**2.24 Python Dictionary**

A dictionary is an associative array enclosed by a set of curly braces. Each element in a dictionary is with two parts named ***key*** and ***value***. A dictionary contains as many as such “key – value” pair in the following form:

*x= {key1 : value1 ,key2 : value2 ,key2 : value3 , . . . }*

A value can be accessed by a key. Dictionaries may be created directly or converted from sequences. Dictionaries are enclosed in curly braces {}. For example, a dictionary d created as

*d ={'city':'Paris','age':38,(102,165):'Data coordinate'}*

A list can be converted into dictionary using:

*x=dict(lst)*

Consider a list named lst as

lst=[('x1',4),('y1', 12),('x2',6),('y2', 18)]

It can be converted into a dictionary named coordinate as follows:

*coordinate=dict(lst)*

Then coordinate is a new dictionary.

coordinate ={'y1': 12, 'x2': 6, 'x1': 4, 'y2': 18}

Also, dictionaries can be easily created by zipping two sequences which are list or tuple:

*seq1 =('a','b','c','d')*

*seq2 =[1,2,3,4]*

*d =dict(zip(seq1,seq2))*

Then d is a new dictionary as

d={'a': 1,'c': 3,'b': 2,'d': 4}

The operations on dictionaries are somewhat unique. Slicing is not supported by discretionary.

Consider a dictionary d = {'Item':'Cat','Price':2000,'colour':'White'}. Then,

d.keys() =['Item', 'Price', 'colour']

d.values()=['Cat', 2000, 'White']

In a dictionary, the presence of data can be searched by following instructions:

>>>*'cat'in d*8

True

>>>*'dog'in d*8

False

We can combine two dictionaries by using the update method of the primary dictionary. Note that the update method will merge existing elements if they conflict. Go through the following interaction:

>>>*d ={'apples': 1,'oranges': 3,'pears': 2}*8

>>>*ud={'pears': 4,'grapes': 5,'lemons': 6}*8

>>>*d.update(ud)*8

Then d become

{'grapes': 5,'pears': 4,'lemons': 6,'apples': 1,'oranges': 3}

To remove the item, grapes, from the above dictionary use

>>>*del d[‘grapes’]*8

We can call a value by giving the key

>>>*d[‘apples’]* 8

1

>>>*d[‘grapes’]*8

5