SET

In [1]:
```
type({})
```

Out[1]: dict

In [2]:
```
print(type({}))
```

```
<class 'dict'>
```

In [7]:
```
s=set()
s
```

Out[7]: set()

In [8]:
```
type(s)
```

Out[8]: set

In [10]:
```
s1={1,2,3,4}
s2={1.5,2.5,3.5,4.5}
s3={'one','two','three'}
```

In [11]:
```
print(s1)
print(s2)
print(s3)
```

```
{1, 2, 3, 4}
{1.5, 2.5, 3.5, 4.5}
{'three', 'two', 'one'}
```

In [12]:
```
myset={50,30,60,20}
myset
```

Out[12]: {20, 30, 50, 60}

In [13]:
```
s4=s1.copy()
s4
```

Out[13]: {1, 2, 3, 4}

In [14]:
```
s4.add(5.5)
s4
```

Out[14]: {1, 2, 3, 4, 5.5}

In [15]:
```
s4.add(6.5)
s4
```

Out[15]: {1, 2, 3, 4, 5.5, 6.5}

In [17]:
```
s4.add('srikar')
s4
```

Out[17]: {1, 2, 3, 4, 5.5, 6.5, 'srikar'}

In [18]:
```
s4.add(2.2)
s4
```

Out[18]: {1, 2, 2.2, 3, 4, 5.5, 6.5, 'srikar'}

In [19]:
```
s4
```

Out[19]: {1, 2, 2.2, 3, 4, 5.5, 6.5, 'srikar'}

In [20]:
```
s4.clear()
s4
```

Out[20]: set()

In [21]:
```
s1
```

Out[21]: {1, 2, 3, 4}

In [22]:
```
s1.remove(3)
s1
```

Out[22]: {1, 2, 4}

In [23]:
```
print(s1)
print(s2)
print(s3)
```

```
{1, 2, 4}
{1.5, 2.5, 3.5, 4.5}
{'three', 'two', 'one'}
```

In [24]:
```
s2.discard(4.5)
s2
```

Out[24]: {1.5, 2.5, 3.5}

In [25]:
```
s2.discard(100)
s2
```

Out[25]: {1.5, 2.5, 3.5}

In [27]:
```
s1.pop() # randomly removes a value
s1
```

Out[27]: {4}

In [28]:
```
s1
```

Out[28]: {4}

In [29]:
```
s1.add(1)
s1.add(2)
```

In [30]:
```
s1
```

Out[30]:
```
{1, 2, 4}
```

In [31]:
```
s1.pop(1)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[31], line 1
----> 1 s1.pop(1)

TypeError: set.pop() takes no arguments (1 given)
```

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

Out[32]:
```
{1.5, 2.5, 3.5}
```

In [33]:
```
2.5 in s2
```

Out[33]:
```
True
```

SET OPERATIONS

- union
- intersection
- difference

In [34]:
```
a = {1,2,3,4,5}
b = {4,5,6,7,8}
c = {7,8,9,10}
```

In [38]:
```
# unions |
print(a.union(b))
print(b.union(a))
print(a.union(b,c))
print(a|b)
print(b|c)
print(a|b|c)
```

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

In [40]:
```
# intersections &
print(a.intersection(b))
print(b.intersection(a))
print(a.intersection(b,c))
print(a&b)
print(b&c)
print(a&b&c)
```

```
{4, 5}
{4, 5}
set()
{4, 5}
{8, 7}
set()
```

In [41]:
```
# difference -
print(a.difference(b))
print(b.difference(a))
print(a.difference(b,c))
print(a-b)
print(b-c)
print(a-b-c)
```

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

In [ ]:
```

```