

# set-tk

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## 1 EMPTY SET

```
[1]: s= set()  
      print(type(s))
```

```
<class 'set'>
```

## 2 add function

:::it adds randomly but all the elements are in order if they are similar data types.

```
[2]: s1 = set()  
      s1.add(10)  
      s1.add(100)  
      s1.add(25)  
      s1.add(20)  
      s1.add(90)  
      s1
```

```
[2]: {10, 20, 25, 90, 100}
```

## 3 duplicates are not allowed

## 4 multiple data types are allowed

```
[4]: s2 = {(1+3j), True, 'nit',10,1.2,10}  
      s2.add(10)  
      print(s2)
```

```
{True, 1.2, 10, 'nit', (1+3j)}
```

## 5 INDEXING AND SLICING NOT ALLOWED

```
[6]: s2[0]
      s2[3]
      s2[:]
      s2[1:4]
      s2[-1]
```

```
-----
TypeError                                Traceback (most recent call last)
Cell In[6], line 1
----> 1 s2[0]
      2 s2[3]
      3 s2[:]
```

**TypeError:** 'set' object is not subscriptable

## 6 COPY FUNCTION

```
[7]: s3 = s2.copy()
```

```
[8]: s3
```

```
[8]: {(1+3j), 1.2, 10, True, 'nit'}
```

```
[9]: s4 = s1.copy()
      s4
```

```
[9]: {10, 20, 25, 90, 100}
```

## 7 pop function

```
[10]: s2.pop()
```

```
[10]: True
```

```
[11]: s2.pop()
```

```
[11]: 1.2
```

```
[12]: s2.pop()
```

```
[12]: 10
```

## 8 REMOVE FUNCTION

```
[13]: s3={ (1+3j), 1.2, 10, True, 'nit' }  
      s3.remove(10)  
      s3.remove(True)  
      s3 #removes particular element defined by user
```

```
[13]: {(1+3j), 1.2, 'nit'}
```

## 9 CLEAR FUNCTION

```
[14]: s2
```

```
[14]: {(1+3j), 'nit'}
```

```
[15]: s2.clear()
```

```
[16]: s2
```

```
[16]: set()
```

## 10 DISCARD FUNCTION

```
[17]: s3
```

```
[17]: {(1+3j), 1.2, 'nit'}
```

```
[18]: s3.discard("python")  
      s3 #it doesnot gives error if that element or parameter is not available
```

```
[18]: {(1+3j), 1.2, 'nit'}
```

```
[19]: s3.discard(1.2)  
      s3
```

```
[19]: {(1+3j), 'nit'}
```

```
[20]: s3.remove(1000)  
      s3 #remove function gives error if that element is not present
```

```
-----  
KeyError                                Traceback (most recent call last)  
Cell In[20], line 1  
----> 1 s3.remove(1000)  
      2 s3
```

```
KeyError: 1000
```

## 11 SET MEMBERSHIP

```
[21]: s4
```

```
[21]: {10, 20, 25, 90, 100}
```

```
[22]: 10 in s4
```

```
[22]: True
```

```
[23]: 30 in s4
```

```
[23]: False
```

```
[24]: for i in s4:
      print(i)
```

```
100
20
90
25
10
```

```
[25]: for i in enumerate(s4):
      print(i)
```

```
(0, 100)
(1, 20)
(2, 90)
(3, 25)
(4, 10)
```

## 12 UNION

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

```
[26]: {1, 2, 3, 4, 5, 6, 7, 8}
```

```
[27]: b|c
```

[27]: {4, 5, 6, 7, 8, 9, 10}

[28]: a|b|c

[28]: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

## 13 DIFFERENCE

[30]: a

[30]: {1, 2, 3, 4, 5}

[31]: b

[31]: {4, 5, 6, 7, 8}

[32]: c

[32]: {7, 8, 9, 10}

[33]: a.difference(b)

[33]: {1, 2, 3}

[34]: b.difference(c)

[34]: {4, 5, 6}

[35]: a.difference(c)

[35]: {1, 2, 3, 4, 5}

[ ]: c.difference(a)