In [1]:
```
empty_dictionary = {}
print(type(empty_dictionary))
```

```
<class 'dict'>
```

In [2]:
```
bio_data = {'Name': 'Bob Marley', 'Age':35, 'Height':"5.6 ft", 'Hobby': 'Musi
c'}
print(bio_data)
```

```
{'Name': 'Bob Marley', 'Age': 35, 'Height': '5.6 ft', 'Hobby': 'Music'}
```

In [3]:
```
credentials = { 'UserA' : 'wkliopnc' , 'UserB': 98760 , 'UserC' :98760 }
```

In [4]:
```
hobby = bio_data['Hobby']
print(hobby)
```

```
Music
```

In [5]:
```
age = bio_data['Age']
print(age)
```

```
35
```

In [6]:
```
age = bio_data.get('Age')
print(age)
```

```
35
```

In [7]:
```
profession  =  bio_data.get('Profession','NA')
print(profession)
```

```
NA
```

In [8]:
```
bio_data['Age'] = 36
print(bio_data)
```

```
{'Name': 'Bob Marley', 'Age': 36, 'Height': '5.6 ft', 'Hobby': 'Music'}
```

In [9]:
```
#add a key, val
bio_data['Profession'] = 'Singer'
print(bio_data)
```

```
{'Name': 'Bob Marley', 'Age': 36, 'Height': '5.6 ft', 'Hobby': 'Music', 'Prof
ession': 'Singer'}
```

In [10]:
```
print('Profession' in bio_data)
```

```
True
```

In [11]:
```
#get list of keys
print(list(bio_data.keys()))

#get list of values
print(list(bio_data.values()))
```

```
['Name', 'Age', 'Height', 'Hobby', 'Profession']
['Bob Marley', 36, '5.6 ft', 'Music', 'Singer']
```

In [12]:
```
new_dictionary = dict(Country='Jamaica', Songs=['One Love','Misty Morning'])
```

In [13]:
```
bio_data.update(new_dictionary)
print(bio_data)
```

```
{'Name': 'Bob Marley', 'Age': 36, 'Height': '5.6 ft', 'Hobby': 'Music', 'Prof
ession': 'Singer', 'Country': 'Jamaica', 'Songs': ['One Love', 'Misty Mornin
g']}
```

In [14]:
```
del bio_data['Songs']
print(bio_data)
```

```
{'Name': 'Bob Marley', 'Age': 36, 'Height': '5.6 ft', 'Hobby': 'Music', 'Prof
ession': 'Singer', 'Country': 'Jamaica'}
```

In [15]:
```
students_data = { 1:['Shivam Bansal', 24] , 2:['Udit Bansal',25], 3:['Sonam Gu
pta', 26], 4:['Saif Ansari',24], 5:['Huzefa Calcuttawala',27]}

print(students_data)
```

```
{1: ['Shivam Bansal', 24], 2: ['Udit Bansal', 25], 3: ['Sonam Gupta', 26], 4:
['Saif Ansari', 24], 5: ['Huzefa Calcuttawala', 27]}
```

In [16]:
```
print(len(students_data))
```

```
5
```

In [17]:
```
#see all the details of students.
print(list(students_data.values()))
```

```
[['Shivam Bansal', 24], ['Udit Bansal', 25], ['Sonam Gupta', 26], ['Saif Ansa
ri', 24], ['Huzefa Calcuttawala', 27]]
```

In [18]:
```
students_data[6] = ['Manasi Sharma', 22]
print(students_data)
```

```
{1: ['Shivam Bansal', 24], 2: ['Udit Bansal', 25], 3: ['Sonam Gupta', 26], 4:
['Saif Ansari', 24], 5: ['Huzefa Calcuttawala', 27], 6: ['Manasi Sharma', 2
2]}
```

In [19]:
```
del students_data[2]
print(students_data)
```

```
{1: ['Shivam Bansal', 24], 3: ['Sonam Gupta', 26], 4: ['Saif Ansari', 24], 5:
['Huzefa Calcuttawala', 27], 6: ['Manasi Sharma', 22]}
```

In [20]:
```
print(list(students_data.keys()))
```

```
[1, 3, 4, 5, 6]
```