# Introduction to Python operators

### What is an operators?

operators in python are used to perform some operation between values/variables

## Types of operators

### Arithmetic operators

Arithmetic operators are used to perform mathematical operations like addition, subtraction, multiplication and division.

In [1]:
```
# using the addition operator
5+5
```

Out[1]: 10

In [4]:
```
# using the subtraction operator
10-5
```

Out[4]: 5

In [5]:
```
# using the multiplication operator
15*5
```

Out[5]: 75

In [11]:
```
# using the division operator
15/6
```

Out[11]: 2.5

In [12]:
```
# using the floor division
15//6
```

Out[12]: 2

In [8]:
```
# using the modulus operator
15%4
```

Out[8]: 3

In [13]:
```
# using the exponential operator
2**10
```

Out[13]: 1024

### Comparison Operators

In [15]:
```
#Equal Operators
5==5 , 5==4
```

Out[15]: (True, False)

In [16]:
```
# Not equal
5!=5, 5!=4
```

Out[16]: (False, True)

In [19]:
```
# Greater than
10>5,10>15
```

Out[19]: (True, False)

In [20]:
```
# less than
10<5,10<15
```

Out[20]: (False, True)

In [22]:
```
#Greater than or equal to
10>=5,10>=15
```

Out[22]: (True, False)

In [23]:
```
#Greater than or equal to
10<=5,10<=15
```

Out[23]: (False, True)

### Logical Operators

Logical operators are used to combine conditional statements:

In [30]:
```
# and operator other language &&
4 < 5 and 2 < 10
```

Out[30]: True

In [26]:
```
# or operator other language ||
3 < 5 or 7 < 4
```

Out[26]: True

In [32]:
```
# or operator other language !
not(3 < 5 and 15 < 10)
```

Out[32]: True

### Assignment Operators

Assignment operators are used to assign values to variables:

In [2]:
```
x = 5
x
```

Out[2]: 5

In [5]:
```
y=1
z=1

y += 3
print(y)
#Same as
z=z+3
z
```

```
4
```

Out[5]: 4

In [6]:
```
y=1
z=1

y -= 3
print(y)
#Same as
z=z-3
z
```

```
-2
```

Out[6]: -2

In [7]:
```
x=5
y=5
x *= 3
y=y*3
print(x)
print(y)
#same as for division /=
```

```
15
15
```

### Identity Operators

In [8]:
```
# is Returns True if both variables are the same object
X='AI'
Y='AI'
print(X is Y)
```

```
True
```

In [9]:
```
# is not Returns True if both variables are not the same object
X is not Y
```

Out[9]: False

In [20]:
```
AI = ["ML", "DL"]

print("ML" in AI)
```

```
True
```

In [ ]:

In [ ]: