Python Operators

Operators are particular symbols that are used to perform operations on operands. It returns result that can be used in application.

Example

1. 4 + 5 = 9

Here 4 and 5 are Operands and (+) , (=) signs are the operators. This expression produces the output 9.

Types of Operators

Python supports the following operators

1. Arithmetic Operators.
2. Relational Operators.
3. Assignment Operators.
4. Logical Operators.
5. Membership Operators.
6. Identity Operators.
7. Bitwise Operators.

Arithmetic Operators

The following table contains the arithmetic operators that are used to perform arithmetic operations.

Operators	Description
//	Perform Floor division(gives integer value after division)
+	To perform addition
-	To perform subtraction
*	To perform multiplication
/	To perform division
%	To return remainder after division(Modulus)
**	Perform exponent(raise to power)

Example

1. >>> 10+20
2. 30
3. >>> 20-10
4. 10
5. >>> 10*2
6. 20
7. >>> 10/2
8. 5
9. >>> 10%3
10. 1
11. >>> 2**3
12. 8
13. >>> 10//3
14. 3
15. >>>

Relational Operators

The following table contains the relational operators that are used to check relations.

Operators	Description
<	Less than
>	Greater than
<=	Less than or equal to
>=	Greater than or equal to
==	Equal to
!=	Not equal to
<>	Not equal to(similar to !=)

eg:

1. >>> 10<20
2. True
3. >>> 10>20
4. False
5. >>> 10<=10
6. True
7. >>> 20>=15
8. True
9. >>> 5==6
10. False
11. >>> 5!=6
12. True
13. >>> 10<>2
14. True
15. >>>

Assignment Operators

The following table contains the assignment operators that are used to assign values to the variables.

Operators	Description
=	Assignment
/=	Divide and Assign
+=	Add and assign
-=	Subtract and Assign
*=	Multiply and assign
%=	Modulus and assign
**=	Exponent and assign
//=	Floor division and assign

Example

1. >>> c=10
2. >>> c
3. 10
4. >>> c+=5
5. >>> c
6. 15
7. >>> c-=5

8. >>> c
9. 10
10. >>> c*=2
11. >>> c
12. 20
13. >>> c/=2
14. >>> c
15. 10
16. >>> c%=3
17. >>> c
18. 1
19. >>> c=5
20. >>> c**=2
21. >>> c
22. 25
23. >>> c//=2
24. >>> c
25. 12
26. >>>

Logical Operators

The following table contains the arithmetic operators that are used to perform arithmetic operations.

Operators	Description
and	Logical AND(When both conditions are true output will be true)
or	Logical OR (If any one condition is true output will be true)
not	Logical NOT(Compliment the condition i.e., reverse)

Example

1. a=5>4and3>2
2. print a
3. b=5>4or3<2
4. print b
5. c=not(5>4)
6. print c

Output:

1. >>>
2. True
3. True
4. False
5. >>>

Membership Operators

The following table contains the membership operators.

Operators	Description
in	Returns true if a variable is in sequence of another variable, else false.
not in	Returns true if a variable is not in sequence of another variable, else false.

Example

1. a=10
2. b=20
3. list=[10,20,30,40,50];
4. if (a in list):
5.   print"a is in given list"

6. else:
7.   print"a is not in given list"
8. if(b notin list):
9.   print"b is not given in list"
10. else:
11.   print"b is given in list"

Output:

1. >>>
2. a isin given list
3. b is given in list
4. >>>

Identity Operators

The following table contains the identity operators.

Operators	Description
is	Returns true if identity of two operands are same, else false
is not	Returns true if identity of two operands are not same, else false.

Example

1. a=20
2. b=20
3. if(a is b):
4.   print a,b have same identity
5. else:
6.   print a, b are different
7. b=10
8. if(a isnot b):
9.   print a,b have different identity
10. else:
11.   print a,b have same identity

Output

1. >>>
2. a,b have same identity
3. a,b have different identity
4. >>>