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")