Set

1. Set is a Sequence of values/elements, this values can be any type
2. Set will to enclose in curly braces and separated by comma.
3. Set will not allow duplicates.
4. In set index performing is not allowed.
5. In case of update we cannot expect exact index`s.
6. We can remove the elements from set using remove() function
7. In list and tuple duplicates are allowed
8. We can add the values in Set using add() Function
9. Set doesn't allow slicing.
10. Set doesn`t allow repeating

```
#Set
#Set Contains Unordered elements
s = {10,20,30,40,"One", "Two"}
print(s) # {20, 40, 10, 'Two', 30, 'One'}
print(type(s)) # <class 'set'>

#Set don`t allow duplicates
s = {10,20,30,40,10, 20}
print(s) #{40, 10, 20, 30}

#Performing Update in Set, we cannot expect exact index`s in set
s = {10,20,30,40,50}
s.update([60, 70])
print(s) # {50, 20, 70, 40, 10, 60, 30}

Output

{'Two', 20, 40, 10, 30, 'One'}
<class 'set'>
{40, 10, 20, 30}
{50, 20, 70, 40, 10, 60, 30}
```

```
#Remove the element/value from set using remove() Function
s = {1,2,3,4,5}
s.remove(3) # removes the value/element
print(s) # {1, 2, 4, 5}

#Adding the values in Set using add Function
s = {1, 2}
s.add(3)
s.add(4)
s.add(2) # Duplicate values are not allowed
print(s) # {1, 2, 3, 4}
print(len(s)) # 4

#Remove the element using discard() Function
s = {1,2,3,4,5}
s.discard(3)
print(s) # {1, 2, 4, 5}

Output:
{1, 2, 4, 5}
{1, 2, 3, 4}
4
{1, 2, 4, 5}
```

```
#Diff bw remove() and discard()
#remove
s = {1,2,3,4,5}
s.remove(6)
print(s) # Gets KeyError: 6

Output:
Traceback (most recent call last):
  File "F:\Data 03 Python\Data 01\Eclipse Workspace\Day04_Set\Ex3.py", line 4, in <module>
    s.remove(6)
KeyError: 6
```

```
#Diff bw remove() and discard()

s = {1,2,3,4}
s.discard(2)
print(s)#{1, 3, 4}

s1 = {1,2,3,4}
s1.discard(5)
print(s1) # {1, 2, 3, 4}

Note: discard will not throw any error whereas remove throw error if we add a value
```

```
#Trying to get index in set, but we get error, set does not support indexing
s = {10,20,30,40,10, 20}

print(s[1]) #TypeError: 'set' object is not subscriptable

Output:
Traceback (most recent call last):
  File "F:\Data 03 Python\Data 01\Eclipse Workspace\Day04_Set\Ex5.py", line 4, in <module>
    print(s[1]) #TypeError: 'set' object is not subscriptable
TypeError: 'set' object is not subscriptable
```

```
#Set does not allow slicing
s = {10,20,30,40,10, 20}

print(s[0:5]) # TypeError: 'set' object is not subscriptable

Output:

Traceback (most recent call last):
  File "F:\Data 03 Python\Data 01\Eclipse Workspace\Day04_Set\Ex6.py", line 4, in <module>
    print(s[0:5]) # TypeError: 'set' object is not subscriptable
TypeError: 'set' object is not subscriptable
```

```
#Repeating the set
s = {10,20,30,40,10, 20}

print(s*2) # TypeError: unsupported operand type(s) for *: 'set' and 'int'

Output:

Traceback (most recent call last):
  File "F:\Data 03 Python\Data 01\Eclipse Workspace\Day04_Set\Ex7.py", line 4, in <module>
    print(s*2) # TypeError: unsupported operand type(s) for *: 'set' and 'int'
TypeError: unsupported operand type(s) for *: 'set' and 'int'
```

```
# add +
s1 = {10,20,30,40,50}
s2 = {10,20,30,40,50}
print(s1+s2)

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

```
# clear
s1 = {10,20,30,40,50}
s1.clear()
print(s1) # set()
```

```
# copy
s1 = {10,20,30,40,50}
print(s1.copy()) # {50, 20, 40, 10, 30}
```