In [ ]:
```
#Sets contd....from class
#symmetric difference
```

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

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

In [2]:
```
a.symmetric_difference(b)
```

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

In [3]:
```
b^c
```

Out[3]:
```
{4, 5, 6, 7, 9, 10}
```

In [4]:
```
a^c
```

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

In [ ]:
```
#symmetric difference update
```

In [5]:
```
a.symmetric_difference_update(b)
```

In [6]:
```
a
```

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

In [7]:
```
#Superset, Subset, Disjoint
s4 = {1,2,3,4,5,6,7,8,9}
s5 = {3,4,5,6,7,8}
s6 = {10,20,30,40}
print(s4)
print(s5)
print(s6)
```

```
{1, 2, 3, 4, 5, 6, 7, 8, 9}
{3, 4, 5, 6, 7, 8}
{40, 10, 20, 30}
```

In [8]:
```
s4.issuperset(s5)
```

Out[8]:
```
True
```

In [9]:
```
s5.issubset(s4)
```

Out[9]: True

In [10]:
```
s6.isdisjoint(s4)
```

Out[10]: True

In [11]:
```
s6.issuperset(s4)
```

Out[11]: False

In [12]:
```
s6.issubset(s5)
```

Out[12]: False

In [20]:
```
s7 = {1,2,3,4,5,6,7,8,9}
s8 = {15,25,35}
s9 = {10,20,30,40}
print(s7)
print(s8)
print(s9)
```

```
{1, 2, 3, 4, 5, 6, 7, 8, 9}
{25, 35, 15}
{40, 10, 20, 30}
```

In [14]:
```
s7.issuperset(s8)
```

Out[14]: False

In [21]:
```
s7.isdisjoint(s8)
```

Out[21]: True

In [15]:
```
s8 ={15,25,35,9}
s8
```

Out[15]: {9, 15, 25, 35}

In [17]:
```
s8.issubset(s7)
```

Out[17]: False

In [18]:
```
s7.isdisjoint(s8)
```

Out[18]: False

In [22]:
```
#Dictionary
d1 = {1 : 'one', 2 : 'two', 3 : 'three', 'four' : 4}
d1
```

Out[22]: {1: 'one', 2: 'two', 3: 'three', 'four': 4}

In [23]:
```
d2 = d1.copy()
```

In [24]:
```
d2
```

Out[24]:
```
{1: 'one', 2: 'two', 3: 'three', 'four': 4}
```

In [25]:
```
d1.items()
```

Out[25]:
```
dict_items([(1, 'one'), (2, 'two'), (3, 'three'), ('four', 4)])
```

In [26]:
```
len(d1.items())
```

Out[26]:
```
4
```

In [27]:
```
d1[0]
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
Cell In[27], line 1
----> 1 d1[0]

KeyError: 0
```

In [28]:
```
d1[1]
```

Out[28]:
```
'one'
```

In [29]:
```
d1[2]
```

Out[29]:
```
'two'
```

In [30]:
```
d1[3]
```

Out[30]:
```
'three'
```

In [31]:
```
d1['four']
```

Out[31]:
```
4
```

In [32]:
```
d1['one']
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
Cell In[32], line 1
----> 1 d1['one']

KeyError: 'one'
```

In [33]:
```
d1['list'] = [1,2,3]
```

In [34]:
```
d1
```

Out[34]: {1: 'one', 2: 'two', 3: 'three', 'four': 4, 'list': [1, 2, 3]}

In [35]:
```
d1['test'] = 7
```

In [36]:
```
d1
```

Out[36]: {1: 'one', 2: 'two', 3: 'three', 'four': 4, 'list': [1, 2, 3], 'test': 7}

In [37]:
```
for i in d1:
    print(i)
```

```
1
2
3
four
list
test
```

In [38]:
```
d1.pop()
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[38], line 1
----> 1 d1.pop()

TypeError: pop expected at least 1 argument, got 0
```

In [39]:
```
d1.pop('list')
```

Out[39]: [1, 2, 3]

In [40]:
```
d1
```

Out[40]: {1: 'one', 2: 'two', 3: 'three', 'four': 4, 'test': 7}

In [41]:
```
1 in d1
```

Out[41]: True

In [42]:
```
'test' in d1
```

Out[42]: True

In [43]:
```
test in d1
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[43], line 1
----> 1 test in d1

NameError: name 'test' is not defined
```

In [44]:
```
100 in d1
```

Out[44]: False

In [45]:
```
#Range
range(10)
```

Out[45]: range(0, 10)

In [46]:
```
range(10,20)
```

Out[46]: range(10, 20)

In [47]:
```
range(10,20,5)
```

Out[47]: range(10, 20, 5)

In [48]:
```
list(range(10))
```

Out[48]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

In [49]:
```
list(range(10,20))
```

Out[49]: [10, 11, 12, 13, 14, 15, 16, 17, 18, 19]

In [50]:
```
list(range(10,20,5))
```

Out[50]: [10, 15]

In [51]:
```
r = range(10,20,5)
r
```

Out[51]: range(10, 20, 5)

In [52]:
```
for i in r:
    print(i)
```

```
10
15
```

In [ ]: