In [1]:
```
s={}
s
```

Out[1]:
```
{}
```

In [3]:
```
type(s)
```

Out[3]:
```
dict
```

In [5]:
```
s1=set()
```

In [7]:
```
type(s1)
```

Out[7]:
```
set
```

In [9]:
```
s1={20,39,80,34}
s1
```

Out[9]:
```
{20, 34, 39, 80}
```

In [13]:
```
s2={'apple',30,23.8,2+5j}
s2
```

Out[13]:
```
{(2+5j), 23.8, 30, 'apple'}
```

In [15]:
```
s3={'apple','orange','grape','kiwi'}
s3
```

Out[15]:
```
{'apple', 'grape', 'kiwi', 'orange'}
```

In [17]:
```
for i in s3:
    print(i)
```

```
orange
apple
kiwi
grape
```

In [19]:
```
s3[3]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[19], line 1
----> 1 s3[3]

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

In [21]:
```
s3.add('fruits')
s3
```

Out[21]:
```
{'apple', 'fruits', 'grape', 'kiwi', 'orange'}
```

In [23]:
```
s3.clear()
```

In [25]:
```
s3
```

Out[25]:
```
set()
```

In [27]:
```
s3=s2.copy()
s3
```

Out[27]:
```
{(2+5j), 23.8, 30, 'apple'}
```

In [31]:
```
s3.difference(s2)
```

Out[31]:
```
set()
```

In [33]:
```
s4={40,78,42,64}
s5={80,65,93,32}
s6={85,32,12}
print(s4)
print(s5)
print(s6)
```

```
{40, 42, 64, 78}
{80, 65, 32, 93}
{32, 12, 85}
```

In [35]:
```
s4.difference(s5)
```

Out[35]:
```
{40, 42, 64, 78}
```

In [37]:
```
s5.difference(s4)
```

Out[37]:
```
{32, 65, 80, 93}
```

In [39]:
```
s6.difference_update('key')
s6
```

Out[39]:
```
{12, 32, 85}
```

In [41]:
```
s1
```

Out[41]:
```
{20, 34, 39, 80}
```

In [43]:
```
s1.add('one')
s1.add('two')
s1
```

Out[43]:
```
{20, 34, 39, 80, 'one', 'two'}
```

In [45]:
```
s1.discard('two')
s1
```

Out[45]: {20, 34, 39, 80, 'one'}

In [47]:
```
s1.add('one')
s1.add('two')
s1.add('three')
s1
```

Out[47]: {20, 34, 39, 80, 'one', 'three', 'two'}

In [49]:
```
s2
```

Out[49]: {(2+5j), 23.8, 30, 'apple'}

In [51]:
```
s1.intersection(s2)
```

Out[51]: set()

In [53]:
```
s1.isdisjoint(s2)
```

Out[53]: True

In [55]:
```
s1.issubset(s2)
```

Out[55]: False

In [57]:
```
s3
```

Out[57]: {(2+5j), 23.8, 30, 'apple'}

In [59]:
```
s4
```

Out[59]: {40, 42, 64, 78}

In [61]:
```
s5
```

Out[61]: {32, 65, 80, 93}

In [65]:
```
A={8,9,10,11,12,13,14,15,16}
B={11,12,15,16}
C={1,2,3,4}
print(A)
print(B)
print(C)
```

```
{8, 9, 10, 11, 12, 13, 14, 15, 16}
{16, 11, 12, 15}
{1, 2, 3, 4}
```

In [67]:
```
A-B
```

Out[67]: {8, 9, 10, 13, 14}

In [69]:
```
B-A
```

Out[69]:
```
set()
```

In [71]:
```
A|B #UNION
```

Out[71]:
```
{8, 9, 10, 11, 12, 13, 14, 15, 16}
```

In [73]:
```
A&B #INTERSECTION
```

Out[73]:
```
{11, 12, 15, 16}
```

In [75]:
```
A^B #SYMMETRIC DIFFERENCE
```

Out[75]:
```
{8, 9, 10, 13, 14}
```

In [77]:
```
B^C
```

Out[77]:
```
{1, 2, 3, 4, 11, 12, 15, 16}
```

In [79]:
```
A.isdisjoint(B)
```

Out[79]:
```
False
```

In [81]:
```
A.pop()
```

Out[81]:
```
8
```

In [85]:
```
B.pop()
```

Out[85]:
```
16
```

In [87]:
```
A
```

Out[87]:
```
{9, 10, 11, 12, 13, 14, 15, 16}
```

In [91]:
```
A.remove(12)
A
```

Out[91]:
```
{9, 10, 11, 13, 14, 15, 16}
```

In [93]:
```
A.symmetric_difference(B)
```

Out[93]:
```
{9, 10, 12, 13, 14, 16}
```

In [95]:
```
B.symmetric_difference(A)
```

Out[95]:
```
{9, 10, 12, 13, 14, 16}
```

In [97]:
```
A.discard(9)
```

In [99]:
```
A
```

Out[99]: {10, 11, 13, 14, 15, 16}

In [101…
```
A.symmetric_difference(B)
```

Out[101… {10, 12, 13, 14, 16}

In [103…
```
A.update('ONE')
A
```

Out[103… {10, 11, 13, 14, 15, 16, 'E', 'N', 'O'}

In [105…
```
A.update('ammu')
A
```

Out[105… {10, 11, 13, 14, 15, 16, 'E', 'N', 'O', 'a', 'm', 'u'}

In [107…
```
B
```

Out[107… {11, 12, 15}

In [109…
```
max(B)
```

Out[109… 15

In [111…
```
sum(A)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[111], line 1
----> 1 sum(A)

TypeError: unsupported operand type(s) for +: 'int' and 'str'
```

In [113…
```
sum(B)
```

Out[113… 38

In [115…
```
s1
```

Out[115… {20, 34, 39, 80, 'one', 'three', 'two'}

In [117…
```
s2
```

Out[117… {(2+5j), 23.8, 30, 'apple'}

In [119…
```
s4
```

Out[119… {40, 42, 64, 78}

In [121…
```
max(s1)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[121], line 1
----> 1 max(s1)

TypeError: '>' not supported between instances of 'str' and 'int'
```

In [123…
```
max(s4)
```

Out[123…
```
78
```

In [125…
```
min(s4)
```

Out[125…
```
40
```

In [127…
```
list(enumerate(A))
```

Out[127…
```
[(0, 'O'),
 (1, 'a'),
 (2, 'N'),
 (3, 10),
 (4, 11),
 (5, 13),
 (6, 14),
 (7, 15),
 (8, 16),
 (9, 'E'),
 (10, 'm'),
 (11, 'u')]
```

In [129…
```
list(enumerate(B))
```

Out[129…
```
[(0, 11), (1, 12), (2, 15)]
```

In [131…
```
sorted(A)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[131], line 1
----> 1 sorted(A)

TypeError: '<' not supported between instances of 'int' and 'str'
```

In [133…
```
sorted(B)
```

Out[133…
```
[11, 12, 15]
```

In [135…
```
sorted(s4,reverse='true')
```

Out[135…
```
[78, 64, 42, 40]
```

In [139…
```
del B
```

In [141…
```
B
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[141], line 1
----> 1 B

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

In [ ]: