Set

In [1]:
```
myset={1,2,3,4,5,6,7,8}
myset
```

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

In [2]:
```
print(len(myset))
print(type(myset))
```

```
8
<class 'set'>
```

In [6]:
```
s1={10,20,30} # int
s2={1.5,2.5,3.5,4.5} # float
s3={'one','two','three','four'} # string
s4={10,20.5,'three'} # mixed
```

In [7]:
```
for i in s1:
    print(i)
```

```
10
20
30
```

In [9]:
```
for i in enumerate(s1):
    print(i)
```

```
(0, 10)
(1, 20)
(2, 30)
```

In [10]:
```
# Set membership
```

In [11]:
```
s1
```

Out[11]: {10, 20, 30}

In [14]:
```
if 10 in s1:
    print('yes')
else:
    print('no')
```

```
yes
```

In [15]:
```
print(20 in s1)
print(40 in s1)
```

```
True
False
```

In [16]:
```
#add or remove
```

In [19]:
```
s1.add(40)
s1
```

Out[19]: {10, 20, 30, 40}

In [21]:
```
s1.update('fifty','sixty')
s1
```

Out[21]: {10, 20, 30, 40, 'f', 'i', 's', 't', 'x', 'y'}

In [25]:
```
s1.remove('f')
s1
```

Out[25]: {10, 20, 30, 40, 'i', 's', 't', 'x', 'y'}

In [26]:
```
s1.discard('i')
s1
```

Out[26]: {10, 20, 30, 40, 's', 't', 'x', 'y'}

In [28]:
```
s1.clear()
s1
```

Out[28]: set()

In [30]:
```
s1={1,2,3,4,5}
s1
```

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

In [31]:
```
s2=s1.copy()
s2
```

Out[31]: {1, 2, 3, 4, 5}

In [32]:
```
id(s1), id(s2)
```

Out[32]: (2833155807424, 2833155805184)

Set operations

-union -intersection -difference -symmetric difference -symmetric difference update

In [35]:
```
A = {1,2,3,4,5}
B = {4,5,6,7,8}
```

In [37]:
```
A.symmetric_difference(B)
```

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

In [38]:
```
A.symmetric_difference_update(B)
```

In [39]:
```
A
```

Out[39]: {1, 2, 3, 6, 7, 8}

In [40]:
```
# Subset , Superset & Disjoint
```

In [44]:
```
a = {1,2,3,4,5,6,7,8,9}
b = {3,4,5,6,7,8}
c = {10,20,30,40}
```

In [45]:
```
a.issuperset(b)
```

Out[45]: True

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

Out[46]: True

In [47]:
```
c.isdisjoint(a)
```

Out[47]: True

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

Out[48]: False

Dictionary

In [49]:
```
d1={}
type(d1)
```

Out[49]: dict

In [52]:
```
d1={1:'one', 2:'two', 3:'three','four':4}
```

In [58]:
```
d1.items()
```

Out[58]: dict_items([(1, 'one'), (2, 'two'), (3, 'three'), ('four', 4)])

In [62]:
```
len(d1)
```

Out[62]: 4

In [63]:
```
print(d1[1])
print(d1[2])
```

```
one
two
```

In [64]:
```
d1.keys()
```

Out[64]: dict_keys([1, 2, 3, 'four'])

In [65]:
```
d1.values()
```

Out[65]: dict_values(['one', 'two', 'three', 4])

Range

In [66]:
```
range(10)
range(10,20)
range(10,20,5)
```

Out[66]: range(10, 20, 5)

In [68]:
```
print(list(range(10)))
print(list(range(10,20)))
```

```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
[10, 11, 12, 13, 14, 15, 16, 17, 18, 19]
```

In [73]:
```
print(list(range(10,20,5)))
```

```
[10, 15]
```

In [74]:
```
r=range(10,20)
```

In [75]:
```
for i in r:
    print(i)
```

```
10
11
12
13
14
15
16
17
18
19
```

In [ ]: