xor(^), left shift(<<), right shift(>>)

Ex:

a=5   
b=3   
print(a&b)  
print(a|b)  
print(a^b)  
print(~a)  
print(a>>1)  
print(a<<1)

Output:

1

7

6

-6

2

10