**Set Function**

Set:The collection of all elements

a={1,2,3,4,5}  
b=set(a)  
print(b)

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

* Add (): it is used to add an element to set

a = {1, 2, 3}  
a.add(4)  
print(a)

Output: {1,2,3,4}

* Clear ():it will remove all elements from a set.

a = {1, 2, 3}  
a.clear()  
print(a)

Output: set()

* Copy (): it returns show copy of set.

a = {1, 2, 3}  
b = a.copy()  
print(b)

Output: {1, 2, 3}

* Difference ():it returns the difference two or more sets as new set.

a = {1, 2, 3}  
b = {3, 4, 5}  
print(a.difference(b))

Output: {1, 2}

* Update (): to insert elements into a set of elements are immutable.

a = {1, 2, 3}  
b = {3,4, 5}  
a.update(b)

print(a)

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

* Discard (): It is remove a specific element from the set if the element is not available it does not effect on the set.

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

Output: {1, 3}

* Intersection (): it returns intersection of two sets as a new set.

a = {1, 2, 3}  
b = {2, 3, 4}  
print(a.intersection(b))

Output: {2, 3}

* Pop (): it remove the element which placed as 1st element.

a = {1, 2, 3,4}  
element = a.pop()  
print(element)  
  
print(a)

Output:

1

{2, 3, 4}

* Remove (): it will remove a specific element from the set if the element is not available it raises an exception key error.

a = {1, 2, 3}  
a.remove(2)  
print(a)

Output: {1,3}

* Symmetric difference (): it returns the symmetric difference of two sets as a new set.

a = {1, 2, 3,4}  
b = {3, 4, 5}  
print(a.symmetric\_difference(b))

Output: {1, 2, 5}

* Union (): it will combine set one or more set and it will return the unique element.

a = {1, 2, 3}  
b = {3, 4, 5}  
print(a.union(b))

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

* Update (): it updates a set with the union of itself and others.

a = {1, 2, 3}  
b = {3,4, 5}  
a.update(b)  
print(a)

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

* Len (): it returns the length of set value.

a = {1, 2, 3, 4,5}  
print(len(a))

Output: 5

* Max (): it returns the largest element in the set.

a = {1, 2, 5, 6}  
print(max(a))

Output: 6

* Sorted (): it returns new sorted element in set.

a = {1, 7, 4, 2}  
print(sorted(a))

Output: [1, 2, 4, 7]

**Dictionary:**

Dictionary is data type data can store in the form of key value pair. This are ordered, changeable, and do not allow the duplicates. Keys should be immutable.

Value should be mutable it has duplicate values and different type of data. Key will act as index and there is No slicing because of it has no index. Key are unique.

EX: {}

a = {‘a’:123, 1:’abc’};

**Dictionary functions:**

a= {'a':123, 1:'abc'}  
print(a)

Output: {'a': 123, 1: 'abc'}

**Get ():** It retrieve the value of a particular key, we will use get(),if there is no key available get() will return none.

s = {'a': 1, 'b': 2, 'c': 3}  
print(s.get('c'))

Output: 3

**Update ():** we can insert new pair of key and value or update the existing key with a new value.

a = {'a': 1, 'b': 2}  
a.update({'b': 5, 'c': 9})  
print(a)

Output: {'a': 1, 'b': 5, 'c': 9}

**Pop ():** In dictionary deal with key.

a= {'a': 1, 'b': 2, 'c': 3}  
value = a.pop('a')  
print(value)  
  
print(a)

Output: 1

{'b': 2, 'c': 3}

**Pop Item ():** It delete the last insert element in the dictionary.

a = {'a': 1, 'b': 2, 'c': 3}  
key\_value\_pair = a.popitem()  
print(key\_value\_pair)  
  
print(a)

Output: [1, 2, 3]

**Values ():** All the key are retrieved from the dictionary as addict.values object. We can type cast list also.

my\_dict = {'a': 1, 'b': 2, 'c': 3}  
values = my\_dict.values()  
print(list(values))

Output: [1, 2, 3]

**Keys ():** All the key are retrieved from the dictionary as addict.key object. We can type cast list also.

my\_dict = {'a': 1, 'b': 2, 'c': 3}  
keys = my\_dict.keys()  
print(list(keys))

Output: ['a', 'b', 'c']

**Items ():** All the keys and values are retrieved from the dictionary as items object we can typecast to list also.

my\_dict = {'a': 1, 'b': 2, 'c': 3}  
items = my\_dict.items()  
print(list(items))

Output: [('a', 1), ('b', 2), ('c', 3)]