

Tuple

- immutable
- duplication is allowed
- remove is not allowed
- only 2 function will work (.index and .count)

```
In [2]: type(())
```

```
Out[2]: tuple
```

```
In [3]: print(type(()))
```

```
<class 'tuple'>
```

```
In [5]: t = (1,2,3,1,2,3)
t
```

```
Out[5]: (1, 2, 3, 1, 2, 3)
```

```
In [7]: print(t.count(3))
print(t.index(2))
```

```
2
1
```

```
In [8]: t1=(1,2,3,1.3,1.5,(1+2j),'srikar')
t1
```

```
Out[8]: (1, 2, 3, 1.3, 1.5, (1+2j), 'srikar')
```

```
In [10]: print(len(t1))
```

```
7
```

```
In [11]: t[2]=100
t
```

TypeError

Traceback (most recent call last)

Cell In[11], line 1

```
----> 1 t[2]=100
      2 t
```

TypeError: 'tuple' object does not support item assignment

```
In [13]: t[2]
```

```
Out[13]: 3
```

```
In [14]: t2=t*2
t2
```

```
Out[14]: (1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3)
```

```
In [17]: t1=(1,2,3) # integers
         t2=(1.5,2.5,3.5) # float
         t3=('srikar','FSDS') # string
         t4=(1,2,[3,4],(1+2j),'srikar') #nested and mixed
```

```
In [19]: print(t1)
         print(t2)
         print(t3)
         print(t4)
```

```
(1, 2, 3)
(1.5, 2.5, 3.5)
('srikar', 'FSDS')
(1, 2, [3, 4], (1+2j), 'srikar')
```

```
In [20]: len(t4)
```

```
Out[20]: 5
```

Indexing

```
In [24]: print(t1[1])
         print(t2[2])
         print(t3[1])
         print(t4[-1])
```

```
2
3.5
FSDS
srikar
```

slicing

```
In [26]: mytuple = (0,1,2,3,4,5,6,7,8)
```

```
In [37]: print(mytuple[0:9])
         print(mytuple[3:9])
         print(mytuple[-5:9])
         print(mytuple[0:9:2])
         print(mytuple[:5:2])
         print(mytuple[2:-2])
         print(mytuple[-2:])
         print(mytuple[::-2])
```

```
(0, 1, 2, 3, 4, 5, 6, 7, 8)
(3, 4, 5, 6, 7, 8)
(4, 5, 6, 7, 8)
(0, 2, 4, 6, 8)
(0, 2, 4)
(2, 3, 4, 5, 6)
(7, 8)
(8, 6, 4, 2, 0)
```

Remove or change

```
In [38]: mytuple
```

```
Out[38]: (0, 1, 2, 3, 4, 5, 6, 7, 8)
```

```
In [39]: del mytuple[2] # deleting time not possible
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[39], line 1  
----> 1 del mytuple[2]  
  
TypeError: 'tuple' object doesn't support item deletion
```

```
In [41]: mytuple[2]=20 # changing item not possible
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[41], line 1  
----> 1 mytuple[2]=20  
  
TypeError: 'tuple' object does not support item assignment
```

```
In [44]: mytuple = (0,1,2,3,4,5,6,7,8)
```

```
In [45]: del mytuple # deleting entire tuple possible
```

```
In [46]: mytuple
```

```
-----  
NameError                                Traceback (most recent call last)  
Cell In[46], line 1  
----> 1 mytuple  
  
NameError: name 'mytuple' is not defined
```

loop through tuple

```
In [48]: mytuple = (0,1,2,3,4,5,6,7,8)
```

```
In [50]: for i in mytuple:  
         print(i)
```

```
0  
1  
2  
3  
4  
5  
6  
7  
8
```

```
In [52]: for i in enumerate(mytuple):  
         print(i)  
  
(0, 0)  
(1, 1)  
(2, 2)  
(3, 3)  
(4, 4)  
(5, 5)  
(6, 6)  
(7, 7)  
(8, 8)
```

membership

```
In [54]: mytuple
```

```
Out[54]: (0, 1, 2, 3, 4, 5, 6, 7, 8)
```

```
In [55]: 1 in mytuple
```

```
Out[55]: True
```

```
In [56]: 9 in mytuple
```

```
Out[56]: False
```

index and sort

```
In [57]: mytuple.index(3)
```

```
Out[57]: 3
```

```
In [58]: t10=(4,6,3,7,1)
```

```
In [60]: sorted(t10)
```

```
Out[60]: [1, 3, 4, 6, 7]
```

```
In [61]: sorted(t10,reverse=True)
```

```
Out[61]: [7, 6, 4, 3, 1]
```

```
In [ ]:
```