

Tuple

- Tuple creation

```
In [3]: t1 = ()
```

```
In [8]: t2 = (30,40,50,60,70,80)
```

```
In [10]: t3 = ('tuple1',34,40,['its a list'],{'python','program'},(190,40))
```

```
In [16]: len(t3)
```

```
Out[16]: 6
```

```
In [18]: type(t3)
```

```
Out[18]: tuple
```

- indexing

```
In [20]: t3 [0]
```

```
Out[20]: 'tuple1'
```

```
In [22]: t3 [5]
```

```
Out[22]: (190, 40)
```

```
In [32]: t3 [0][2]
```

```
Out[32]: 'p'
```

```
In [34]: t3[-4]
```

```
Out[34]: 40
```

- Slicing

```
In [73]: t4 = ('tuple1', 34, 40,'codes', ['its a list'], {'program', 'python'}, (190, 40),2)
```

```
In [51]: t4[0:4]
```

```
Out[51]: ('tuple1', 34, 40, 'codes')
```

```
In [53]: t4[3:0]
```

```
Out[53]: ()
```

```
In [61]: t4[-4:-1]
```

```
Out[61]: ('codes', ['its a list'], {'program', 'python'})
```

```
In [63]: t4[:4]
```

```
Out[63]: ('tuple1', 34, 40, 'codes')
```

```
In [83]: t4
```

```
Out[83]: ('tuple1',
          34,
          40,
          'codes',
          ['its a list'],
          {'program', 'python'},
          (190, 40),
          2)
```

```
In [93]: t4[0:8:2]
```

```
Out[93]: ('tuple1', 40, ['its a list'], (190, 40))
```

```
In [95]: del t3
```

```
In [98]: t3
```

```
-----
NameError                                Traceback (most recent call last)
Cell In[98], line 1
----> 1 t3

NameError: name 't3' is not defined
```

- Loop through Tuple

```
In [102... t4
```

```
Out[102... ('tuple1',
            34,
            40,
            'codes',
            ['its a list'],
            {'program', 'python'},
            (190, 40),
            2)
```

```
In [108... for i in t4:
            print(i)
```

```
tuple1
34
40
codes
['its a list']
{'python', 'program'}
(190, 40)
2
```

```
In [112... for i in enumerate(t4):
            print(i)
```

```
(0, 'tuple1')
(1, 34)
(2, 40)
(3, 'codes')
(4, ['its a list'])
(5, {'python', 'program'})
(6, (190, 40))
(7, 2)
```

```
In [122... 'tuple' in t4
```

```
Out[122... False
```

```
In [124... 34 in t4
```

```
Out[124... True
```

```
In [128... if 40 in t4:
            print("its True")
        else:
            print("its False")
```

```
its True
```

```
In [130... if 54 in t4:
            print("its True")
        else:
            print('its False')
```

```
its False
```

```
In [134... t4.count(10)
```

```
Out[134... 0
```

```
In [136... t4.index(40)
```

```
Out[136... 2
```

```
In [138... t4.index(56)
```

```
-----  
ValueError                                Traceback (most recent call last)  
Cell In[138], line 1  
----> 1 t4.index(56)  
  
ValueError: tuple.index(x): x not in tuple
```

```
In [140... t3 = (40,56,67,98,34)
```

```
In [152... sorted (t3)
```

```
Out[152... [34, 40, 56, 67, 98]
```

```
In [154... sorted(t3,reverse = True)
```

```
Out[154... [98, 67, 56, 40, 34]
```

SET

```
In [221... s = {'dasdhn','asdnasf','fafaf'}
```

```
In [223... type(s)
```

```
Out[223... set
```

```
In [229... dict = {i:20}
```

```
In [231... type(dict)
```

```
Out[231... dict
```

```
In [165... s1 = set()
```

```
In [167... type(s1)
```

```
Out[167... set
```

```
In [173... s1 = {34,42,'python',(2+3j),True,7.3,76,}
```

```
In [175... type(s1)
```

```
Out[175... set
```

```
In [181... s1.add('hello')
```

```
In [183... s1
```

```
Out[183... {(2+3j), 20, 34, 42, 7.3, 76, True, 'hello', 'python'}
```

```
In [185... s2 = set()
```

```
In [187... s2 = s1.copy()
```

```
In [189... s1
```

```
Out[189... {(2+3j), 20, 34, 42, 7.3, 76, True, 'hello', 'python'}
```

```
In [191... s2
```

```
Out[191... {(2+3j), 20, 34, 42, 7.3, 76, True, 'hello', 'python'}
```

```
In [195... s2.remove(20)
```

```
In [199... s2
```

```
Out[199... {(2+3j), 34, 42, 7.3, 76, True, 'hello', 'python'}
```

```
In [201... s2.pop()
```

```
Out[201... True
```

```
In [203... s2.pop()
```

```
Out[203... 34
```

```
In [205... s2
```

```
Out[205... {(2+3j), 42, 7.3, 76, 'hello', 'python'}
```

```
In [207... s2.pop()
```

```
Out[207... 7.3
```

```
In [209... s2
```

```
Out[209... {(2+3j), 42, 76, 'hello', 'python'}
```

```
In [211... for i in s2:  
        print(i)
```

```
42  
(2+3j)  
76  
python  
hello
```

```
In [215... s2.clear()
```

```
In [217... s2
```

```
Out[217... set()
```

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