Set

In [1]:
```
s = {}
type(s)
```

Out[1]: dict

In [2]:
```
s1 =set()
s1
```

Out[2]: set()

In [3]:
```
s1 = {90,4,50,32,3,1}
s1
```

Out[3]: {1, 3, 4, 32, 50, 90}

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

Out[4]: set

In [5]:
```
s2 = {'z', 'a', 'd', 't', 's'}
s2
```

Out[5]: {'a', 'd', 's', 't', 'z'}

In [6]:
```
type(s2)
```

Out[6]: set

In [7]:
```
print(s1)
print(s2)
```

```
{32, 1, 50, 3, 4, 90}
{'z', 't', 's', 'd', 'a'}
```

In [8]:
```
len(s1)
```

Out[8]:
```
6
```

In [9]:
```
len(s2)
```

Out[9]:
```
5
```

In [10]:
```
s3 = {1, 3.2,'nit', 1+2j, True}
s3
```

Out[10]:
```
{(1+2j), 1, 3.2, 'nit'}
```

In [11]:
```
s1.add(1)
```

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

Out[12]:
```
{1, 3, 4, 32, 50, 90}
```

In [13]:
```
s1.add(100)
s1
```

Out[13]:
```
{1, 3, 4, 32, 50, 90, 100}
```

In [14]:
```
s3.clear()
```

In [15]:
```
s3
```

Out[15]:
```
set()
```

In [16]:
```
s1.add(5)
```

In [17]:
```
s1
```

Out[17]:
```
{1, 3, 4, 5, 32, 50, 90, 100}
```

In [18]:
```
s4 = s1.copy()
s4
```

Out[18]: {1, 3, 4, 5, 32, 50, 90, 100}

In [19]:
```
s1[0] #indexing is not allowing in Set
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[19], line 1
----> 1 s1[0]

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

In [20]:
```
s1[1:5] #slicing is not allowed in set
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[20], line 1
----> 1 s1[1:5]

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

In [21]:
```
s1
```

Out[21]: {1, 3, 4, 5, 32, 50, 90, 100}

In [22]:
```
s1.pop() #It remove random number
```

Out[22]: 32

In [23]:
```
s1.pop()
```

Out[23]: 1

In [25]:
```
s1
```

Out[25]: {3, 4, 5, 50, 90, 100}

In [27]:
```
s1.remove(4)
```

In [28]:
```
s1
```

Out[28]: {3, 5, 50, 90, 100}

In [29]:
```
s1.remove(1000)
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
Cell In[29], line 1
----> 1 s1.remove(1000)

KeyError: 1000
```

In [30]:
```
s1.discard(1000)
```

In [31]:
```
1000 in s1
```

Out[31]: False

In [32]:
```
s1.discard(3)
```

In [33]:
```
s1
```

Out[33]: {5, 50, 90, 100}

Set Operation

In [34]:
```
a = {1,2,3,4,5}
b = {4,5,6,7,8}
c = {8, 9, 10}
```

In [35]:
```
a.union(b)
```

Out[35]: {1, 2, 3, 4, 5, 6, 7, 8}

In [36]:
```
a.union(b,c)
```

Out[36]: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

In [37]:
```
a | b
```

Out[37]:
```
{1, 2, 3, 4, 5, 6, 7, 8}
```

In [38]:
```
a|b|c
```

Out[38]:
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

In [39]:
```
a.intersection(b)
```

Out[39]:
```
{4, 5}
```

In [40]:
```
a.intersection(c)
```

Out[40]:
```
set()
```

In [41]:
```
a & b
```

Out[41]:
```
{4, 5}
```

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

Out[44]:
```
{8}
```

In [45]:
```
print(a)
print(b)
print(c)
```

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

In [46]:
```
a.difference(b)
```

Out[46]:
```
{1, 2, 3}
```

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

Out[48]:
```
{6, 7, 8}
```

In [49]:
```
a-b
```

Out[49]: {1, 2, 3}

In [50]:
```
print(a)
print(b)
print(c)
```

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

In [52]:
```
b.difference_update(c)  # it remove
b
```

Out[52]: {4, 5, 6, 7}

In [53]:
```
print(a)
print(b)
print(c)
```

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

In [54]:
```
a.symmetric_difference(b)
```

Out[54]: {1, 2, 3, 6, 7}

In [55]:
```
a^b
```

Out[55]: {1, 2, 3, 6, 7}

In [ ]: