

4.3 DICTIONARIES

Dictionaries is an unordered collection of items. Dictionaries are a kind of hash table. The value of a dictionary can be accessed by a key. Dictionaries are enclosed by curly braces '{ }' and values can be accessed using square braces '[']'

Syntax:

```
dict_name= {key: value}
```

A Key can be any Immutable type like String, Number, Tuple. A value can be any datatype. The values can be repeated and the keys should not be repeated.

Ex:

```
>>>dict1={}
>>>dict2={1:10,2:20,3:30}
>>>dict3={'A':'apple','B':'200'}
>>>dict4={(1,2,3):'A',(4,5):'B'}
>>>dict5=[[1,2,3]:'A',[4,5]:'B'] #Error, Only Immutable types can be assigned in Keys
```

4.3.1 ACCESS, UPDATE, ADD, DELETE ELEMENTS IN DICTIONARY:

Accessing Values in Dictionary

To access dictionary elements, you can use the familiar square brackets along with the key to obtain its value.

Ex:

```
>>>d={'name':'xyz','age':23}
>>>d['name'] →'xyz' # since 'name' is a String datatype, it should be represented within quotes
>>>d[name] → shows error
```

By get()method

```
>>>d.get('name') → 'xyz'
```

Update Values in Dictionary: You can update a dictionary by adding a new entry or a key-value pair, modifying an existing entry.

Ex:

```
>>> d={'name':'xyz','age':23}
>>> print(d) → {' name':'xyz','age':23}
>>> d['age']=24 #modifying existing element
>>> print(d) → {' name':'xyz','age':23}
```

By update method

```
>>> d1={'place':'abc'}
>>> d.update(d1)
print(d) → {'place':'abc',' name':'xyz','age':23}
```

Adding Values in Dictionary

```
>>> d['gender']='m' #Adding new entry
>>> print(d) → {'gender':'m', 'place':'abc',' name':'xyz','age':23}
```

Deleting or Removing Values in Dictionary

You can either remove individual dictionary elements or clear the entire contents of a dictionary.

```
>>> del d['name'] → {'gender':'m', 'place':'abc','age':23}
>>> d.clear() # remove all entries in dictionary
>>> del d #delete entire dictionary
```