Operator

Arithmetic Operations

Integers

```
In [1]: print('Addition: ', 1 + 2)
        print('Subtraction: ', 2 - 1)
        print('Multiplication: ', 2 * 3)
        print ('Division: ', 4 / 2)                          # Division in python gives
        print('Division: ', 6 / 2)
        print('Division: ', 7 / 2)
        print('Division without the remainder: ', 7 // 2)   # gives without the floati
        print('Modulus: ', 3 % 2)                            # Gives the remainder
        print ('Division without the remainder: ', 7 // 3)
        print('Exponential: ', 3 ** 2)                       # it means 3 * 3
```

```
Addition:  3
Subtraction:  1
Multiplication:  6
Division:  2.0
Division:  3.0
Division:  3.5
Division without the remainder:  3
Modulus:  1
Division without the remainder:  2
Exponential:  9
```

Floating Numbers

```
In [2]: 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 [3]: print('Complex number: ', 1 + 1j)
        print('Multiplying complex number: ',(1 + 1j) * (1-1j))
```

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

```python
In [4]: a = 5
        b = 10
```

```python
In [5]: total = a + b
        diff = a - b
        product = a * b
        division = a / b
        remainder = a % b
        floor_division = a // b
        exponential = a ** b
```

```python
In [7]: 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)
```

```
15
a + b =  15
a - b =  -5
a * b =  50
a / b =  0.5
a % b =  5
a // b =  0
a ** b =  9765625
```

Declaring Values

```python
In [8]: num_one = 4
        num_two = 5
```

```python
In [9]: #Arithmetic Operations
        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
```

```python
In [10]: print('total: ', total)
         print('difference: ', diff)
         print('product: ', product)
         print('division: ', div)
         print('remainder: ', remainder)
```

```
total:  9
difference:  1
product:  20
division:  1.0
remainder:  1
```

In [13]:
```python
#Calculating area of a circle
radius = 20
area_of_circle = 3.14 * radius ** 2
print('Area of a circle:', area_of_circle)
```

Area of a circle: 1256.0

In [14]:
```python
# Calculating area of a rectangle
length = 30
width = 20
area_of_rectangle = length * width
print('Area of rectangle:', area_of_rectangle)
```

Area of rectangle: 600

In [15]:
```python
# Calculating a weight of an object
mass = 75
gravity = 9.81
weight = mass * gravity
print(weight, 'N')
```

735.75 N

In [16]:
```python
print(3 > 2)      # True, because 3 is greater than 2
print(3 >= 2)     # True, because 3 is greater than 2
print(3 < 2)      # False,  because 3 is greater than 2
print(2 < 3)      # True, because 2 is less than 3
print(2 <= 3)     # True, because 2 is less than 3
print(3 == 2)     # False, because 3 is not equal to 2
print(3 != 2)     # True, because 3 is not equal to 2
print(len('mango') == len('avocado'))   # False
print(len('mango') != len('avocado'))   # True
print(len('mango') < len('avocado'))    # True
print(len('milk') != len('meat'))       # False
print(len('milk') == len('meat'))       # True
print(len('tomato') == len('potato'))   # True
print(len('python') > len('dragon'))    # False
```

True
True
False
True
True
False
True
False
True
True
False
True
True
False

In [17]:
```python
# Boolean comparison
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 False:', True or False)
```

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

In [18]:
```python
print('1 is 1', 1 is 1)                    # True - because the data values are
print('1 is not 2', 1 is not 2)            # True - because 1 is not 2
print('A in Janhavi', 'A' in 'Janhavi') # True - A found in the string
print('B in Janhavi', 'B' in 'Janhavi') # False -there is no uppercase B
print('coding' in 'coding for all') # True - because coding for all has the wc
print('a in an:', 'a' in 'an')      # True
print('4 is 2 ** 2:', 4 is 2 ** 2)   # True
```

```
1 is 1 True
1 is not 2 True
A in Janhavi False
B in Janhavi False
True
a in an: True
4 is 2 ** 2: True

<>:1: SyntaxWarning: "is" with a literal. Did you mean "=="?
<>:2: SyntaxWarning: "is not" with a literal. Did you mean "!="?
<>:7: SyntaxWarning: "is" with a literal. Did you mean "=="?
<>:1: SyntaxWarning: "is" with a literal. Did you mean "=="?
<>:2: SyntaxWarning: "is not" with a literal. Did you mean "!="?
<>:7: SyntaxWarning: "is" with a literal. Did you mean "=="?
C:\Users\JANHAVI\AppData\Local\Temp\ipykernel_2736\2836658953.py:1: SyntaxWa
rning: "is" with a literal. Did you mean "=="?
  print('1 is 1', 1 is 1)                    # True - because the data values
are the same
C:\Users\JANHAVI\AppData\Local\Temp\ipykernel_2736\2836658953.py:2: SyntaxWa
rning: "is not" with a literal. Did you mean "!="?
  print('1 is not 2', 1 is not 2)            # True - because 1 is not 2
C:\Users\JANHAVI\AppData\Local\Temp\ipykernel_2736\2836658953.py:7: SyntaxWa
rning: "is" with a literal. Did you mean "=="?
  print('4 is 2 ** 2:', 4 is 2 ** 2)   # True
```

In [20]:
```python
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 True )
print(3 < 2 or 4 < 3)
print(not 3 > 2)
print(not True)
print(not False)
print(not not True)
print(not not False)
```

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

In [ ]: