

Tuple Creation

```
In [2]: tup1 = [] #Empty tuple
```

```
In [10]: tup2 = (10,20,30)
```

```
In [12]: tup3 = (10.77,30.66,60.89)
```

```
In [16]: tup4 = ('one','two','three')
```

```
In [18]: tup5 = ('Sun',25,(50,100),(150,90)) #Nested tuples
```

```
In [20]: tup6 = (100,'Sun',17.765)
```

```
In [22]: tup7 = ('Sun',25,[50,100],[150,90],{'John','David'},{99,22,33})
```

```
In [24]: len(tup7)
```

```
Out[24]: 6
```

Tuple Indexing

```
In [27]: tup2[0]
```

```
Out[27]: 10
```

```
In [29]: tup4[0]
```

```
Out[29]: 'one'
```

```
In [31]: tup5[0][0]
```

```
Out[31]: 'S'
```

```
In [33]: tup4[-1]
```

```
Out[33]: 'three'
```

```
In [35]: tup5[-1]
```

```
Out[35]: (150, 90)
```

Tuple Slicing

```
In [38]: mytuple = ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')
```

```
In [40]: mytuple[0:3]
```

```
Out[40]: ('one', 'two', 'three')
```

```
In [42]: mytuple[2:5]
```

```
Out[42]: ('three', 'four', 'five')
```

```
In [44]: mytuple[:3]
```

```
Out[44]: ('one', 'two', 'three')
```

```
In [46]: mytuple[-3:]
```

```
Out[46]: ('six', 'seven', 'eight')
```

```
In [48]: mytuple[:]
```

```
Out[48]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')
```

Remove and Change Items

```
In [51]: mytuple
```

```
Out[51]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')
```

```
In [53]: del mytuple[0] #tuples are immutable..can't delete tuple items
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[53], line 1  
----> 1 del mytuple[0]  
  
TypeError: 'tuple' object doesn't support item deletion
```

```
In [55]: mytuple[0] = 1 #Tuples are immutable and cant be upated
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[55], line 1  
----> 1 mytuple[0] = 1  
  
TypeError: 'tuple' object does not support item assignment
```

```
In [57]: del mytuple #deleting complete tuple object is possible
```

```
In [59]: mytuple
```

```
-----  
NameError                                Traceback (most recent call last)  
Cell In[59], line 1  
----> 1 mytuple  
  
NameError: name 'mytuple' is not defined
```

Loop through a tuple

```
In [61]: mytuple = ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')
```

```
In [63]: mytuple
```

```
Out[63]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')
```

```
In [66]: for i in mytuple:  
         print(i)
```

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

```
In [68]: type(mytuple)
```

```
Out[68]: tuple
```

```
In [74]: for i in enumerate(mytuple):  
         print(i)
```

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

```
In [76]: tup6
```

```
Out[76]: (100, 'Sun', 17.765)
```

```
In [78]: for i in enumerate(tup6):  
         print(i)
```

```
(0, 100)  
(1, 'Sun')  
(2, 17.765)
```

Tuple Membership

```
In [81]: mytuple
```

```
Out[81]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')
```

```
In [83]: 'five' in mytuple
```

```
Out[83]: True
```

```
In [85]: 'ten' in mytuple
```

```
Out[85]: False
```

```
In [89]: if 'eight' in mytuple:
          print("Eight is present in the tuple")
        else:
          print("Eight is not present in the tuple")
```

Eight is present in the tuple

```
In [91]: if 'zero' in mytuple:
          print("zero is present in the tuple")
        else:
          print("zero is not present in the tuple")
```

zero is not present in the tuple

Index Position

```
In [94]: mytuple
```

```
Out[94]: ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')
```

```
In [96]: mytuple.index('four')
```

```
Out[96]: 3
```

```
In [98]: mytuple.index('zero')
```

```
-----
ValueError                                Traceback (most recent call last)
Cell In[98], line 1
----> 1 mytuple.index('zero')

ValueError: tuple.index(x): x not in tuple
```

```
In [100]: mytuple.index('six')
```

```
Out[100]: 5
```

```
In [102... mytuple
```

```
Out[102... ('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')
```

```
In [106... mytuple1 = ('one','two','three','four','one','one','two','three')
```

```
In [108... mytuple1.index('four')
```

```
Out[108... 3
```

Sorting

```
In [111... mytuple2 = (43,67,99,12,6,90,67)
```

```
In [113... sorted(mytuple2)
```

```
Out[113... [6, 12, 43, 67, 67, 90, 99]
```

```
In [115... mytuple2
```

```
Out[115... (43, 67, 99, 12, 6, 90, 67)
```

```
In [117... sorted(mytuple2, reverse = True)
```

```
Out[117... [99, 90, 67, 67, 43, 12, 6]
```

```
In [121... mytuple2.count(67)
```

```
Out[121... 2
```

```
In [123... mytuple2.count(90)
```

```
Out[123... 1
```

```
In [ ]:
```

```
In [ ]:
```