

BCA – 502: Python Programming

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In today's Class we will discuss on Python Basic Operator:

Basic operator of Python:-

- Operators are the constructs which can manipulate the value of operands.
- Consider the expression $4 + 5 = 9$. Here, 4 and 5 are called operands and + is called operator.

Types of Operator

Python language supports the following types of operators.

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

Let us have a look on all operators one by one.

Python Arithmetic Operators:-

- Arithmetic operators are used with numeric values to perform common mathematical operations:

Addition (+) operator:-

- Adds values on either side of the operator.

Example:- write a Python program to add two numbers.

```
x = 5  
y = 3  
print(x + y)
```

Output:- 8

Subtraction (−) operator:-

- Subtracts right hand operand from left hand operand.

Example:- Write a Python program to subtract two number.

```
x = 5  
y = 3  
print(x - y)
```

Output:- 2

Multiplication (*) operator:-

- Multiplies values on either side of the operator.

Example:- Write a Python program to multiply two numbers

```
x = 5
```

```
y = 3
```

```
print(x * y)
```

Output:- 15

Division (/) Operator:-

- Divides left hand operand by right hand operand.

Example :- Write a Python program to divide two numbers.

```
x = 12
```

```
y = 3
```

```
print(x / y)
```

Output:- 4

Modulus (%) Operator:-

- Divides left hand operand by right hand operand and returns remainder

Example:-

```
x = 5
```

```
y = 2
```

```
print(x % y)
```

Output :- 1

Exponent () operator:-**

- Performs exponential (power) calculation on operators.

Example:-

```
x = 2
```

```
y = 5
```

```
print(x ** y)
```

Output:- 32

Floor Division (//) operator:-

- The division of operands where the result is the quotient in which the digits after the decimal point are removed. But if one of the operands is negative, the result is floored, i.e., rounded away from zero (towards negative infinity) –
- the floor division (//) operator rounds the result down to the nearest whole number

Example:-

```
x = 15
```

y = 2

print(x // y)

Output:- 7

Q.) Write a Python program to perform all arithmetic operations of it.

Ans:-

```
#!/usr/bin/python
```

```
a = 21
```

```
b = 10
```

```
c = 0
```

```
c = a + b
```

```
print "Line 1 - Value of c is ", c
```

```
c = a - b
```

```
print "Line 2 - Value of c is ", c
```

```
c = a * b
```

```
print "Line 3 - Value of c is ", c
```

```
c = a / b
```

```
print "Line 4 - Value of c is ", c
```

```
c = a % b
```

```
print "Line 5 - Value of c is ", c
```

```
a = 2
b = 3
c = a**b
print "Line 6 - Value of c is ", c
a = 10
b = 5
c = a//b
print "Line 7 - Value of c is ", c
```

Output:- Line 1 - Value of c is 31
Line 2 - Value of c is 11
Line 3 - Value of c is 210
Line 4 - Value of c is 2
Line 5 - Value of c is 1
Line 6 - Value of c is 8
Line 7 - Value of c is 2

Python Assignment Operators:-

- Assignment operators are used to assign values to variables

Different types of Assignment operator

= (AND) Operator:- Assigns values from right side operands to left side operand.

Example:-

```
x = 5
```

```
print(x)
```

Output:- 5

+= (Add AND) Operator:- It adds right operand to the left operand and assign the result to left operand.

Example:-

```
x = 5
```

```
x += 3
```

```
print(x)
```

Output:- 8

(-= Subtract AND) Operator:- It subtracts right operand from the left operand and assign the result to left operand.

Example:-

```
x = 5
```

```
x -= 3
```

```
print(x)
```

Output:- 2

***= (Multiply AND) Operator:-** It multiplies right operand with the left operand and assign the result to left operand.

Example:-

```
x = 5
```

```
x *= 3
```

```
print(x)
```

Output:- 15

/= (Divide AND) Operator:- It divides left operand with the right operand and assign the result to left operand.

Example:-

```
x = 5
```

```
x /= 3
```

```
print(x)
```

Output:- 1.6666666666666667

%= (Modulus AND) Operator:- It takes modulus using two operands and assign the result to left operand.

Example:-

```
x = 5
```

```
x%=3
```

```
print(x)
```

Output:- 2

****= (Exponent AND) Operator:-** Performs exponential (power) calculation on operators and assign value to the left operand.

Example:-

```
x = 5
```

```
x **= 3
```

```
print(x)
```

Output:- 125

//= (Floor Division AND) Operator:- It performs floor division on operators and assign value to the left operand.

Example:-

```
x = 5
```

```
x//=3
```

```
print(x)
```

Output:- 1

Q.) Write a Python program to perform all assignment operation on it.

Ans.:-

```
#!/usr/bin/python

a = 21

b = 10

c = 0

c = a + b

print "Line 1 - Value of c is ", c

c += a

print "Line 2 - Value of c is ", c

c *= a

print "Line 3 - Value of c is ", c

c /= a

print "Line 4 - Value of c is ", c

c = 2

c %= a

print "Line 5 - Value of c is ", c

c **= a

print "Line 6 - Value of c is ", c
```

```
c //= a  
print "Line 7 - Value of c is ", c
```

Output:-

Line 1 - Value of c is 31
Line 2 - Value of c is 52
Line 3 - Value of c is 1092
Line 4 - Value of c is 52
Line 5 - Value of c is 2
Line 6 - Value of c is 2097152
Line 7 - Value of c is 99864

Note:- In next class we will discuss on Comparison (Relational) Operators, Logical Operators, Bitwise Operators, Membership Operators, Identity Operators