Training Day - 15

Dictionary:

1. Dictionary is a collection of heterogeneous data types.
2. Dictionary is a collection of key-value pairs. One key-value pair is called one item.
3. Dictionary is mutable in nature
4. Dictionary can have only unique keys ie can't have duplicate keys.
5. Dictionary is a collection of unordered items. Dictionary elements don't have direct index.

Syntax:
{comma separated key-value pairs}
dict_var={key1:value1,key2:value2,key3:value3....}

Syntax to access elements of a dictionary:
dict_var[key]

```
# #New Program
# d={1:10,2:50,"CETPA":80,90:"ABC",50:[2,3,4]}
# print(d[1])
# print(d["CETPA"])
# print(d[50])

# #New Program: Aditi says if duplicate keys are there
# d={1:10,2:20,3:30,2:50,4:40,2:80}
# print(d)

# #New Program
# d={1:10,2:20,3:30}      #d address 1000
# print(d,id(d))
# d[2]=80             #d address 1000
# print(d,id(d))
```

Benefit of using dictionary:

In real life, in almost all cases, we are not aware about the index of a data rather we are aware about the actual data elements. Now if data is stored in a list or tuple, and if we want to find the index of a particular element and in case the element is far away from starting or end point, then it takes a lot of time to search the element in a big data. But the better approach can be, we can store the data in a dictionary and can make the unique values of data as a key like customer id, employee id, student roll no etc. And now if we are aware about the key, we can immediately access the data element.

cus_dict={10:["Vikas",39,9212468020],20:["Anil",41,9654444252],...}
id=20
print(cus_dict[id])

In dictionary, the keys are first converted to hash codes,

```
List
L=[10,20,30,40]
"""
# L=[10,20,30,40,50,60,70]      #40 index
```