Tuples

Tuples are ordered collection of elements enclosed within ()

Tuples are immutable. We can't change the value of tuples.

```
In [1]: t=(7,3.14,"Pritam",True,3+4j)
```

```
In [2]: print(t)
```
```
(7, 3.14, 'Pritam', True, (3+4j))
```

```
In [3]: t=(100,7.10,[10,20,30],"False",(40,50),{5,10})
```

```
In [4]: t
```
```
Out[4]: (100, 7.1, [10, 20, 30], 'False', (40, 50), {5, 10})
```

```
In [5]: type(t)
```
```
Out[5]: tuple
```

Immutability

```
In [6]: t=(10,20,30,40)
```

```
In [7]: t
```
```
Out[7]: (10, 20, 30, 40)
```

```
In [9]: t[0]=5
```
```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-9-1c25f0002d07> in <module>
----> 1 t[0]=5

TypeError: 'tuple' object does not support item assignment
```

```
In [10]: t[-1]="Fifty"
```
```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-10-ee3422381cd5> in <module>
----> 1 t[-1]="Fifty"

TypeError: 'tuple' object does not support item assignment
```

```
In [11]: t=(10,20,30,40,50)
```

```
In [12]: print(t)
```
```
(10, 20, 30, 40, 50)
```

```
In [13]: t[0]
```
```
Out[13]: 10
```

```
In [14]: t[-1]
```
```
Out[14]: 50
```

```
In [15]: t[0:]
```
```
Out[15]: (10, 20, 30, 40, 50)
```

```
In [16]: t[:3]
```
```
Out[16]: (10, 20, 30)
```

```
In [17]: t[1:4]
```
```
Out[17]: (20, 30, 40)
```

```
In [18]: t[3:5]
```
```
Out[18]: (40, 50)
```

```
In [19]: t[::1]
```
```
Out[19]: (10, 20, 30, 40, 50)
```

```
In [20]: t[::-1]
```
```
Out[20]: (50, 40, 30, 20, 10)
```

```
In [21]: min(t)
```
```
Out[21]: 10
```

```
In [22]: max(t)
```
```
Out[22]: 50
```

```
In [23]: len(t)
```
```
Out[23]: 5
```

```
In [24]: t=(10,20,30,20,50,10,20,60)
```

```
In [25]: t
```
```
Out[25]: (10, 20, 30, 20, 50, 10, 20, 60)
```

```
In [26]: t.count(10)
```
```
Out[26]: 2
```

```
In [27]: t.count(60)
```
```
Out[27]: 1
```

```
In [28]: t.index(10)
```
```
Out[28]: 0
```

```
In [29]: t.index(50)
```
```
Out[29]: 4
```

```
In [30]: t1=(10,20,30)
         t2=(40,50,60)
```

```
In [31]: t1+t2
```
```
Out[31]: (10, 20, 30, 40, 50, 60)
```

```
In [32]: t3=t1+t2
```

```
In [33]: t3
```
```
Out[33]: (10, 20, 30, 40, 50, 60)
```

```
In [34]: t3*3
```
```
Out[34]: (10, 20, 30, 40, 50, 60, 10, 20, 30, 40, 50, 60, 10, 20, 30, 40, 50, 60)
```

```
In [35]: t=(20,40,60)
```

```
In [36]: t[1]==40
```
```
Out[36]: True
```

```
In [37]: t[-1]==60
```
```
Out[37]: True
```

```
In [38]: t[0]+t[-1]
```
```
Out[38]: 80
```

```
In [39]: t[0]*t[2]
```
```
Out[39]: 1200
```