Dictionary

A dictionary is a collection which is unordered, changeable and indexed. In Python dictionaries are written with curly brackets, and they have keys and values.

- Unordered Mutable collection of mapping objects
- Values accessed by key
- Heterogeneous
- can be nested
- can vary in size
- Modifiable in place
- Hash table based for efficiency

Dictionary Operations

```
D={}        #creates an empty dictionary
D={'rollno':142,'name':"Anurag",'age':26}
D=dict(rollno=142,name="Anurag",age=26)
```

Accessing Values in Dictionary

```
thisdict =  {
  "brand": "Ford",
  "model": "Mustang",
  "year": 1964
}
x = thisdict["model"]
print(x)
```

Both the above statements make a dictionary having 3 key-value pairs.

```
print(D['rollno'])        #prints 142
D['age']=28               #changes value of 'age' key to 28
```

Updating Dictionary

```
dict = {'Name': 'Zara', 'Age': 7, 'Class': 'First'}
dict['Age'] = 8; # update existing entry
dict['School'] = "DPS School"; # Add new entry

print("dict['Age']: ", dict['Age'])
print("dict['School']: ", dict['School'])
print(dict)
```

output−

```
dict['Age']:  8
dict['School']:  DPS School
{'Name': 'Zara', 'Age': 8, 'Class': 'First', 'School': 'DPS School'}
```

Delete Dictionary Elements

You can also delete entire dictionary in a single operation.

```
 dict = {'Name': 'Zara', 'Age': 7, 'Class': 'First'}
print("dict['Age']: ", dict['Age'])
del dict['Name']; # remove entry with key 'Name'
dict.clear();     # remove all entries in dict
del dict ;        # delete entire dictionary
print("dict['Age']: ", dict['Age'])
print("dict['School']: ", dict['School'])
```

output:: –

```
dict['Age']:  7
Traceback (most recent call last):
  File "C:/Users/Administrator/AppData/Local/Programs/Python/Python37-32/dictonaries.py", line 34, in <module>
    print("dict['Age']: ", dict['Age'])
TypeError: 'type' object is not subscriptable
```

Built-in Dictionary Functions & Methods

Function with Description	
clear()	It is mainly used to delete all the items of the dictionary.
copy()	It returns a shallow copy of the dictionary which is created.
len(dict)	Gives the total length of the dictionary. This would be equal to the number of items in the dictionary.
str(dict)	Produces a printable string representation of a dictionary
pop()	It mainly eliminates the element using the defined key.
popitem()	removes the most recent key-value pair entered
keys()	It returns all the keys of the dictionary.
values()	it returns all the values of the dictionary with respect to given input.
items()	It returns all the key-value pairs as a tuple.
get()	It is used to get the value specified for the passed key.
update()	It mainly updates all the dictionary by adding the key-value pair of dict2 to this dictionary.