

Operators



Operators

Operators are the symbols which are used to perform certain operations between two operands.
For Example : $9 - 6 = 3$ Here '-' is operator and 9,6 are operands.

Types of operators in Python :

- Arithmetic Operators
- Comparison (Relational) Operators
- Assignment Operators
- Logical Operators
- Bitwise Operators
- Membership Operators
- Identity Operators

Arithmetic Operators

Operator	Description	Syntax
+	Addition: adds two operands	$x + y$
-	Subtraction: subtracts second operands from first operand	$x - y$
*	Multiplication: multiplies two operands	$x * y$
/	Division (float): divides the first operand by the second and returns float value	x / y
//	Division (floor): divides the first operand by the second and returns floor value	$x // y$
%	Modulus: returns the remainder when the first operand is divided by the second	$x \% y$
**	Power: Returns first raised to power second	$x ** y$

Comparison (Relational) Operators

Operator	Description	Syntax
>	Greater than - True if left operand is greater than the right	$x > y$
<	Less than - True if left operand is less than the right	$x < y$
==	Equal to - True if both operands are equal	$x == y$
!=	Not equal to - True if operands are not equal	$x != y$
>=	Greater than or equal to - True if left operand is greater than or equal to the right	$x >= y$
<=	Less than or equal to - True if left operand is less than or equal to the right	$x <= y$

Assignment Operators

Operator	Description	Syntax
=	Assign value of right side of expression to left side operand	a = b + c
+=	Add AND: Add right-side operand with left side operand and then assign to left operand	a+=b a=a+b
-=	Subtract AND: Subtract right operand from left operand and then assign to left operand	a-=b a=a-b
=	Multiply AND: Multiply right operand with left operand and then assign to left operand	a=b a=a*b
/=	Divide AND: Divide left operand with right operand and then assign to left operand	a/=b a=a/b
%=	Modulus AND: Takes modulus using left and right operands and assign the result to left operand	a%=b a=a%b
//=	Divide(floor) AND: Divide left operand with right operand and then assign the value(floor) to left operand	a//=b a=a//b

Logical and Membership Operators

Logical Operators

Operator	Description	Syntax
and	Returns True if both statements are true	St_1 and St_2
or	Returns True if one of the statements is true	St_1 or St_2
not	Reverse the result, returns False if the result is true	not (St_1 and St_2)

Membership Operators

Operator	Description	Syntax
in	Returns True if a sequence with the specified value is present in the object	x in y
not in	Returns True if a sequence with the specified value is not present in the object	x not in y

Bitwise and Identity Operators

Bitwise Operators

Operator	Description	Name
&	Sets each bit to 1 if both bits are 1	AND
	Sets each bit to 1 if one of two bits is 1	OR
^	Sets each bit to 1 if only one of two bits is 1	XOR
~	Inverts all the bits	NOT
<<	Shift left by pushing zeros in from the right and let the leftmost bits fall off	Zero fill left shift
>>	Shift right by pushing copies of the leftmost bit in from the left, and let the rightmost bits fall off	Signed right shift

Identity Operators

Operator	Description	Syntax
is	Returns True if both variables are the same object	x is y
is not	Returns True if both variables are not the same object	x is not y