# operator

In [2]:
```python
5 + 3
```
Out[2]: 8

In [3]:
```python
3.14 + 7.34
```
Out[3]: 10.48

In [4]:
```python
#concatenation
"race" + "car"
```
Out[4]: 'racecar'

In [5]:
```python
10 -5
```
Out[5]: 5

In [6]:
```python
6 * 5
```
Out[6]: 30

In [8]:
```python
"Mahi" * 10
```
Out[8]: 'MahiMahiMahiMahiMahiMahiMahiMahiMahiMahi'

In [10]:
```python
(3 + 4) * 5
```
Out[10]: 35

In [11]:
```python
# PEMDAS
# Parenthesis Exponents Multiplication Division Addition Substraction
```

In [12]:
```python
15 / 4
```
Out[12]: 3.75

In [13]:
```python
4 / 4
```
Out[13]: 1.0

In [14]:
```python
10 // 3
```
Out[14]: 3

In [15]:
```python
14 % 3
```
Out[15]: 2

In [16]:
```python
# Equlaity operator
1 == 1
```
Out[16]: True

```
In [17]: 1 == 2
```

Out[17]: False

```
In [18]: 5 == 5.0
```

Out[18]: True

```
In [19]: "Hello" == "hello"
```

Out[19]: False

```
In [20]: True == False
```

Out[20]: False

```
In [21]: #Inequality operator ---> !=
         5 != 4
```

Out[21]: True

```
In [22]: 5 < 8
```

Out[22]: True

# Variables

```
In [23]: age = 29
```

```
In [24]: age
```

Out[24]: 29

```
In [25]: age + 5
```

Out[25]: 34

```
In [28]: price = 19.99
         first_name = "Boris"
         is_handsome = True
         #snake_case
```

```
In [30]: first_name + " cool"
```

Out[30]: 'Boris cool'

```
In [31]: age = age + 5
```

```
In [32]: age
```

Out[32]: 34

# Built-In Functions

```
In [34]: len("How many characters do we have here?")
```

```
Out[34]:    36

In [35]:   str(3.14)

Out[35]:   '3.14'

In [37]:   int("10")

Out[37]:   10

In [38]:   float("9.3")

Out[38]:   9.3

In [39]:   type(5)

Out[39]:   int

In [40]:   type(3.14)

Out[40]:   float

In [41]:   type(True)

Out[41]:   bool

In [42]:   type("play")

Out[42]:   str

In [43]:   type(10) == type(15)

Out[43]:   True

In [44]:   type(10) == type("10")

Out[44]:   False
```

## Custom Functions

```
In [51]:   #declare a function that accepts a temperature  in celsius and returns it in Fahrenheit

           def convert_to_fahrenheit(celsius_temp):
               product = celsius_temp * 1.8
               return product + 32

In [52]:   convert_to_fahrenheit(0)

Out[52]:   32.0

In [53]:   convert_to_fahrenheit(32)

Out[53]:   89.6

In [54]:   convert_to_fahrenheit(10)
```

```
Out[54]:  50.0

In [57]:  def convert_to_fahrenheit(celsius_temp = 0):
              product = celsius_temp * 1.8
              return product + 32

In [58]:  convert_to_fahrenheit()

Out[58]:  32.0
```

## String Methods

```
In [62]:  profession = "Developer"

In [60]:  profession.upper()

Out[60]:  'DEVELOPER'

In [63]:  profession.swapcase()

Out[63]:  'dEVELOPER'

In [ ]:   #Immutable - incapable of change
          #mutable - capable of change

          # string - immutable

In [64]:  "once upon a time".title()

Out[64]:  'Once Upon A Time'

In [65]:  "once upon a time".capitalize()

Out[65]:  'Once upon a time'

In [67]:  profession = "            Developer            "

In [68]:  profession.lstrip()

Out[68]:  'Developer            '

In [69]:  profession.rstrip()

Out[69]:  '            Developer'

In [70]:  profession.strip()

Out[70]:  'Developer'

In [73]:  profession.replace("e", "*!")

Out[73]:  '            D*!v*!lop*!r            '

In [75]:  profession.strip().replace("e", "8")

Out[75]:  'D8v8lop8r'
```

```
In [76]:   animal = "rhinoceros"

In [80]:   animal.startswith("rihn")

Out[80]:   False

In [84]:   animal.endswith("sss")

Out[84]:   False

In [85]:   5 + 5

Out[85]:   10

In [86]:   "ino" in animal

Out[86]:   True

In [88]:   "z" in animal

Out[88]:   False

In [89]:   "z" not in animal

Out[89]:   True

In [90]:   "rhino" not in animal

Out[90]:   False
```

## Lists

```
In [91]:   # Mutable data structure that holds an ordered collection of elements

In [92]:   [1, 2, 3, 4, 5, 6]

Out[92]:   [1, 2, 3, 4, 5, 6]

In [93]:   party_attendees = ["Michael", "Freddy", "Jason"]

In [94]:   party_attendees

Out[94]:   ['Michael', 'Freddy', 'Jason']

In [95]:   []

Out[95]:   []

In [96]:   len(party_attendees)

Out[96]:   3

In [97]:   type(party_attendees)

Out[97]:   list
```

```
In [98]:  presidents = ["Washington", "Jefferson"]
```

```
In [99]:  presidents.append("Trump")
```

```
In [100…  presidents
```
Out[100]:  ['Washington', 'Jefferson', 'Trump']

```
In [101…  presidents.pop()
```
Out[101]:  'Trump'

```
In [102…  presidents
```
Out[102]:  ['Washington', 'Jefferson']

```
In [104…  presidents.remove("Jefferson")
```

```
In [105…  presidents
```
Out[105]:  ['Washington']

```
In [106…  "Washington" in presidents
```
Out[106]:  True

```
In [107…  "trump" not in presidents
```
Out[107]:  True

```
In [109…  "washington" not in presidents
```
Out[109]:  True

# index Position and Slicing

```
In [1]:  spiderman = "Spiderman"
```

```
In [2]:  len(spiderman)
```
Out[2]:  9

```
In [4]:  spiderman[1]
```
Out[4]:  'p'

```
In [5]:  spiderman[-1]
```
Out[5]:  'n'

```
In [6]:  superheroes = ["Batman", "Superman", "Wolverine", "Ironman", "Arnold"]
```

```
In [7]:  len(superheroes)
```
Out[7]:  5

```
In [8]:   superheroes[4]
```

```
Out[8]:   'Arnold'
```

```
In [9]:   superheroes[1:3]
```

```
Out[9]:   ['Superman', 'Wolverine']
```

```
In [11]:  superheroes[2:5]
```

```
Out[11]:  ['Wolverine', 'Ironman', 'Arnold']
```

# Dictionaries

```
In [ ]:   # an unordered collection of key-value pairs
```

```
In [13]:  # filet mignon(key) - 29.99(values) association
          menu = {
              "Filet Mignon": 29.99,
              "Big Mac": 3.99,
              "Pizza": 0.99,
              "Salmon": 29.99
          }
```

```
In [14]:  menu
```

```
Out[14]:  {'Filet Mignon': 29.99, 'Big Mac': 3.99, 'Pizza': 0.99, 'Salmon': 29.99}
```

```
In [17]:  menu["Big Mac"]
```

```
Out[17]:  3.99
```

```
In [18]:  menu["Burrito"] = 13.99
```

```
In [19]:  menu
```

```
Out[19]:  {'Filet Mignon': 29.99,
           'Big Mac': 3.99,
           'Pizza': 0.99,
           'Salmon': 29.99,
           'Burrito': 13.99}
```

```
In [20]:  menu["Big Mac"] = 4.99
```

```
In [21]:  menu
```

```
Out[21]:  {'Filet Mignon': 29.99,
           'Big Mac': 4.99,
           'Pizza': 0.99,
           'Salmon': 29.99,
           'Burrito': 13.99}
```

```
In [22]:  menu.pop("Filet Mignon")
```

```
Out[22]:  29.99
```

```
In [23]:  menu
```

```
          {'Big Mac': 4.99, 'Pizza': 0.99, 'Salmon': 29.99, 'Burrito': 13.99}
```

```
Out[23]:
```

```
In [24]:  "Pizza" in menu
```

```
Out[24]:  True
```

```
In [27]:  "Hot"  in menu
```

```
Out[27]:  False
```

```
In [30]:  4.99 in menu.values()
```

```
Out[30]:  True
```

```
In [ ]:
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In [ ]:
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In [ ]:
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In [ ]:
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In [ ]:
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In [ ]:
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In [ ]:
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```
In [ ]:  "Pizza" in menu
```

```
In [ ]:
```

```
In [ ]:  "Hot"  in menu
```

In [ ]:

In [ ]:

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