In [3]:
```python
#Declaring a dictionary and printing the contents
student = {'rollno':1001, 'name':'Akshay', 'age':17}
print(student)
#Finding the length of the dictionay(number of key-vvalue pairs)
print(len(student))
#Printing the value at a key
print(student['rollno'])
```

```
{'rollno': 1001, 'name': 'Akshay', 'age': 17}
3
1001
```

In [4]:
```python
#Displaying all the keys of the dictionary
student = {'rollno':1001, 'name':'Akshay', 'age':17}
for x in student:
    print(x)
```

```
rollno
name
age
```

In [5]:
```python
#Displaying all the values of the dictionary
student = {'rollno':1001, 'name':'Akshay', 'age':17}
for x in student:
    print(student[x])
```

```
1001
Akshay
17
```

In [6]:
```python
#displaying the key value pairs
student = {'rollno':1001, 'name':'Akshay', 'age':17}
for x in student:
    print(x,':',student[x])
```

```
rollno : 1001
name : Akshay
age : 17
```

In [8]:
```python
#Adding an item in the dictionary
student = {'rollno':1001, 'name':'Akshay', 'age':17}
student['hobby']='Football'
print(student)
```

```
{'rollno': 1001, 'name': 'Akshay', 'age': 17, 'hobby': 'Football'}
```

In [9]:
```python
#Removing items from a dictionary
student = {'rollno':1001, 'name':'Akshay', 'age':17}
del student['name']
print(student)
```

```
{'rollno': 1001, 'age': 17}
```

In [10]:
```python
#chaning values for a key
student = {'rollno':1001, 'name':'Akshay', 'age':17}
student['age']=18
print(student)
```

```
{'rollno': 1001, 'name': 'Akshay', 'age': 18}
```

In [11]:
```python
#Using the dict() function to declare a dictionary - Constructor
student = dict(rollno=10, name='Ashok', age=18)
print(student)
```

```
{'rollno': 10, 'name': 'Ashok', 'age': 18}
```

Functions in Dictionary

- clear() - Removes all the elements from dictionary
- copy() - Returns a copy of the dictionary
- fromkeys() - Returns a dictionary with the specied keys and values
- get() - Returns the value of the specified key
- items() - Returns the list containing the tuple for each key-value pair
- keys() - Returns a list containing the dictionary's keys
- pop() - Removes the element with specified key
- popitems() - Removes the last key-value pair
- setdefault() - Returns the value of the specified key. If the key doesnot exist, insert the key with the specied value
- update() - Updates the dictionary with the specified key-value pair
- values() - Returns a list of all the values in the dictionary

```
In [2]:  player ={'Name':'Virat','Game':'Cricket','Captin':True,'Ranking':1}
         player.clear()
         print(player)
```

```
{}
```

```
In [10]:  player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
          newplayer = player.copy()
          print(newplayer)
```

```
{'Name': 'Virat', 'Game': 'Cricket', 'Captain': True, 'Ranking': 1}
```

```
In [4]:  key = ['Key1','Key2','key3','key4']
         value = 10
         newdict = dict.fromkeys(key,value)
         print(newdict)
```

```
{'Key1': 10, 'Key2': 10, 'key3': 10, 'key4': 10}
```

```
In [6]:  player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
         x = player.get('Game')
         print(x)
```

```
Cricket
```

```
In [11]:  player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
          for key, value in player.items():
              print(key,':',value)
```

```
Name : Virat
Game : Cricket
Captain : True
Ranking : 1
```

```
In [12]:  player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
          for key in player.keys():
              print(key)
```

```
Name
Game
Captain
Ranking
```

In [9]:
```python
player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
for value in player.values():
    print(value)
```

```
Virat
Cricket
True
1
```

In [14]:
```python
player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
player.pop('Captain')
print(player)
```

```
{'Name': 'Virat', 'Game': 'Cricket', 'Ranking': 1}
```

In [15]:
```python
player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
player.popitem()
print(player)
```

```
{'Name': 'Virat', 'Game': 'Cricket', 'Captain': True}
```

In [19]:
```python
#Deleting all key-valuer payers using popitem() method
player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
l = len(player)
for x in range(l):
    player.popitem()
print(player)
```

```
{}
```

In [22]:
```python
player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
x = player.setdefault('Name',None)
y = player.setdefault('Score',100)
print(x)
print(y)
```

```
Virat
100
```

In [23]:
```python
player ={'Name':'Virat','Game':'Cricket','Captain':True,'Ranking':1}
score ={'Highest':283,'Centuries':24}
player.update(score)
print(player)
```

```
{'Name': 'Virat', 'Game': 'Cricket', 'Captain': True, 'Ranking': 1, 'Highest': 283, 'Centuries': 24}
```

In [24]:
```python
#Frequency of a list using dictionary
fruits =['apple','banana','apple','Grapes','banana','guava']
d = {x:fruits.count(x) for x in fruits}
print(d)
```

```
{'apple': 2, 'banana': 2, 'Grapes': 1, 'guava': 1}
```

In [1]:
```python
#A dictionary of squares of numbers passed as a list
d = {x:x**2 for x in [2,4,6,8]}
print(d)
```

```
{2: 4, 4: 16, 6: 36, 8: 64}
```

In [2]:
```python
# Dictionary of strings and length of strings
d = {x:len(x) for x in ['Apple','Guava','Pineapple']}
print(d)
```

```
{'Apple': 5, 'Guava': 5, 'Pineapple': 9}
```