DICTIONARY

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It is a unordered collection of items where each item consists of key and value pair.

Each key is seperated from its value by colon(:)

The items are seperated by commas and the entire dictionary is enclosed within curly brackets { }

It is mutable

Syntax: dict. name = { key : value , key : value .... }

(1) Empty dictionary :
d1 = { }
print (d1) # { }

(2) Enclosed key : value pair in curly brackets
d1 = {'W' : 'Winter', 'S' : 'Summer', 'R' : 'Rainy'}
print (d1)

(3) Add item in dictionary : To add an item in dictionary we can use square bracket [ ] for accessing and intializing dictionary values

d2 = { }
print (d2) # { }
d2 ['W'] = 'Winter'
print (d2) # {'W' : 'Winter'}

```
d2['S'] = 'Summer'
print (d2) # {'W': 'Winter', 'S': 'Summer'}
d2['R'] = 'Rainy'
print (d2) # {'W': 'Winter', 'S': 'Summer', 'R': 'Rainy'}
```

5.3

Access individual value

Syntax: varname [key]

(4) Accessing item in dictionary:

```
print (d2['W'])  # Winter
print (d2['S'])  # Summer
print (d2['R'])  # Rainy
```

(5) Function in dictionary:

5.1 len(): To print total number of items present in dictionary.

Syntax: len (variable.name)

```
d5 = {'W': 'Winter', 'S': 'Summer', 'R': 'Rainy'}
print (len (d5)) # 3
```

5.2 values(): To print each value present in given dictionary

yntax: variablename.values()

```
d5 = {'W' : 'Winter' , 'S' : 'Summer' , 'R' : 'Rainy'}
print (d5.values()) # dict_value (['Winter', 'Summer',
                                   'Rainy'])
```

5.3 keys() : To print each key name present in given dictionary

Syntax: variablename.keys()

```
d5 = {'W' : 'Winter' , 'S' : 'Summer' , 'R' : 'Rainy'}
print (d5.keys()) # dict_keys (['W', 'S', 'R'])
```

(6) Change the value in dictionary :

```
d6 = {'W' : 'Winter' , 'S' : 'Summer' , 'R' : 'rainy'}
d6 ['S'] = 'School'
print (d6) #{'W' : 'Winter' , 'S' : 'School' , 'R' : 'Rainy'}
```

(7) Print all the values of dictionary using for loop

```
d7 = {'W' : 'Winter' , 'S' : 'Summer' , 'R' : 'Rainy'}
print (d7['W'])
print (d7['S'])
print (d7['R'])

d7 = {'RNO' : 9 , 'Name' : 'Raj' , 'School' : 'GIS' , 'Perc' :
      78.34}
for i in d7 :
    print (i, d7[i])
```

Output: RNO 9
Name Raj
School GIS
Perc 78.34

(8) update():

Syntax: dict1.update(dict2)

```
d8 = {'RNo':9, 'Name':'Raj', 'School':'GIS', 'Perc':78.34}
d9 = {'Name':'Pavan', 'City':'Surat'}

d8.update(d9)
print(d8) #{'Rno':9, 'Name':'Pavan', 'School':
                'GIS', 'Perc':78.34, 'City':'Surat'}

print(d9) #{'Name':'Pavan', 'City':'Surat'}
```

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```
ds.update(d9)
print(ds) # {'Rno':9, 'Name':'Pawan', 'School':'GIS',
            'Perc':78.34, 'City':'Surat'}
print(d9) # {'Name':'Pawan', 'City':'Surat'}
```

Example:
Write a program to create empty dictionary, x and do the following:

```
x = {}

# WAS to print empty dictionary.
print(x)

# WAS to add one key:value pair as State:Guj
x['State'] = 'Guj'

# WAS to add 2 key:value pair as 'City':'Surat' & 'Country':
'India' using single statement.
a = {'City':'Surat', 'Country':'India'}
x.update(a)
print(x)

# WAS to change the value from Surat to Pune.
x['City'] = Pune
print(x)

# WAS to print all the key name (suitable function)
print(x.keys())

# WAS to print all the key name (using for loop)
for i in x:
    print(i)
```

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