TUPLE CREATION

In [1]:
```
t = ()
```

In [2]:
```
t2 = (20,30,60)
```

In [3]:
```
t3 = (10.77,30.66,60.89)
```

In [4]:
```
t4 = ('one','two',"three")
```

In [5]:
```
t5 = ('Asif',25,(50,100),(150,90))
```

In [6]:
```
t6 = (100,'asif',17.765)
```

In [1]:
```
t7 = ('Asif',25,[50,100],[150,90],{'John','David'},(99,22,33))
```

In [2]:
```
len(t7)
```

Out[2]:
```
6
```

TUPLE INDEXING

In [4]:
```
t2 = (20,30,60)
t2[0]
```

Out[4]:
```
20
```

In [6]:
```
t4 = ('one','two',"three")
t4[0]
```

Out[6]:
```
'one'
```

In [7]:
```
t4 = ('one','two',"three")
t4[0][0]
```

Out[7]:
```
'o'
```

In [8]:
```
t4 = ('one','two',"three")
t4[-1]
```

Out[8]:
```
'three'
```

In [9]:
```
t5 = ('Asif',25,(50,100),(150,90))
t5[-1]
```

Out[9]:
```
(150, 90)
```

TUPLE SLICING

In [11]:
```
mytuple = ('one','two','three','four','five','six','seven','eight')
```

In [13]:
```
mytuple[0:3]
```

Out[13]: ('one', 'two', 'three')

In [14]:
```
mytuple[2:5]
```

Out[14]: ('three', 'four', 'five')

In [15]:
```
mytuple[:3]
```

Out[15]: ('one', 'two', 'three')

In [16]:
```
mytuple[:2]
```

Out[16]: ('one', 'two')

In [18]:
```
mytuple[-3:]
```

Out[18]: ('six', 'seven', 'eight')

In [19]:
```
mytuple[-2:]
```

Out[19]: ('seven', 'eight')

In [20]:
```
mytuple[-1]
```

Out[20]: 'eight'

In [21]:
```
mytuple[:]
```

Out[21]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')

REMOVE & CHANGE ITEMS

In [22]:
```
mytuple
```

Out[22]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')

In [23]:
```
del mytuple[0]  #tuples are immutable which means we cannot delete tuple items
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[23], line 1
----> 1 del mytuple[0]

TypeError: 'tuple' object doesn't support item deletion
```

In [24]:
```
mytuple
```

Out[24]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')

In [25]:
```
for i in mytuple:
    print(i)
```

```
one
two
three
four
five
six
seven
eight
```

In [27]:
```
for i in enumerate(mytuple):
    print(i)
```

```
(0, 'one')
(1, 'two')
(2, 'three')
(3, 'four')
(4, 'five')
(5, 'six')
(6, 'seven')
(7, 'eight')
```

TUPLE MEMBERSHIP

In [28]:
```
mytuple
```

Out[28]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')

In [29]:
```
'one' in mytuple
```

Out[29]: True

In [30]:
```
'ten' in mytuple
```

Out[30]: False

In [31]:
```
if 'three' in mytuple:
    print('three is present in the tuple')
else:
    print('three is not present in my tuple')
```

```
three is present in the tuple
```

In [32]:
```
if 'eleven' in mytuple:
    print('eleven is present in the tuple')
else:
    print('eleven is not present in the tuple')
```

```
eleven is not present in the tuple
```

INDEX POSITIONING

In [33]:
```
mytuple
```

Out[33]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')

In [34]:
```
mytuple.index('one')
```

Out[34]: 0

In [36]:
```
mytuple.index('five')
```

Out[36]: 4

In [40]:
```
mytuple1 = ('one','two','three','four','one','one','two','three')
```

In [41]:
```
mytuple1
```

Out[41]: ('one', 'two', 'three', 'four', 'one', 'one', 'two', 'three')

In [42]:
```
mytuple.index('one')
```

Out[42]: 0

SORTING

In [43]:
```
mytuple2 = (43,67,99,12,6,90,67)
```

In [44]:
```
sorted(mytuple2)
```

Out[44]: [6, 12, 43, 67, 67, 90, 99]

In [45]:
```
sorted(mytuple2, reverse=True)
```

Out[45]: [99, 90, 67, 67, 43, 12, 6]

In [ ]:
```

```