dictionaries

- it stores collection of various types of data
- dictionaries have pair of keys and values which is seperated with ':'
- keys are act as index of values in dictionary
- keys in dictionary are uniqe

In [ ]:

```
std = {'name':'avinash','age':21,'grade':'A'}
print(std)
```

In [ ]:

```
std['name']
```

In [ ]:

```
std['age']
```

In [ ]:

```
std['age']=23
```

In [ ]:

```
std
```

In [ ]:

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

In [ ]:

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

In [ ]:

```
std.get('grade')
```

In [ ]:

```
# items
print(std.items())
```

In [ ]:

```
# keys
print(std.keys())
```

In [ ]:

```
# values
print(std.values())
```

In [ ]:

```
#update
std.update({'phno':80080,'name':'sai'})
```

In [ ]:

```
print(std)
```

In [ ]:

```
std.update({'college':'MVGR'})
```

In [ ]:

```
print(std)
```

In [ ]:

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

In [ ]:

```
# fromkeys
x= ('key1','key2','key3')
y=0
dic2=dict.fromkeys(x,y)
print(dic2)
```

In [ ]:

```
dic2['key1']=90
print(dic2)
```

In [ ]:

```
dic2['key2']=80
print(dic2)
```

In [ ]:

```
dic2['key3']='avinash'
print(dic2)
```

In [ ]:

```
std
```

In [ ]:

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

In [ ]:

```
#setdefault
std.setdefault('color','white')
```

In [ ]:

```
print(std)
```

In [ ]:

```
#pop
std.popitem()
```

In [ ]:

```
std = {'name':'avinash',1:21,'grade':'A'}
print(std)
```

In [ ]:

```
std={'name': 'sai', 'age': 23, 'grade': 'A', 'phno': 80080, 'college': 'MVGR', 'color': 'wh
```

In [59]:

```
for i in std.items():
    print(i,end='')
```

```
('jass', {'cse', 123})('samp', {1234, 'ece'})('jeevan', {1240, 'cse'})
```

In [ ]:

```
#pop
std.popitem()
```

In [ ]:

```
#pop
std.popitem()
```

In [ ]:

```
#pop
std.popitem()
```

In [ ]:

```
std
```

In [ ]:

```
dict={
    'name':'avinash',
    'year':21,
     'college':'mvgr'
}
thisdict['college']
```

In [ ]:

```
std
```

In [ ]:

```
std2=std.copy()
print(std2)
```

In [ ]:

```
std
```

In [ ]:

```
std.clear()
print(std)
```

Nested Dictionary

dictionary of list dictionary of dictionary

In [ ]:

```
#dictionary of list
std ={'std1':['chandu','IT',1218],'std2':['mohith','cse',1219],'std3':['dinesh','ece',1217]
```

In [ ]:

```
print(std)
```

In [ ]:

```
std
```

In [ ]:

```
std['std1']
```

In [ ]:

```
std['std1'][1]
```

In [ ]:

```
std['std1'][2]
```

In [ ]:

```
# dictionary of dictionary
std = {'jass':{'cse',123},'samp':{'ece',1234},'jeevan':{'cse',1240}}
print(std)
```

In [ ]:

```
std['jass']
```

In [61]:

```
for i in std.values():
    print(i)
```

```
{'cse', 123}
{1234, 'ece'}
{1240, 'cse'}
```

task

list =[1,3,4,2,1,1,3,3,3] 1:3 2:1 3:4 4:1

In [ ]:

```
### tuples
- A tuple is a collection which is ordered  and unchangable(immutable)
```

l=[1,2,3,4,3,2,1,4,2] m=[] for i in l: if(i not in m): m.append(i) c=dict.from

In [62]:

```
for i in std.values():
    print(i)
```

```
{'cse', 123}
{1234, 'ece'}
{1240, 'cse'}
```

In [64]:

```
for i in std.keys():
    print(i)
```

```
jass
samp
jeevan
```

In [65]:

```
for i in std.values():
    print(i)
```

```
{'cse', 123}
{1234, 'ece'}
{1240, 'cse'}
```

In [66]:

```
for i in std.items():
    print(i)
```

```
('jass', {'cse', 123})
('samp', {1234, 'ece'})
('jeevan', {1240, 'cse'})
```

TUPLE

A tuple is a collection which is ordered and unchangable(immutable)
in python tuples are written round brackets
iterations in tuples is faster than list

In [89]:

```
t =('cse','ece',1,2,3,4,5,9.5)
print(t)
```

```
('cse', 'ece', 1, 2, 3, 4, 5, 9.5)
```

In [69]:

```
type(t)
```

Out[69]:

```
tuple
```

In [70]:

```
print(t[0])
```

```
cse
```

In [71]:

```
print(t[0])
```

```
cse
```

In [72]:

```
print(t[1:3])
```

```
('ece', 1)
```

In [73]:

```
print(t[-1])
```

```
5
```

In [74]:

```
print(t[-3])
```

```
3
```

In [75]:

```
print(t[::-1])
print(t[-1::-1])
```

```
(5, 4, 3, 2, 1, 'ece', 'cse')
(5, 4, 3, 2, 1, 'ece', 'cse')
```

In [76]:

```
print(len(t))
```

```
7
```

In [78]:

```
print(dir(tuple))
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc_
_', '__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__', '__
getnewargs__', '__gt__', '__hash__', '__init__', '__init_subclass__', '__ite
r__', '__le__', '__len__', '__lt__', '__mul__', '__ne__', '__new__', '__redu
ce__', '__reduce_ex__', '__repr__', '__rmul__', '__setattr__', '__sizeof__',
'__str__', '__subclasshook__', 'count', 'index']
```

In [79]:

```
# join
t1=(1,2,3,4)
t2=(5,6,7,8)
print(t1+t2)
```

```
(1, 2, 3, 4, 5, 6, 7, 8)
```

In [80]:

```
del t1[1]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-80-31041e664311> in <module>
----> 1 del t1[1]

TypeError: 'tuple' object doesn't support item deletion
```

In [81]:

```
t1.count('cse')
```

Out[81]:

```
0
```

In [82]:

```
t
```

Out[82]:

```
('cse', 'ece', 1, 2, 3, 4, 5)
```

In [83]:

```
t.count('cse')
```

Out[83]:

```
1
```

In [88]:

```
print(t.index(5))
```

```
6
```

In [90]:

```
print(t.index(9.5))
```

```
7
```

In [ ]:

```
```