

Arithmetic Operators

Example

```
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)
```

.....

Relational & Comparison Operators

```
a = 21
b = 10

print ("Line 1 - a is equal to b: ", ( a == b ))
print ("Line 2 - a is not equal to b: ", ( a != b ))
print ("Line 3 - a is less than b: " , ( a < b ))
print ("Line 4 - a is greater than b: ", ( a > b ))
print ("Line 5 - a is less than or equal to b: ", ( a <= b ))
print ("Line 6 - a is greater than or equal to b: ", ( a >= b ))
```

Assignment Operators

```
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)

a,b,c = 2,3,4
c **= a
print ("Line 6 - Value of c is ", c)
```

```
a,b,c = 2,3,4
c //= a
print ("Line 7 - Value of c is ", c)
```

Type Casting

```
#type casting in python
```

```
x = 23
print(type(x))
```

```
#converting x to float
x = float(x)
print(type(x))
```

```
# converting to int
x = int(x)
print(type(x))
```

```
# converting to string
x = str(x)
print(type(x))
```

```
# converting to boolean
x = bool(x)
print(type(x))
print(x)
```

```
# converting str to int
s = "123"
print(type(s))
s = int(s)
print(type(s))
```

Accepting Inputs

```
# input() is a function used to access input values from the run time(execution window)
# Every value that is given to the input fun is taken as a string value.

'''
print("Enter a number: ")
x = input()
print("This is the given input: ", x)
x = int(x)
x = x+10
print("Value of x is: ", x)
'''

'''
x = int(input("Enter a number: "))
x = x*2
print(x)
'''

# split() is a fun used to accept multiple input values based on the delimiter given
x,y = input("Enter two numbers: ").split(' ')
x,y = int(x), int(y)
print(x+y)
```

Conditional Statements

```
# Indentation
# Tab space maintained by every block or loop or fun or class in python
# Conditional Statements (or) Decesion Making Statements
i = int(input("Enter a number: "))

if(i>=0):
    print(i,"is a positive value...")
```

```
else:
    print(i,"is a negative value...")
```

```
var = 100
if ( var == 100 ) : print ("Value of expression is 100")
print ("End of Program!!!")
```

Example – 2:

```
var1 = 10
if var1:
    print ("1 - Got a true expression value")
    print (var1)

var2 = 0
if var2:
    print ("2 - Got a true expression value")
    print (var2)
print ("End of program!")
```

Example-3:

```
amount = int(input("Enter amount: "))

if amount<1000:
    discount = amount*0.05
    print ("Discount",discount)
else:
    discount = amount*0.10
    print ("Discount",discount)

print ("Net payable:",amount-discount)
```

Example – 4:

```
# find the largest number from given two no's

x,y = input("Enter two numbers: ").split()
print(x,y)
```

```
print(type(x), type(y))
x,y = int(x), int(y)
print(type(x), type(y))

# using if else to find the greatest value
if x>y:
    print(x,"is greater")
else:
    print(y,"is greater")
```

Example – 5:

```
print("Enter total marks: ")
marks = int(input())
print("Total marks is: ", marks)

if marks>=0 and marks<40:
    print("Failed")
elif marks>=40 and marks<=60:
    print("Third class")
elif marks>=61 and marks<=80:
    print("Second class")
elif(marks>=81 and marks<=100):
    print("First class")
else:
    print("Invalid marks")
```

Example – 6:

```
amount = int(input("Enter amount: "))

if amount<1000:
    discount = amount*0.05
    print ("Discount",discount)
elif amount<5000:
    discount = amount*0.10
    print ("Discount",discount)
else:
    discount = amount*0.15
    print ("Discount",discount)

print ("Net payable:",amount-discount)
```

Example – 7:

```
# Find out whether a given number is divisible by 2 and 3 or not
num = int(input("enter number"))
if num%2 == 0:
    if num%3 == 0:
        print ("Divisible by 3 and 2")
    else:
        print ("divisible by 2 not divisible by 3")
else:
    if num%3 == 0:
        print ("divisible by 3 not divisible by 2")
    else:
        print ("not Divisible by 2 not divisible by 3")
```

Identity Operators

Operator	Description	Example
is	Evaluates to true if the variables on either side of the operator point to the same object and false otherwise.	x is y, here is results in 1 if id(x) equals id(y).
is not	Evaluates to false if the variables on either side of the operator point to the same object and true otherwise.	x is not y, here is not results in 1 if id(x) is not equal to id(y).

Example:

```
a = 20
b = 20
print ('Line 1','a=',a,':',id(a), 'b=',b,':',id(b))

if ( a is b ):
    print ("Line 2 - a and b have same identity")
```

```
else:
    print ("Line 2 - a and b do not have same identity")

if ( id(a) == id(b) ):
    print ("Line 3 - a and b have same identity")
else:
    print ("Line 3 - a and b do not have same identity")

b = 30
print ('Line 4','a=',a,':',id(a), 'b=',b,':',id(b))

if ( a is not b ):
    print ("Line 5 - a and b do not have same identity")
else:
    print ("Line 5 - a and b have same identity")
```