
#7
BASIC
OPERATORS
ZOOMING

Basic Operators

- Python language supports the following types of operators.
  - Arithmetic Operators
  - Comparison (Relational) Operators
  - Assignment Operators
  - Logical Operators
  - Bitwise Operators
  - Membership Operators
  - Identity Operators

Python – Arithmetic Operator

a=10, b=20

Addition:	a + b = 30	Modulus:	a % b = 0
Subtraction:	a - b = 20	Increment:	b++ = 21
Multiplication:	a * b = 200	Decrement:	b-- = 19
Division:	a / b = 2		

Python – Comparison Operator

a=10, b=20

Equal to:	a == b : true
Not equal to:	a != b : false
Greater than:	a > b : false
Less than:	a < b : true
Greater than or equal to:	a >= b : false
Less than or equal to:	a <= b : true

Python – Assignment Operator

```
Simple assignment operator: c=a+b //assign a+b to c
Add AND assignment operator: c+=a //assign c=c+a
Subtract AND assignment operator: c-=a //assign c=c-a
Multiply AND assignment operator: c*=a //assign c=c*a
Divide AND assignment operator: c/=a //assign c=c/a
Modulus AND assignment operator: c*=a //assign c=c*a
Lest shift AND assignment operator: c<<=2 //assign c=c<<2
Right shift AND assignment operator: c>>=2 //assign c=c>>2
Bitwise AND assignment operator: c&=2 //assign c=c&2
Bitwise exclusive AND assignment operator: c^=2 //assign c=c^2
Bitwise inclusive AND assignment operator: c|=2 //assign c=c|2
```

Python – Bitwise Operator

```
//integer format
a=60, b=13

//binary format
a=0011 1100

b=0000 1101
```

```
a&b = 0000 1100

a|b = 0011 1101

a^b = 0011 0001

~a  = 1100 0011
```

Python – Logical Operator

```
a=true
b=false
```

```
Logical AND: a AND b : true

Logical OR:  a OR b : true

Logical NOT: NOT(a AND b) : false
```

Python – Membership Operator

- **in** and **not in** are the membership operators;
- It is used to test whether a value or variable is in a sequence.

```
in True if value is found in the sequence
not in True if value is not found in the sequence
```

```
# Examples of Membership operator
x = 'Geeks for Geeks'
y = {3:'a',4:'b'}

print('G' in x)
print('geeks' not in x)
print('Geeks' not in x)
print(3 in y)
print('b' in y)
```

```
True
True
False
True
False
```