01/12/20

Assignment - 1 (Module-5)

1) what is dictionary in Python? Explain with an example.

A) python dictionary is an unordered collection of items. Each item of a dictionary has a key/value pair.

Dictionaries are optimized to retrieve values when the key is known.

creating python Dictionary:

→ Creating a dictionary is as simple as placing items inside curly braces {} separated by commas.

→ An item has a key & value expressed as a pair (key: value)

→ While the values can be of any data type and can repeat, keys must be of immutable type and must be unique.

Ex:- `my_dict = {}` # empty dictionary

`my_dict = {1: 'a', 2: 'b'}`

`my_dict = dict({1: 'a', 2: 'b'})` # using dict.

Accessing Elements from Dictionary:

-> While indexing is used with other datatypes to access values, a dictionary uses keys.

-> Keys can be used either inside square brackets [] or with get() method.

-> If we use the square brackets [], KeyError is raised in case a key is not found in the dictionary.

Ex: my_dict = {'name': 'a', 'age': 26}

print(my_dict['name'])

print(my_dict['age'])

o/p: a
26.

Changing and Adding Dictionary Elements:

-> Dictionaries are mutable.

-> We can add new items or change the value of existing items using an assignment operator.

Ex:- my_dict = {'name': 'a', 'age': 26}

my_dict['age'] = 27 # update value.

my_dict['address'] = 'hyd' # add item.

print(my_dict)

O/p: {'name': 'a', 'age': 27, 'address': 'hyd'}

2) Python Program to sum all elements in a list.

```
l,n = [], int(input('Enter no of elements:'))
print('Enter elements:')
for i in range(0,n):
    i = int(input())
    l.append(i)
print('sum of all elements in list:', sum(l))
```

o/p: Enter no. of elements: 4
Enter elements:
2
5
4
6
Sum of all elements in list: 17

3) Write a Python program to create list of empty dictionaries.

```
l = [{}]*3
print('The list of empty dictionaries is:', l)
```

o/p: The list of empty dictionaries is: [{},{},{}]

4) Write a Python program to access dictionary keys element by index.

```
d = {'a':1, 'c':2, 'b':3}
for i in d:
    print('Key value of', d[i], ':', i)
```

o/p:

Key value of 1 : a

Key value of 2 : c

Key value of 3 : b

5) Write python program to iterate over dictionaries using for loops.

```
d = {'a': 1, 'c': 2, 'b': 3}
for k in d:
    print (k, d[k])
```

o/p: a 1
c 2
b 3

6) Python program to sum all items in dictionary.

```
n = int (input('enter a n value:'))
d, s = {}, 0
for i in range(n):
    print ('Enter Key:')
    keys = input()
    print ('EnterValue:')
    values = int (input())
    d[keys] = values
print (d)
for i in d:
    s += d[i]
print ('sum:', s)
```

O/P: Enter a n value : 3

Enter key:

1

Enter value:

4

Enter key:

2

Enter value:

3

Enter key:

3

Enter value:

6

{'1': 4, '2': 3, '3': 6}

Sum = 13

7) Write a python script to concatenate following dictionaries to create a new one.

a. dic1 = {1:10, 2:20}

b. dic2 = {3:30, 4:40}

c. dic3 = {5:50, 6:60}

```
dic1 = {1:10, 2:20}
dic2 = {3:30, 4:40}
dic3 = {5:50, 6:60}
dic4 = {}
for d in [dic1, dic2, dic3]
    dic4.update(d)
print('resultant dict', dic4)
```

O/P:

resultant dict: {1:10, 2:20, 3:30, 4:40, 5:50, 6:60}