

Practical 2.2

Create a dictionary named “Students Data” with 5 students and id_no, name and marks as the key values. Provide the separate list of all the keys and values. Add details of one more student. Retrieve value corresponding to specific key through get method. Define a function update_detail(k) by looping over keys to search for specific key ‘k’ whose details to be updated and then update it with new details and return updated dictionary. If specific detail is not available in list print appropriate message. Convert dictionary’s keys into a list by looping through keys and appending it to the other list. Convert dictionary values into list through list constructor. Count and display total number of students in the dictionary. Remove all the details from the dictionary. Define a dictionary named “exam_data_array” with 4 keys, namely ‘name’, ‘score’, ‘attempts’ and ‘qualify’. Values for each of these 4 keys will be an 1D array with 5 elements. by creating a dictionary named “exam_data_list” with 5 list and each list stores all 4 key-value pairs for single student.

Create a dictionary named “Students Data” with 5 students and id_no, name and marks as the key values. Provide the separate list of all the keys and values. Add details of one more student.

```
In [153]: students_data = {"id":[8,9,23,25,13], "name":["Dev","Devarsh","Jay","Kathan","Dhruva"],"marks":[9.2,9.6,9.8,9.6,9.5]}
```

```
In [154]: keys = students_data.keys()
pairs = [students_data[x] for x in students_data]
```

```
In [155]: keys
```

```
Out[155]: dict_keys(['id', 'name', 'marks'])
```

```
In [156]: pairs
```

```
Out[156]: [[8, 9, 23, 25, 13],
['Dev', 'Devarsh', 'Jay', 'Kathan', 'Dhruva'],
[9.2, 9.6, 9.8, 9.6, 9.5]]
```

```
In [167]: students_data["id"].append(18)
students_data["name"].append("Gaurav")
students_data["marks"].append(9.55)
```

```
In [168]: students_data
```

```
Out[168]: {'id': [8, 9, 23, 25, 13, 18],
           'name': ['Dev', 'Devarsh', 'Jay', 'Kathan', 'Dhruva', 'Gaurav'],
           'marks': [9.4, 9.6, 9.8, 9.6, 9.5, 9.55]}
```

Retrieve value corresponding to specific key through get method. Define a function update_detail(k) by looping over keys to search for specific key 'k' whose details to be updated and then update it with new details and return updated dictionary. If specific detail is not available in list print appropriate message.

```
In [169]: students_data.get("id")
```

```
Out[169]: [8, 9, 23, 25, 13, 18]
```

```
In [158]: students_data.get("idk")
```

```
In [159]: def update_detail(k):
           up = 0
           if k in keys:
               newv = 9.4
               students_data[k][up] = newv
           else:
               print("Detail not available")
```

```
In [ ]: update_detail("marks")
```

```
In [170]: students_data
```

```
Out[170]: {'id': [8, 9, 23, 25, 13, 18],
           'name': ['Dev', 'Devarsh', 'Jay', 'Kathan', 'Dhruva', 'Gaurav'],
           'marks': [9.4, 9.6, 9.8, 9.6, 9.5, 9.55]}
```

Convert dictionary's keys into a list by looping through keys and appending it to the other list. Convert dictionary values into list through list constructor. Count and display total number of students in the dictionary. Remove all the details from the dictionary.

```
In [171]: ketlist = list()
           for i in students_data.keys():
               ketlist.append(i)
```

```
In [172]: ketlist
```

```
Out[172]: ['id', 'name', 'marks']
```

```
In [173]: pairlist = list(students_data.values())
```

```
In [174]: pairlist
```

```
Out[174]: [[8, 9, 23, 25, 13, 18],  
           ['Dev', 'Devarsh', 'Jay', 'Kathan', 'Dhruva', 'Gaurav'],  
           [9.4, 9.6, 9.8, 9.6, 9.5, 9.55]]
```

```
In [175]: print("Total number of students : ",len(students_data["id"]))
```

```
Total number of students : 6
```

```
In [176]: students_data.clear()
```

```
In [177]: students_data
```

```
Out[177]: {}
```

Define a dictionary named “exam_data_array” with 4 keys, namely ‘name’, ‘score’, ‘attempts’ and ‘qualify’. Values for each of these 4 keys will be an 1Darray with 5 elements. by creating a dictionary named “exam_data_list” with 5 list and each list stores all 4 key-value pairs for single student.

```
In [178]: name = ['Jainil', 'Dhyan', 'Darsh', 'Dip', 'Dhaval']  
score = [53, 57, 45, 40, 63]  
attempts = [1, 0, 1, 2, 0]  
qualify = [True, True, False, False, True]
```

```
In [179]: exam_data_array = {'name':name, 'score':score, 'attempts':attempts, 'qualify':  
                             qualify}
```

```
In [180]: exam_data_array
```

```
Out[180]: {'name': ['Jainil', 'Dhyan', 'Darsh', 'Dip', 'Dhaval'],  
           'score': [53, 57, 45, 40, 63],  
           'attempts': [1, 0, 1, 2, 0],  
           'qualify': [True, True, False, False, True]}
```

```
In [181]: exam_data_list = dict()
```

```
In [182]: for i in range(0, len(name)):  
           exam_data_list[exam_data_array["name"][i]] = [exam_data_array["score"]  
           [i], exam_data_array["attempts"][i], exam_data_array["qualify"][i]]
```

```
In [183]: exam_data_list
```

```
Out[183]: {'Jainil': [53, 1, True],  
           'Dhyan': [57, 0, True],  
           'Darsh': [45, 1, False],  
           'Dip': [40, 2, False],  
           'Dhaval': [63, 0, True]}
```