# Dictionaries

- it stores collection of various types of data.
- Dictionaries are changeable(mutable).
- dictionaries have pair of keys and values which seperated with ':'.
- it is represented as flower brackets --> {key : value }.

In [1]:

```
dic ={'name':'harsha', 'id':90,'grade':9.8}
dic
```

Out[1]:

```
{'name': 'harsha', 'id': 90, 'grade': 9.8}
```

In [3]:

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

Out[3]:

```
{'name': 'priya', 'id': 90, 'grade': 9.8}
```

In [4]:

```
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__', '__reversed__', '__setattr__', '__setitem__', '__sizeof__', '__str_
_', '__subclasshook__', 'clear', 'copy', 'fromkeys', 'get', 'items', 'keys',
'pop', 'popitem', 'setdefault', 'update', 'values']
```

In [5]:

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

Out[5]:

```
dict_items([('name', 'priya'), ('id', 90), ('grade', 9.8)])
```

In [6]:

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

```

Out[6]:

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

In [7]:

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

Out[7]:

```
dict_values(['priya', 90, 9.8])
```

In [8]:

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

In [9]:

```
dic
```

Out[9]:

```
{'name': 'priya', 'id': 90, 'grade': 9.8, 'addr': 'abc', 'clg': 'spmvv'}
```

In [10]:

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

Out[10]:

```
'abc'
```

In [11]:

```
dic
```

Out[11]:

```
{'name': 'priya', 'id': 90, 'grade': 9.8, 'clg': 'spmvv'}
```

In [12]:

```
# popitem()
dic.popitem()

```

Out[12]:

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

In [13]:

```
dic
```

Out[13]:

```
{'name': 'priya', 'id': 90, 'grade': 9.8}
```

In [14]:

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

```

Out[14]:

```
{'name': 'priya', 'id': 90, 'grade': 9.8, 'D': None}
```

In [15]:

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

Out[15]:

```
{'name': 'priya', 'id': 90, 'grade': 9.8, 'D': 'DELL'}
```

In [16]:

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

Out[16]:

```
{'name': 'priya', 'id': 90, 'grade': 9.8, 'D': 'DELL', 'A': None}
```

In [17]:

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

```
None
```

In [18]:

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

```

Out[18]:

```
{'name': 'priya', 'id': 90, 'grade': 9.8, 'D': 'DELL', 'A': 'acer'}
```

In [19]:

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

Out[19]:

```
{'name': 'priya',
 'id': 90,
 'grade': 9.8,
 'D': 'DELL',
 'A': 'acer',
 'L': 'Lenovo'}
```

In [20]:

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

Out[20]:

```
90
```

In [21]:

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

```
{'name': 'priya', 'id': 90, 'grade': 9.8, 'D': 'DELL', 'A': 'acer', 'L': 'Le
novo'}
{'name': 'priya', 'id': 90, 'grade': 9.8, 'D': 'DELL', 'A': 'acer', 'L': 'Le
novo'}
```

In [22]:

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

Out[22]:

```
{}
```

In [23]:

```
dic2
```

Out[23]:

```
{'name': 'priya',
 'id': 90,
 'grade': 9.8,
 'D': 'DELL',
 'A': 'acer',
 'L': 'Lenovo'}
```

In [24]:

```
# fromkeys()
x = ('key1','key2','key3')
y = (1,2,3)
dict.fromkeys(x,y)
```

Out[24]:

```
{'key1': (1, 2, 3), 'key2': (1, 2, 3), 'key3': (1, 2, 3)}
```

In [25]:

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

Out[25]:

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

In [26]:

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

```

Out[26]:

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

In [27]:

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

Out[27]:

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

In [28]:

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

Out[28]:

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

In [29]:

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

Out[29]:

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

In [30]:

```
dic1['student1'][2]
```

Out[30]:

```
'cse'
```

In [ ]:

```

```