

# SETS

```
In [1]: s = {}  
s
```

```
Out[1]: {}
```

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

```
Out[2]: dict
```

```
In [3]: s1 = set()  
s1
```

```
Out[3]: set()
```

```
In [4]: type(s1)
```

```
Out[4]: set
```

```
In [5]: s1.add(20)
```

```
In [6]: s1
```

```
Out[6]: {20}
```

```
In [7]: s1.add(30,10)
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[7], line 1  
----> 1 s1.add(30,10)  
  
TypeError: set.add() takes exactly one argument (2 given)
```

```
In [8]: s1
```

```
Out[8]: {20}
```

```
In [9]: s1.add(10)  
s1.add(100)  
s1.add(25)
```

```
In [10]: s1
```

```
Out[10]: {10, 20, 25, 100}
```

```
In [11]: s1.add(10)
```

```
In [12]: s1
```

```
Out[12]: {10, 20, 25, 100}
```

```
In [13]: s1[0]
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[13], line 1  
----> 1 s1[0]  
  
TypeError: 'set' object is not subscriptable
```

```
In [14]: s1[:]
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[14], line 1  
----> 1 s1[:]  
  
TypeError: 'set' object is not subscriptable
```

```
In [15]: s1
```

```
Out[15]: {10, 20, 25, 100}
```

```
In [16]: s1.add([1,2,3])
```

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[16], line 1  
----> 1 s1.add([1,2,3])  
  
TypeError: unhashable type: 'list'
```

```
In [17]: s2 = set()  
s2
```

```
Out[17]: set()
```

```
In [18]: s2.add(10)  
s2.add(1.2)  
s2.add(1+2j)  
s2.add(True)  
s2.add('nit')
```

```
In [19]: s2
```

```
Out[19]: {(1+2j), 1.2, 10, True, 'nit'}
```

```
In [20]: print(s1)  
print(s2)
```

```
{100, 25, 10, 20}  
{1.2, True, 'nit', (1+2j), 10}
```

```
In [21]: id(s1) == id(s2)
```

```
Out[21]: False
```

```
In [22]: id(s1) != id(s2)
```

Out[22]: True

```
In [23]: s3 = s2.copy()  
s3
```

Out[23]: {(1+2j), 1.2, 10, True, 'nit'}

```
In [24]: s2 == s3
```

Out[24]: True

```
In [25]: print(s1)  
print(s2)  
print(s3)
```

```
{100, 25, 10, 20}  
{1.2, True, 'nit', (1+2j), 10}  
{1.2, True, 'nit', (1+2j), 10}
```

```
In [26]: s2
```

Out[26]: {(1+2j), 1.2, 10, True, 'nit'}

```
In [27]: s2.pop()
```

Out[27]: 1.2

```
In [28]: s2
```

Out[28]: {(1+2j), 10, True, 'nit'}

```
In [29]: s
```

Out[29]: {}

```
In [30]: s3
```

Out[30]: {(1+2j), 1.2, 10, True, 'nit'}

```
In [33]: s3.remove((1+2j))
```

```
-----  
KeyError                                Traceback (most recent call last)  
Cell In[33], line 1  
----> 1 s3.remove((1+2j))  
  
KeyError: (1+2j)
```

```
In [34]: s3
```

Out[34]: {1.2, 10, True, 'nit'}

```
In [35]: s3.remove(1000)
```

```
-----  
KeyError                                Traceback (most recent call last)  
Cell In[35], line 1  
----> 1 s3.remove(1000)  
  
KeyError: 1000
```

```
In [36]: s3.discard(1000)
```

```
In [37]: s3.discard(True)
```

```
In [38]: for i in s1:  
         print(i)
```

```
100  
25  
10  
20
```

```
In [39]: for i in enumerate(s1):  
         print(i)
```

```
(0, 100)  
(1, 25)  
(2, 10)  
(3, 20)
```

```
In [40]: a = {1,2,3,4,5}  
        b = {4,5,6,7,8}  
        c = {8,9,10}
```

```
In [41]: a.union(b)
```

```
Out[41]: {1, 2, 3, 4, 5, 6, 7, 8}
```

```
In [42]: a | c
```

```
Out[42]: {1, 2, 3, 4, 5, 8, 9, 10}
```

```
In [43]: a = {1,2,3,4,5}  
        b = {4,5,6,7,8}  
        c = {8,9,10}
```

```
In [44]: b | c
```

```
Out[44]: {4, 5, 6, 7, 8, 9, 10}
```

```
In [45]: a | b | c
```

```
Out[45]: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

```
In [46]: print(a)  
         print(b)  
         print(c)
```

```
{1, 2, 3, 4, 5}  
{4, 5, 6, 7, 8}  
{8, 9, 10}
```

```
In [47]: a.difference(b)
```

```
Out[47]: {1, 2, 3}
```

```
In [48]: a.difference(c)
```

```
Out[48]: {1, 2, 3, 4, 5}
```

```
In [49]: c.difference(a)
```

```
Out[49]: {8, 9, 10}
```

```
In [50]: c.difference(b)
```

```
Out[50]: {9, 10}
```

```
In [51]: c.difference(c)
```

```
Out[51]: set()
```

```
In [ ]:
```