

## Dictionaries

- It stores collection of various types of data.
- Dictionaries are changeable(mutable).
- Dictionaries have pair of keys and values which separated with ':'.  
It is represented as flower brackets --> {key:value}.
- Keys are act as index of values in dictionary.
- Keys in dictionary are unique.

In [4]:

```
1 dic = {'name':'keerthi','id':221,'grade':9.8}
2 dic
```

Out[4]:

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

In [7]:

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

Out[7]:

```
'keerthi'
```

In [8]:

```
1 dic['name'] = 'Chandu'
2 dic
```

Out[8]:

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

In [12]:

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

```
['__class__', '__contains__', '__delattr__', '__delitem__', '__dir__', '__doc__', '__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 [13]:

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

Out[13]:

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

In [14]:

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

Out[14]:

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

In [15]:

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

Out[15]:

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

In [17]:

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

In [18]:

```
1 dic
```

Out[18]:

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

In [23]:

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

Out[23]:

```
'abc'
```

In [24]:

```
1 dic
```

Out[24]:

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

In [26]:

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

Out[26]:

('clg', 'spmvv')

In [27]:

```
1 dic
```

Out[27]:

{'name': 'Chandu', 'id': 221, 'grade': 9.8}

In [28]:

```
1 # setdefault()  
2 dic.setdefault('D')  
3 dic
```

Out[28]:

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

In [29]:

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

Out[29]:

{'name': 'Chandu', 'id': 221, 'grade': 9.8, 'D': 'DELL'}

In [33]:

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

Out[33]:

{'name': 'Chandu', 'id': 221, 'grade': 9.8, 'D': 'DELL', 'A': None}

In [35]:

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

None

In [36]:

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

Out[36]:

```
{'name': 'Chandu', 'id': 221, 'grade': 9.8, 'D': 'DELL', 'A': 'acer'}
```

In [37]:

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

Out[37]:

```
{'name': 'Chandu',
 'id': 221,
 'grade': 9.8,
 'D': 'DELL',
 'A': 'acer',
 'L': 'Lenovo'}
```

In [39]:

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

Out[39]:

```
221
```

In [40]:

```
1 # copy()
2 dic2 = dic.copy()
3 print(dic)
4 print(dic2)
```

```
{'name': 'Chandu', 'id': 221, 'grade': 9.8, 'D': 'DELL', 'A': 'acer', 'L':
 'Lenovo'}
{'name': 'Chandu', 'id': 221, 'grade': 9.8, 'D': 'DELL', 'A': 'acer', 'L':
 'Lenovo'}
```

In [41]:

```
1 # clear()
2 dic.clear()
3 dic
```

Out[41]:

```
{}
```

In [42]:

```
1 dic2
```

Out[42]:

```
{'name': 'Chandu',  
'id': 221,  
'grade': 9.8,  
'D': 'DELL',  
'A': 'acer',  
'L': 'Lenovo'}
```

In [48]:

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

Out[48]:

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

In [46]:

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

Out[46]:

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

In [47]:

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

Out[47]:

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

In [49]:

```
1 # Dictionary of List  
2  
3 dic1 = {'student1': ['a', 100, 'cse'], 'student2': ['b', 121, 'mech']}  
4 dic1
```

Out[49]:

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

In [50]:

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

Out[50]:

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

In [51]:

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

Out[51]:

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

In [52]:

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

Out[52]:

```
100
```

In [ ]:

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