Dictionaries

- it stores collection of various types of data.
- Dictionaries are changable(mutable).
- Dictionaries have pair of keys and values which sperated with ':'.
- it is represented as flower brackets---->{ }.
- keys are act as indexof values in dictionary.
- keys in dictionary are unique

In [13]:

```
dic = {'name':'Keerthi','id':221,'grade':9.8}
dic
```

Out[13]:

```
{'name': 'Keerthi', 'id': 221, 'grade': 9.8}
```

In [14]:

```
lst = [1,3,5,7,9]
lst
```

Out[14]:

```
[1, 3, 5, 7, 9]
```

In [15]:

```
lst[4]
```

Out[15]:

```
9
```

In [16]:

```
# mutable
dic['name']
```

Out[16]:

```
'Keerthi'
```

In [17]:

```
dic['id']
```

Out[17]:

```
221
```

In [18]:

```
dic['name'] = 'chandu'
dic
```

Out[18]:

```
{'name': 'chandu', 'id': 221, 'grade': 9.8}
```

In [19]:

```
print(dir(dict))
```

```
['__class__', '__contains__', '__delattr__', '__delitem__', '__dir__', '__do
c__', '__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__',
'__gt__', '__hash__', '__init__', '__init_subclass__', '__iter__', '__le__',
'__len__', '__lt__', '__ne__', '__new__', '__reduce__', '__reduce_ex__', '__
repr__', '__setattr__', '__setitem__', '__sizeof__', '__str__', '__subclassh
ook__', 'clear', 'copy', 'fromkeys', 'get', 'items', 'keys', 'pop', 'popite
m', 'setdefault', 'update', 'values']
```

In [20]:

```
# items
dic.items()
```

Out[20]:

```
dict_items([('name', 'chandu'), ('id', 221), ('grade', 9.8)])
```

In [21]:

```
# keys
dic.keys()
```

Out[21]:

```
dict_keys(['name', 'id', 'grade'])
```

In [22]:

```
# values
dic.values()
```

Out[22]:

```
dict_values(['chandu', 221, 9.8])
```

In [24]:

```
# update()
dic.update({'addr':'abc','clg':'spmvv'})
```

In [25]:

```
dic
```

Out[25]:

```
{'name': 'chandu', 'id': 221, 'grade': 9.8, 'addr': 'abc', 'clg': 'spmvv'}
```

In [26]:

```
1
2 dic.update({'marks'})
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-26-68fee303d856> in <module>
----> 1 dic.update({'marks'})

ValueError: dictionary update sequence element #0 has length 5; 2 is require
d
```

In [27]:

```
1 # pop()
2 dic.pop('addr')
```

Out[27]:

```
'abc'
```

In [28]:

```
1 dic
```

Out[28]:

```
{'name': 'chandu', 'id': 221, 'grade': 9.8, 'clg': 'spmvv'}
```

In [29]:

```
1 # popitem()
2 dic.popitem('clg')
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-29-95925105bc1c> in <module>
      1 # popitem()
----> 2 dic.popitem('clg')

TypeError: popitem() takes no arguments (1 given)
```

In [30]:

```
1 # popitem()
2 dic.popitem()
```

Out[30]:

```
('clg', 'spmvv')
```

In [31]:

```
dic
```

Out[31]:

```
{'name': 'chandu', 'id': 221, 'grade': 9.8}
```

In [32]:

```
# setdefault()
dic.setdefault('D')
dic
```

Out[32]:

```
{'name': 'chandu', 'id': 221, 'grade': 9.8, 'D': None}
```

In [33]:

```
dic.update({'D':'Dell'})
dic
```

Out[33]:

```
{'name': 'chandu', 'id': 221, 'grade': 9.8, 'D': 'Dell'}
```

In [35]:

```
dic.setdefault('A')
dic
```

Out[35]:

```
{'name': 'chandu', 'id': 221, 'grade': 9.8, 'D': 'Dell', 'A': None}
```

In [36]:

```
print(dic['A'])
```

```
None
```

In [37]:

```
dic['A']= 'acer'
dic
```

Out[37]:

```
{'name': 'chandu', 'id': 221, 'grade': 9.8, 'D': 'Dell', 'A': 'acer'}
```

In [39]:

```
dic.setdefault('L','Lenova')
dic
```

Out[39]:

```
{'name': 'chandu',
 'id': 221,
 'grade': 9.8,
 'D': 'Dell',
 'A': 'acer',
 'L': 'Lenova'}
```

In [40]:

```
# get()
dic.get('id')
```

Out[40]:

```
221
```

In [43]:

```
dic2 = dic.copy()
print(dic)
print(dic2)
```

```
{'name': 'chandu', 'id': 221, 'grade': 9.8, 'D': 'Dell', 'A': 'acer', 'L':
'Lenova'}
{'name': 'chandu', 'id': 221, 'grade': 9.8, 'D': 'Dell', 'A': 'acer', 'L':
'Lenova'}
```

In [45]:

```
# clear()
dic.clear()
dic
```

Out[45]:

```
{}
```

In [46]:

```
dic2
```

Out[46]:

```
{'name': 'chandu',
 'id': 221,
 'grade': 9.8,
 'D': 'Dell',
 'A': 'acer',
 'L': 'Lenova'}
```

In [47]:

```
# fromkeys()
x = ('key1','key2','key3')
y = 0
dict.fromkeys(x,y)
```

Out[47]:

```
{'key1': 0, 'key2': 0, 'key3': 0}
```

In [48]:

```
dict.fromkeys(x)
dict
```

Out[48]:

```
dict
```

In [50]:

```
dict2 = dict.fromkeys(x)
dict2
```

Out[50]:

```
{'key1': None, 'key2': None, 'key3': None}
```

In [51]:

```
dict2['key2']= 12
dict2
```

Out[51]:

```
{'key1': None, 'key2': 12, 'key3': None}
```

In [58]:

```
# Dictionary of List
dic1 = {'student1':['a',100,'cse'],'student2':['b',121,'mech']}
dic1
```

Out[58]:

```
{'student1': ['a', 100, 'cse'], 'student2': ['b', 121, 'mech']}
```

In [59]:

```
dic1.get('student1')
```

Out[59]:

```
['a', 100, 'cse']
```

In [60]:

```
dic1['student1']
```

Out[60]:

```
['a', 100, 'cse']
```

In [61]:

```
dic1['student1'][1]
```

Out[61]:

```
100
```

In [62]:

```
lst = [3,5,3,2,2,6,6,6,3]
lst
```

Out[62]:

```
[3, 5, 3, 2, 2, 6, 6, 6, 3]
```

In [65]:

```
dir={}
for i in lst:
        dir[i]=lst.count(i)
print(dir)
```

```
{3: 3, 5: 1, 2: 2, 6: 3}
```

In [67]:

```
dir={}
for i in lst:
        if i in lst:
            dir[i]=lst.count(i)
print(dir)
```

```
{3: 3, 5: 1, 2: 2, 6: 3}
```

In [ ]:

```

```