

tuple creation

```
In [1]: #tuple creation
t1=()
t1
```

Out[1]: ()

```
In [2]: t2=(10,3,5,6) #tuple of integer
t2
```

Out[2]: (10, 3, 5, 6)

```
In [5]: t3=(2.3,2.5,3.6) #tuple of float
t4=('sana','hana','farah') #tuple of string
t5=(1,4,5,(4,5,6),('don','h','l')) #nested tuple
t6=('sana',1,3,4.5,True,8+3j) #tuple of mixed type
print(t3,t4,t5,t6)
```

(2.3, 2.5, 3.6) ('sana', 'hana', 'farah') (1, 4, 5, (4, 5, 6), ('don', 'h', 'l'))
('sana', 1, 3, 4.5, True, (8+3j))

```
In [6]: len(t5)
```

Out[6]: 5

tuple indexing

```
In [11]: #tuple indexing
print(t2[0])
print(t2[3])
print(t2[-1])
print(t3[-2])
print(t4[1])
print(t5[3])
print(t6[0])
print(t4[1][2])
```

10
6
6
2.5
hana
(4, 5, 6)
sana
n

tuple slicing

```
In [12]: 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[-3:]
```

```
Out[16]: ('six', 'seven', 'eight')
```

```
In [6]: t=(1,2,3,4,5,6)
```

```
In [7]: t[::-1] #reverse tuple
```

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

```
In [8]: t[:2]
```

```
Out[8]: (1, 3, 5)
```

```
In [9]: t[:3]
```

```
Out[9]: (1, 4)
```

```
In [10]: t[:]
```

```
Out[10]: (1, 2, 3, 4, 5, 6)
```

```
In [11]: t[:-2]
```

```
Out[11]: (6, 4, 2)
```

```
In [12]: t[:-3]
```

```
Out[12]: (6, 3)
```

REMOVE & CHANGE ITEMS

```
In [13]: t[0]='s'  
t
```

TypeError

Traceback (most recent call last)

Cell In[13], line 1

```
----> 1 t[0]='s'  
      2 t
```

TypeError: 'tuple' object does not support item assignment

```
In [14]: del t[2]
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[14], line 1  
----> 1 del t[2]  
  
TypeError: 'tuple' object doesn't support item deletion
```

```
In [15]: del t # entire tuple will be delete
```

```
In [16]: t
```

```
-----  
NameError                                Traceback (most recent call last)  
Cell In[16], line 1  
----> 1 t  
  
NameError: name 't' is not defined
```

LOOP THROUGH A TUPLE

```
In [20]: tuple1=(1,2,3,4,5)  
for i in tuple1:  
    print(i)
```

```
1  
2  
3  
4  
5
```

```
In [21]: for i in enumerate(tuple1):  
        print(i)
```

```
(0, 1)  
(1, 2)  
(2, 3)  
(3, 4)  
(4, 5)
```

TUPLE MEMBERSHIP

```
In [28]: t=('one', 'two', 'three', 'four', 'five', 'six', 'seven', 'eight')  
t
```

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

```
In [29]: 'one' in t
```

```
Out[29]: True
```

```
In [30]: 'nine' in t
```

```
Out[30]: False
```

sorting

```
In [32]: t2=(5,6,3,28)  
sorted(t2)
```

```
Out[32]: [3, 5, 6, 28]
```

```
In [33]: sorted(t2,reverse=True)
```

```
Out[33]: [28, 6, 5, 3]
```

```
In [ ]:
```