SET

In [68]:
```
s1={}
```

In [29]:
```
type(s1)
```

Out[29]: dict

In [30]:
```
s2=set()  # to define empty set call with ()
```

In [31]:
```
type(s2)
```

Out[31]: set

In [32]:
```
s2={10,20}
type(s2)
```

Out[32]: set

In [33]:
```
#-------------------- discard vs remove
```

In [34]:
```
s3={(1+2j),20,34}
s3.remove(10)
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
Cell In[34], line 2
      1 s3={(1+2j),20,34}
----> 2 s3.remove(10)

KeyError: 10
```

In [35]:
```
s3.remove(20)
```

In [36]:
```
s3
```

Out[36]: {(1+2j), 34}

In [37]:
```
s3.discard(3000)
```

In [38]:
```
s3
```

Out[38]: {(1+2j), 34}

In [39]:
```
s3.discard(34)
```

In [40]:
```
s3
```

Out[40]:
```
{(1+2j)}
```

In [69]:
```
# in set duplicate is not not allowed
```

In [74]:
```
s3={10,20,30,10,40,20}
print(s3)
type(s3)
```

```
{40, 10, 20, 30}
```

Out[74]:
```
set
```

In [75]:
```
# add() in SET (as append in LIST) ---- adds in list randomly
```

In [78]:
```
s3.add('nit')
s3
```

Out[78]:
```
{10, 20, 30, 40, 'nit'}
```

In [ ]:
```
# clear() --- clear all elements from the cell
```

In [79]:
```
s3
```

Out[79]:
```
{10, 20, 30, 40, 'nit'}
```

In [82]:
```
s3.clear()
s3
```

Out[82]:
```
set()
```

In [42]:
```
#-------------- pop
```

In [85]:
```
s3={10,20,30,40,50}
s3.pop()    # pop random element
s3
```

Out[85]:
```
{10, 20, 30, 40}
```

In [90]:
```
s3={10,20,30,40,50,60}
s4=s3.pop()
print('s3=',s3)
print('s4=',s4)
```

```
s3= {20, 40, 10, 60, 30}
s4= 50
```

In [45]:
```
s3={23,67,78,56}
s3
```

Out[45]:
```
{23, 56, 67, 78}
```

In [46]:
```
s3[:]            # indexing and slicing not allowed
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[46], line 1
----> 1 s3[:]

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

In [47]:
```
s3.popitem(23)
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
Cell In[47], line 1
----> 1 s3.popitem(23)

AttributeError: 'set' object has no attribute 'popitem'
```

In [48]:
```
25 in s3   # set membership
```

Out[48]:
```
False
```

In [50]:
```
# union
```

In [51]:
```
a={10,20,30,40,50}
b={50,30,20,10,90}
c={20,50,70,80}
type(c)
```

Out[51]:
```
set
```

In [52]:
```
a.union(b)   #duplicstes not allowed
```

Out[52]:
```
{10, 20, 30, 40, 50, 90}
```

In [53]:
```
a.union(b,c)
```

Out[53]:
```
{10, 20, 30, 40, 50, 70, 80, 90}
```

In [54]:
```
# or
```

In [55]:
```
a|b   # union or a and b
```

Out[55]:
```
{10, 20, 30, 40, 50, 90}
```

In [56]:
```
a|b|c
```

Out[56]: {10, 20, 30, 40, 50, 70, 80, 90}

In [57]:
```
a|c|b      # ordered
```

Out[57]: {10, 20, 30, 40, 50, 70, 80, 90}

In [58]:
```
#intersection
```

In [59]:
```
a.intersection(b)
```

Out[59]: {10, 20, 30, 50}

In [60]:
```
a & b   # intersectopn or &
```

Out[60]: {10, 20, 30, 50}

In [61]:
```
# difference
```

In [62]:
```
a={1,2,3,4,5}
b={5,6,7,8}
c={6,7,8,9}
```

In [63]:
```
a.difference(b)   #remaing b not printed
```

Out[63]: {1, 2, 3, 4}

In [103…
```
x=[1,2,3] #before index
```

In [104…
```
x.insert(1,4)
```

In [105…
```
x
```

Out[105… [1, 4, 2, 3]

In [107…
```
x.insert(3,50)  # (index,object)
x
```

Out[107… [1, 4, 2, 50, 50, 3]

In [ ]:
```

```