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

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

In [2]:
```
type(s)
```

Out[2]:
```
dict
```

In [3]:
```
s1=set()
s1
```

Out[3]:
```
set()
```

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

Out[4]:
```
set
```

In [5]:
```
s1.add(20)
```

In [6]:
```
s1
```

Out[6]:
```
{20}
```

In [7]:
```
s1.add(30,10)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[7], line 1
----> 1 s1.add(30,10)

TypeError: set.add() takes exactly one argument (2 given)
```

In [8]:
```
s1
```

Out[8]:
```
{20}
```

In [9]:
```
s1.add(30)
s1
```

Out[9]:
```
{20, 30}
```

In [10]:
```
s1.remove(30)
```

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

Out[11]:
```
{20}
```

In [12]:
```
s1.add(10)
s1.add(100)
s1.add(25)
```

In [13]:
```
s1
```

Out[13]: {10, 20, 25, 100}

In [14]:
```
s1.add(10)
```

In [15]:
```
s1
```

Out[15]: {10, 20, 25, 100}

In [16]:
```
s1[0]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[16], line 1
----> 1 s1[0]

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

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

Out[17]: {10, 20, 25, 100}

In [18]:
```
s1[:]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[18], line 1
----> 1 s1[:]

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

In [19]:
```
s1
```

Out[19]: {10, 20, 25, 100}

In [20]:
```
s1.add([1,2,3])
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[20], line 1
----> 1 s1.add([1,2,3])

TypeError: unhashable type: 'list'
```

In [21]:
```
s2=set()
s2
```

Out[21]: set()

In [22]:
```
s2.add(10)
s2.add(1.2)
s2.add(1+2j)
s2.add(True)
s2.add('nit')
```

In [23]:
```
s2
```

Out[23]: {(1+2j), 1.2, 10, True, 'nit'}

In [24]:
```
print(s1)
print(s2)
```

```
{100, 10, 20, 25}
{1.2, True, (1+2j), 10, 'nit'}
```

In [25]:
```
id(s1)==id(s2)
```

Out[25]: False

In [26]:
```
s3.copy()
s3
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[26], line 1
----> 1 s3.copy()
      2 s3

NameError: name 's3' is not defined
```

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

Out[27]: {(1+2j), 1.2, 10, True, 'nit'}

In [28]:
```
s2==s3
```

Out[28]: True

In [29]:
```
print(s1)
print(s2)
print(s3)
```

```
{100, 10, 20, 25}
{1.2, True, (1+2j), 10, 'nit'}
{1.2, True, (1+2j), 10, 'nit'}
```

In [30]:
```
s2
```

Out[30]: {(1+2j), 1.2, 10, True, 'nit'}

In [31]:
```
s2.pop()
```

Out[31]: 1.2

In [32]:
```
s2
```

Out[32]: {(1+2j), 10, True, 'nit'}

In [33]:
```
s2.pop()
```

Out[33]: True

In [34]:
```
s2
```

Out[34]: {(1+2j), 10, 'nit'}

In [35]:
```
s1
```

Out[35]:
```
{10, 20, 25, 100}
```

In [36]:
```
s2
```

Out[36]:
```
{(1+2j), 10, 'nit'}
```

In [37]:
```
s
```

Out[37]:
```
{}
```

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

Out[38]:
```
{(1+2j), 1.2, 10, True, 'nit'}
```

In [39]:
```
s3.remove((1+2j))
```

In [40]:
```
s2
```

Out[40]:
```
{(1+2j), 10, 'nit'}
```

In [41]:
```
s3
```

Out[41]:
```
{1.2, 10, True, 'nit'}
```

In [42]:
```
s3.remove(1000)
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
Cell In[42], line 1
----> 1 s3.remove(1000)

KeyError: 1000
```

In [43]:
```
s3.discard(1000)
```

In [44]:
```
s3.discard(True)
```

In [45]:
```
s3
```

Out[45]:
```
{1.2, 10, 'nit'}
```

In [46]:
```
print(s1)
print(s2)
print(s3)
```

```
{100, 10, 20, 25}
{(1+2j), 10, 'nit'}
{1.2, 10, 'nit'}
```

In [47]:
```
for i in s1:
    print(i)
```

```
100
10
20
25
```

In [48]:
```
for i in enumerate(s1):
    print(i)
```

```
(0, 100)
(1, 10)
(2, 20)
(3, 25)
```

In [49]:
```
a={1,2,3,4,5}
b={4,5,6,7,8}
c={8,9,10}
```

In [50]:
```
a.union(b)
```

Out[50]: {1, 2, 3, 4, 5, 6, 7, 8}

In [51]:
```
a|c
```

Out[51]: {1, 2, 3, 4, 5, 8, 9, 10}

In [52]:
```
a={1,2,3,4,5}
b={4,5,6,7,8}
c={8,9,10}
```

In [53]:
```
b|c
```

Out[53]: {4, 5, 6, 7, 8, 9, 10}

In [54]:
```
a|b|C
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[54], line 1
----> 1 a|b|C

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

In [55]:
```
a | b | c
```

Out[55]: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

In [56]:
```
print(a)
print(b)
print(c)
```

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

In [57]:
```
a.difference(b)
```

Out[57]: {1, 2, 3}

In [58]:
```
a.difference(c)
```

Out[58]:
```
{1, 2, 3, 4, 5}
```

In [59]:
```
print(a)
print(b)
print(c)
```

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

In [60]:
```
c.difference(a)
```

Out[60]:
```
{8, 9, 10}
```

In [61]:
```
c.difference(b)
```

Out[61]:
```
{9, 10}
```

In [62]:
```
c.difference(c)
```

Out[62]:
```
set()
```

In [63]:
```
print(c)
```

```
{8, 9, 10}
```

In [ ]: