In [2]:
```
#Operators
```

In [ ]:
```

```

In [ ]:
```
#Arithmetic Operators
```

In [4]:
```
print('Addition:',1+2)
print('Subtraction:',2-1)
print('Multiplication:',2*3)
print('Division:',4/2)
print('Division without the remainder:',7//2)
print('Modulus:',3%2)
print('Exponential:',3**2)
```

```
Addition: 3
Subtraction: 1
Multiplication: 6
Division: 2.0
Division without the remainder: 3
Modulus: 1
Exponential: 9
```

In [ ]:
```

```

In [ ]:
```
#Floating numbers
```

In [5]:
```
print('Floating Number,PI',3.14)
print('Floating Number, gravity',9.81)
```

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

In [ ]:
```

```

In [ ]:
```
#Complex numbers
```

In [6]:
```
print('Complex number:', 1+1j)
print('Multiplying complex number:',(1+1j)*(1-1j))
```

```
Complex number: (1+1j)
Multiplying complex number: (2+0j)
```

In [ ]:
```

```

In [ ]:
```
#Arithmetic Operators with Declaration
```

In [9]:
```
a = 3
b = 2
```

In [10]:
```
total = a + b
diff = a - b
product = a * b
division = a / b
```

```
remainder = a % b
floor_division = a//b
exponential = a ** b

print(total)
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)
```

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

In [ ]:
```
#Dec values and organizing them together
```

In [11]:
```
num_one = 3
num_two = 4
```

In [12]:
```
total = num_one + num_two
diff = num_one - num_two
product = num_one * num_two
div = num_one / num_two
remainder = num_one % num_two
```

In [13]:
```
print('total:', total)
print('difference:', diff )
print('product:', product)
print('division:', div)
print('remainder:', remainder)
```

```
total: 7
difference: -1
product: 12
division: 0.75
remainder: 3
```

In [ ]:
```

```

In [ ]:
```
#calculating area of circle
```

In [14]:
```
radius = 10
area_of_circle = 3.14* radius **2
print('Area of a circle:', area_of_circle)
```

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

In [ ]:

In [ ]:
```
#area of a rectrangle
```

In [16]:
```
length = 10
width = 20
area_of_rectrangle = length * width
print('Area of rectrangle:', area_of_rectrangle)
```

```
Area of rectrangle: 200
```

In [ ]:

In [ ]:
```
#calculate a weight of an object
```

In [17]:
```
mass = 75
gravity = 9.81
weight = mass * gravity
print(weight, 'N')
```

```
735.75 N
```

In [ ]:

In [18]:
```
print(3 > 2)
print(3 >= 2)
print(3 < 2)
print(2 < 3)
print(2 <= 3)
print(3 == 2)
print(3 != 2)
print(len('mango') == len('avocado'))
print(len('mango') != len('avocado'))
print(len('mango') <  len('avocado'))
print(len('milk') != len('meat'))
print(len('milk') == len('meat'))
print(len('tomato') == len('potato'))
print(len('Python') > len('dragon'))
```

```
True
True
False
True
True
False
True
False
True
True
False
True
True
False
```

In [ ]:

In [ ]:
```
#Boolean comparison
```

In [19]:
```
print('True == True', True == True)
print('True == False', True == False)
print('False == False', False == False)
print('True and True', True and True)
print('True or True', True or False)
```

```
True == True True
True == False False
False == False True
True and True True
True or True True
```

In [ ]:

In [ ]:
```
#Another way comparison
```

In [20]:
```
print('1 is 1', 1 is 1)
print('1 is not 2', 1 is not 2)
print('A in Asabeneh', 'A' in 'Asabeneh')
print('B in Asabeneh', 'B' in 'Asabeneh')
print('coding' in 'coding for all')
print('a in an:', 'a' in 'an')
print('4 is 2 ** 2:', 4 is 2 ** 2)
```

```
1 is 1 True
1 is not 2 True
A in Asabeneh True
B in Asabeneh False
True
a in an: True
4 is 2 ** 2: True
<>:1: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:2: SyntaxWarning: "is not" with 'int' literal. Did you mean "!="?
<>:7: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:1: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
<>:2: SyntaxWarning: "is not" with 'int' literal. Did you mean "!="?
<>:7: SyntaxWarning: "is" with 'int' literal. Did you mean "=="?
C:\Users\saadh\AppData\Local\Temp\ipykernel_29392\2763678871.py:1: SyntaxWarning: "i
s" with 'int' literal. Did you mean "=="?
  print('1 is 1', 1 is 1)
C:\Users\saadh\AppData\Local\Temp\ipykernel_29392\2763678871.py:2: SyntaxWarning: "i
s not" with 'int' literal. Did you mean "!="?
  print('1 is not 2', 1 is not 2)
C:\Users\saadh\AppData\Local\Temp\ipykernel_29392\2763678871.py:7: SyntaxWarning: "i
s" with 'int' literal. Did you mean "=="?
  print('4 is 2 ** 2:', 4 is 2 ** 2)
```

In [ ]:

In [21]:
```
print(3 > 2 and 4 > 3)
print(3 > 2 and 4 < 3)
print(3 < 2 and 4 < 3)
print(3 > 2 or 4 > 3)
print(3 > 2 or 4 < 3)
print(3 < 2 or 4 < 3)
print(not True)
print(not False)
print(not not True)
print(not not False)
```

```
True
False
False
True
True
False
False
True
True
False
```