Arithmetic Operations in Python

Integers

In [1]:
```
print('Addition: ', 1 + 2)
```

```
Addition:  3
```

In [2]:
```
print('Subtraction: ', 2 - 1)
```

```
Subtraction:  1
```

In [3]:
```
print('Multiplication: ', 2 * 3)
```

```
Multiplication:  6
```

In [4]:
```
print ('Division: ', 4 / 2)
```

```
Division:  2.0
```

In [5]:
```
print('Division: ', 6 / 2)
```

```
Division:  3.0
```

In [9]:
```
print('Division: ', 7 / 2)
```

```
Division:  3.5
```

In [7]:
```
print('Division without the remainder: ', 7 // 2)
```

```
Division without the remainder:  3
```

In [10]:
```
print('Modulus: ', 3 % 2)
```

```
Modulus:  1
```

In [11]:
```
print ('Division without the remainder: ', 7 // 3)
```

```
Division without the remainder:  2
```

In [12]:
```
print('Exponential: ', 3 ** 2)
```

```
Exponential:  9
```

Floating numbers

In [13]:
```
print('Floating Number,PI', 3.14)
print('Floating Number, gravity', 9.81)
```

```
Floating Number,PI 3.14
Floating Number, gravity 9.81
```

Complex numbers

In [15]:
```
print('Complex number: ', 1 + 1j)
```

```
Complex number:  (1+1j)
```

In [16]:
```
print('Multiplying complex number: ',(1 + 1j) * (1-1j))
```

```
Multiplying complex number:  (2+0j)
```

Declaring the variable at the top first

In [18]:
```
a = 3
b = 2
```

Arithmetic operations and assigning the result to a variable

In [20]:
```
total = a + b
diff = a - b
product = a * b
division = a / b
remainder = a % b
floor_division = a // b
exponential = a ** b
```

In [21]:
```
print(total)
```

```
5
```

In [22]:
```
print('a + b = ', total)
print('a - b = ', diff)
print('a * b = ', product)
print('a / b = ', division)
print('a % b = ', remainder)
print('a // b = ', floor_division)
print('a ** b = ', exponential)
```

```
a + b =  5
a - b =  1
a * b =  6
a / b =  1.5
a % b =  1
a // b =  1
a ** b =  9
```

Declaring values and organizing them together

In [23]:
```
num_one = 3
num_two = 4
```

Arithmetic operations

In [25]:
```
total = num_one + num_two
diff = num_two - num_one
product = num_one * num_two
div = num_two / num_two
remainder = num_two % num_one
```

Printing values with label

In [27]:
```
print('total: ', total)
print('difference: ', diff)
print('product: ', product)
print('division: ', div)
print('remainder: ', remainder)
```

```
total:  7
difference:  1
product:  12
division:  1.0
remainder:  1
```

Calculating area of a circle

In [28]:
```
radius = 10
area_of_circle = 3.14 * radius ** 2
```

In [29]:
```
print('Area of a circle:', area_of_circle)
```

```
Area of a circle: 314.0
```

Calculating area of a rectangle

In [31]:
```
length = 10
width = 20
area_of_rectangle = length * width
print('Area of rectangle:', area_of_rectangle)
```

```
Area of rectangle: 200
```

Calculating a weight of an object

In [32]:
```
mass = 75
gravity = 9.81
weight = mass * gravity
print(weight, 'N')
```

```
735.75 N
```

In [33]:
```
print(3 > 2)
```

```
True
```

In [34]:
```
print(3 >= 2)
```

```
True
```

In [35]:
```
print(3<2)
```

```
False
```

In [36]:
```
print(2<3)
```

```
True
```

In [37]:
```
print(2<=3)
```

```
True
```

In [38]:
```
print(3 == 2)
```

```
False
```

In [39]:
```
print(3 != 2)
```

```
True
```

In [40]:
```
print(len('mango') == len('avocado'))
```

```
False
```

In [41]:
```
print(len('mango') != len('avocado'))
```

```
True
```

In [42]:
```
print(len('mango') < len('avocado'))
```

```
True
```

In [43]:
```
print(len('milk') != len('meat'))
```

```
False
```

In [44]:
```
print(len('milk') == len('meat'))
```

```
True
```

In [45]:
```
print(len('tomato') == len('potato'))
```

```
True
```

In [46]:
```
print(len('python') > len('dragon'))
```

```
False
```

Boolean comparison

In [47]:
```
print('True == True: ', True == True)
```

```
True == True:  True
```

In [48]:
```
print('True == False: ', True == False)
```

```
True == False:  False
```

In [49]:
```
print('False == False:', False == False)
```

```
False == False: True
```

In [50]:
```
print('True and True: ', True and True)
```

```
True and True:  True
```

In [51]:
```
print('True or False:', True or False)
```

```
True or False: True
```

Another way comparison

In [54]:
```
print('1 == 1:', 1 == 1)
```

```
1 == 1: True
```

In [56]:
```
print('1 != 2:', 1!=2)
```

```
1 != 2: True
```

In [57]:
```
print('A in Asabeneh', 'A' in 'Asabeneh')
```

```
A in Asabeneh True
```

In [58]:
```
print('B in Asabeneh', 'B' in 'Asabeneh')
```

```
B in Asabeneh False
```

In [60]:
```
print('coding' in 'coding for all')
```

```
True
```

In [61]:
```
print('a in an:', 'a' in 'an')
```

```
a in an: True
```

In [63]:
```
print('4 == 2 ** 2:', 4 == 2 ** 2)
```

```
4 == 2 ** 2: True
```

In [64]:
```
print(3 > 2 and 4 > 3)
```

```
True
```

In [65]:
```
print(3 > 2 and 4 < 3)
```

```
False
```

In [66]:
```
print(3 < 2 and 4 < 3)
```

```
False
```

In [67]:
```
print(3 > 2 or 4 > 3)
```

```
True
```

In [68]:
```
print(3 > 2 or 4 < 3)
```

```
True
```

In [69]:
```
print(3 < 2 or 4 < 3)
```

```
False
```

In [70]:
```
print(not 3 > 2)
```

```
False
```

In [71]:
```
print(not True)
```

```
False
```

In [72]:
```
print(not False)
```

```
True
```

In [73]:
```
print(not not True)
```

```
True
```

In [74]:
```
print(not not False)
```

```
False
```