

```
In [77]: print("DICTIONARY")

#duplicate not allowed
dict_1 = {
    "fname" : "Sharmin",
    "lname" : "Akhter",
    "dept" : "CSE",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY =", dict_1)
```

DICTIONARY

```
DICTIONARY = {'fname': 'Sharmin', 'lname': 'Akhter', 'dept': 'CSE', 'color':
['black', 'white', 'red']}
```

```
In [78]: print("DICTIONARY - LENGTH & TYPE ")

#duplicate not allowed
dict_1 = {
    "fname" : "Sharmin",
    "lname" : "Akhter",
    "dept" : "CSE",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY\t\t=", dict_1)
print("\nLENGTH OF DICTIONARY\t=", len(dict_1))
print("\nTYPE OF DICTIONARY\t=", type(dict_1))
print("\nLENGTH OF COLOR\t\t=", len(dict_1["color"]))
print("\nTYPE OF COLOR\t\t=", type(dict_1["color"]))
```

DICTIONARY - LENGTH & TYPE

```
DICTIONARY = {'fname': 'Sharmin', 'lname': 'Akhter', 'dept': 'CSE', 'color': ['black', 'white', 'red']}
```

```
LENGTH OF DICTIONARY = 4
```

```
TYPE OF DICTIONARY = <class 'dict'>
```

```
LENGTH OF COLOR = 3
```

```
TYPE OF COLOR = <class 'list'>
```

```
In [101]: print("DICTIONARY - ACCESSING ELEMENT OF DICTIONARY ")

#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

# for item in dict_1['color']:
#     print(item.upper())

print("\nDICTIONARY\t\t=", dict_1)
print("\nFIRST NAME\t\t=", dict_1['fname'].upper())
print("\nLAST NAME\t\t=", dict_1['lname'].upper())
print("\nFULL NAME\t\t=", dict_1['fname'].upper(),dict_1['lname'].upper ())
print("\nDEPARTMENT\t\t=", dict_1['dept'].upper())
print("\nSEMESTER\t\t=", dict_1["sem"])
print("\nFAVOURITE COLOUR\t=", dict_1['color'][0].upper(),dict_1['color'][1].u
print("\nFAVOURITE COLOUR\t=", dict_1['color'])
print("\nFAVOURITE COLOUR\t=", dict_1['color'][0:3])
print("\nFAVOURITE COLOUR\t=", dict_1['color'][0].upper())

#using get() method
print("\n\n\nPRINT USING GET METHOD")
print("\nFIRST NAME\t\t=", dict_1.get("fname").upper())
print("\nLAST NAME\t\t=", dict_1.get("lname").upper())
print("\nFULL NAME\t\t=", dict_1.get("fname").upper(),dict_1.get("lname").upper
print("\nDEPARTMENT\t\t=", dict_1.get("dept").upper())
print("\nSEMESTER\t\t=", dict_1.get("sem").upper())
print("\nFAVOURITE COLOUR\t=", dict_1.get("color")[2].upper())
```

## DICTIONARY - ACCESSING ELEMENT OF DICTIONARY

```
DICTIONARY = {'fname': 'sharmin', 'lname': 'akhter', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}
```

```
FIRST NAME = SHARMIN
```

```
LAST NAME = AKHTER
```

```
FULL NAME = SHARMIN AKHTER
```

```
DEPARTMENT = CSE
```

```
SEMESTER = 10th
```

```
FAVOURITE COLOUR = BLACK WHITE RED
```

```
FAVOURITE COLOUR = ['black', 'white', 'red']
```

```
FAVOURITE COLOUR = ['black', 'white', 'red']
```

```
FAVOURITE COLOUR = BLACK
```

## PRINT USING GET METHOD

```
FIRST NAME = SHARMIN
```

```
LAST NAME = AKHTER
```

```
FULL NAME = SHARMIN AKHTER
```

```
DEPARTMENT = CSE
```

```
SEMESTER = 10TH
```

```
FAVOURITE COLOUR = RED
```

In [85]: `print("DICTIONARY - ACCESSING ELEMENT OF DICTIONARY USING FOR IN LOOP")`

```
#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept"  : "cse",
    "sem"   : "10th",
    "color" : ["black", "white", "red"]
}
for item in dict_1['color']:
    print("\nELEMENT =", item.upper())

for num in range(3):
    print("\nELEMENT =", dict_1["color"][num].capitalize())
```

DICTIONARY - ACCESSING LIST OF DICTIONARY USING FOR IN LOOP

ELEMENT = BLACK

ELEMENT = WHITE

ELEMENT = RED

ELEMENT = Black

ELEMENT = White

ELEMENT = Red

```
In [89]: print("DICTIONARY - CHECKING ELEMENT'S EXISTENCE")

#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY =", dict_1)
print("\nFAVOURITE COLOUR\t=", dict_1['color'][0].upper(),dict_1['color'][1].u
color = dict_1["color"]

#CHECKING IS BLUE AVAILABLE IN LIST OR NOT
count = 0
for item in color:
    if item == "blue":
        count += 1
if count == 0:
    print ("\nBLUE IS NOT EXIST.")
else:
    print ("\nBLUE IS NOT EXIST.")

#CHECKING BLACK, WHITE, RED IS AVAILABLE OR NOT
for item in color:
    if item == "black" or item == "white" or item == "red":
        print ("\n"+item.upper() , "IS EXIST.")
    if item != "black" and item != "white" and item != "red":
        print ("\n"+item.upper() , "IS NOT EXIST.")
```

DICTIONARY - CHECKING ELEMENT'S EXISTENCE

DICTIONARY = {'fname': 'sharmin', 'lname': 'akhter', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}

FAVOURITE COLOUR = BLACK WHITE RED

BLUE IS NOT EXIST.

BLACK IS EXIST.

WHITE IS EXIST.

RED IS EXIST.

In [6]: `print("DICTIONARY - GETTING KEY LIST OF DICTIONARY")`

```
#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY =", dict_1)

#ACCESSING KEYS OF THE DICTIONARY
key_item = dict_1.keys()
print("\n\n\nKEYS OF THE DICTIONARY ")
print("\nKEYS OF DICTIONARY\t=", key_item)
print("\nTYPE OF KEYS\t\t=", type(key_item))
print("\nLENGTH OF KEYS\t\t=", len(key_item))

print("\n\n\nCONVERTING DICT KEYS INTO LIST")

key_item_list = list(key_item)
print("\nKEYS OF DICTIONARY\t=", key_item_list)
print("\nTYPE OF KEYS\t\t=", type(key_item_list))
print("\nLENGTH OF KEYS\t\t=", len(key_item_list))
print("\n1st INDEX OF LIST\t=", key_item_list[0])
print("\n2nd INDEX OF LIST\t=", key_item_list[1])
print("\n3rd INDEX OF LIST\t=", key_item_list[2])

#ADDING NEW KEY VALUE PAIR
dict_1["id"] = 201071054

#AFTER ADDING KEYS WILL BE CHANGED
print("\n\n\nKEYS AFTER CHANGING ")

print("\nKEYS OF DICTIONARY\t=", key_item)
print("\nTYPE OF KEYS\t\t=", type(key_item))
print("\nLENGTH OF KEYS\t\t=", len(key_item))
```

## DICTIONARY - GETTING KEY LIST OF DICTIONARY

```
DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'cse', 'sem':  
'10th', 'color': ['black', 'white', 'red']}
```

## KEYS OF THE DICTIONARY

```
KEYS OF DICTIONARY      = dict_keys(['fname', 'lname ', 'dept', 'sem', 'colo  
r'])
```

```
TYPE OF KEYS            = <class 'dict_keys'>
```

```
LENGTH OF KEYS         = 5
```

## CONVERTING DICT KEYS INTO LIST

```
KEYS OF DICTIONARY      = ['fname', 'lname ', 'dept', 'sem', 'color']
```

```
TYPE OF KEYS            = <class 'list'>
```

```
LENGTH OF KEYS         = 5
```

```
1st INDEX OF LIST       = fname
```

```
2nd INDEX OF LIST       = lname
```

```
3rd INDEX OF LIST       = dept
```

## KEYS AFTER CHANGING

```
KEYS OF DICTIONARY      = dict_keys(['fname', 'lname ', 'dept', 'sem', 'colo  
r', 'id'])
```

```
TYPE OF KEYS            = <class 'dict_keys'>
```

```
LENGTH OF KEYS         = 6
```

```
In [13]: print("DICTIONARY - GETTING VALUE LIST OF DICTIONARY")

#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY =", dict_1)

#ACCESSING VALUES OF THE DICTIONARY
value_item = dict_1.values()
print("\n\nVALUES OF THE DICTIONARY ")
print("\nVALUES OF DICTIONARY\t=", value_item)
print("\nTYPE OF VALUES\t\t=", type(value_item))
print("\nLENGTH OF VALUES\t=", len(value_item))

print("\n\nCONVERTING DICT VALUES INTO LIST")

value_item_list = list(value_item)
print("\nVALUES OF DICTIONARY\t=", value_item_list)
print("\nTYPE OF VALUES\t\t=", type(value_item_list))
print("\nLENGTH OF VALUES\t=", len(value_item_list))
print("\n1st INDEX OF LIST\t=", value_item_list[0])
print("\n2nd INDEX OF LIST\t=", value_item_list[1])
print("\n3rd INDEX OF LIST\t=", value_item_list[2])
print("\nCOLORS OF LIST\t\t=", value_item_list[4])
print("\n1ST COLOR\t\t=", value_item_list[4][0])
print("\n2ND COLOR\t\t=", value_item_list[4][1])
print("\n3RD COLOR\t\t=", value_item_list[4][2])

#ADDING NEW KEY VALUE PAIR
dict_1["id"] = 201071054

#AFTER ADDING VALUES WILL BE CHANGED
print("\n\nVALUES AFTER CHANGING ")

print("\nVALUES OF DICTIONARY\t=", value_item)
print("\nTYPE OF VALUES\t\t=", type(value_item))
print("\nLENGTH OF VALUES\t=", len(value_item))
```



## DICTIONARY - GETTING VALUE LIST OF DICTIONARY

```
DICTIONARY = {'fname': 'sharmin', 'lname': 'akhter', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}
```

## VALUES OF THE DICTIONARY

```
VALUES OF DICTIONARY = dict_values(['sharmin', 'akhter', 'cse', '10th', ['black', 'white', 'red']])
```

```
TYPE OF VALUES = <class 'dict_values'>
```

```
LENGTH OF VALUES = 5
```

## CONVERTING DICT VALUES INTO LIST

```
VALUES OF DICTIONARY = ['sharmin', 'akhter', 'cse', '10th', ['black', 'white', 'red']]
```

```
TYPE OF VALUES = <class 'list'>
```

```
LENGTH OF VALUES = 5
```

```
1st INDEX OF LIST = sharmin
```

```
2nd INDEX OF LIST = akhter
```

```
3rd INDEX OF LIST = cse
```

```
COLORS OF LIST = ['black', 'white', 'red']
```

```
1ST COLOR = black
```

```
2ND COLOR = white
```

```
3RD COLOR = red
```

## VALUES AFTER CHANGING

```
VALUES OF DICTIONARY = dict_values(['sharmin', 'akhter', 'cse', '10th', ['black', 'white', 'red'], 201071054])
```

```
TYPE OF VALUES = <class 'dict_values'>
```

```
LENGTH OF VALUES = 6
```



```
In [33]: print("DICTIONARY - GETTING ITEM LIST OF DICTIONARY")

#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY =", dict_1)

#ACCESSING ITEMS OF THE DICTIONARY
item = dict_1.items()
print("\n\n\nITEMS OF THE DICTIONARY ")
print("\nITEMS OF DICTIONARY\t=", item)
print("\nTYPE OF ITEMS\t\t=", type(item))
print("\nLENGTH OF ITEMS\t\t=", len(item))

print("\n\n\nCONVERTING DICT ITEMS INTO LIST")

item_list = list(item)
print("\nITEMS OF DICTIONARY\t=", item_list)
print("\nTYPE OF ITEMS\t\t=", type(item_list))
print("\nLENGTH OF ITEMS\t\t=", len(item_list))
print("\n1st INDEX OF LIST\t=", item_list[0])
print("\n2nd INDEX OF LIST\t=", item_list[1])
print("\n3rd INDEX OF LIST\t=", item_list[2])
print("\n4TH INDEX OF LIST\t=", item_list[3])
print("\n5TH INDEX OF LIST\t=", item_list[4])
print("\n1ST ELEMENT OF INDEX 1\t=", item_list[0][0])
print("\n2ND ELEMENT OF INDEX 1\t=", item_list[0][1])
print("\n1ST ELEMENT OF INDEX 2\t=", item_list[1][0])
print("\n2ND ELEMENT OF INDEX 2\t=", item_list[1][1])
print("\n1ST ELEMENT OF INDEX 3\t=", item_list[2][0])
print("\n2ND ELEMENT OF INDEX 3\t=", item_list[2][1])
print("\n1ST ELEMENT OF INDEX 5\t=", item_list[4][0])
print("\n2ND ELEMENT OF INDEX 5\t=", item_list[4][1])
print("\n1ST ELEMENT OF COLORS\t=", item_list[4][1][0])
print("\n2ND ELEMENT OF COLORS\t=", item_list[4][1][1])
print("\n3RD ELEMENT OF COLORS\t=", item_list[4][1][2])

#ADDING NEW KEY VALUE PAIR
dict_1["id"] = 201071054

#AFTER ADDING ITEMS WILL BE CHANGED
print("\n\n\nITEMS AFTER CHANGING ")

print("\nITEMS OF DICTIONARY\t=", item)
print("\nTYPE OF ITEMS\t\t=", type(item))
print("\nLENGTH OF ITEMS\t\t=", len(item))
```



## DICTIONARY - GETTING ITEM LIST OF DICTIONARY

```
DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}
```

## ITEMS OF THE DICTIONARY

```
ITEMS OF DICTIONARY = dict_items([('fname', 'sharmin'), ('lname ', 'akhter'), ('dept', 'cse'), ('sem', '10th'), ('color', ['black', 'white', 'red'])])
```

```
TYPE OF ITEMS = <class 'dict_items'>
```

```
LENGTH OF ITEMS = 5
```

## CONVERTING DICT ITEMS INTO LIST

```
ITEMS OF DICTIONARY = [('fname', 'sharmin'), ('lname ', 'akhter'), ('dept', 'cse'), ('sem', '10th'), ('color', ['black', 'white', 'red'])]
```

```
TYPE OF ITEMS = <class 'list'>
```

```
LENGTH OF ITEMS = 5
```

```
1st INDEX OF LIST = ('fname', 'sharmin')
```

```
2nd INDEX OF LIST = ('lname ', 'akhter')
```

```
3rd INDEX OF LIST = ('dept', 'cse')
```

```
4TH INDEX OF LIST = ('sem', '10th')
```

```
5TH INDEX OF LIST = ('color', ['black', 'white', 'red'])
```

```
1ST ELEMENT OF INDEX 1 = fname
```

```
2ND ELEMENT OF INDEX 1 = sharmin
```

```
1ST ELEMENT OF INDEX 2 = lname
```

```
2ND ELEMENT OF INDEX 2 = akhter
```

```
1ST ELEMENT OF INDEX 3 = dept
```

```
2ND ELEMENT OF INDEX 3 = cse
```

```
1ST ELEMENT OF INDEX 5 = color
```

```
2ND ELEMENT OF INDEX 5 = ['black', 'white', 'red']
```

```
1ST ELEMENT OF COLORS = black
```

```
2ND ELEMENT OF COLORS = white
```

3RD ELEMENT OF COLORS = red

ITEMS AFTER CHANGING

ITEMS OF DICTIONARY = dict\_items([('fname', 'sharmin'), ('lname ', 'akhter'), ('dept', 'cse'), ('sem', '10th'), ('color', ['black', 'white', 'red']), ('id', 201071054)])

TYPE OF ITEMS = <class 'dict\_items'>

LENGTH OF ITEMS = 6

In [47]: `print("DICTIONARY - CHECKING KEY'S EXISTENCY")`

```
#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname " : "akhter",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY =", dict_1)

#Using if statement key can
if "fname" in dict_1:
    print("\nfname IS EXIST")

#using for in loop
key_item = dict_1.keys()
key_item_list = list(key_item)
for item in key_item_list:
    if item == "color":
        print("\n\""+item.upper()+"\" IS EXIST")
```

DICTIONARY - CHECKING KEY'S EXISTENCY OF DICTIONARY

DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}

fname IS EXIST

"COLOR" IS EXIST

In [49]: `print("DICTIONARY - CHECKING VALUE'S EXISTENCY ")`

```
#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY =", dict_1)

#using for in loop
value_item = dict_1.values()
value_item_list = list(value_item)
for item in value_item_list:
    if item == "cse":
        print("\n"+" "+item.upper()+" " IS EXIST")
```

DICTIONARY - CHECKING VALUE'S EXISTENCY OF DICTIONARY

DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}

"CSE" IS EXIST

```
In [55]: print("DICTIONARY - CHANGING VALUES")

#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept" : "cse",
    "sem" : "9th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY\t=", dict_1)

#USING key
dict_1["dept"] = "CSE"
print("\nAFTER CHANGING\t=", dict_1)

#USING UPDATE METHOD
dict_1.update({"sem" : "10th"})
print("\nAFTER CHANGING\t=", dict_1)
```

DICTIONARY - CHANGING VALUES OF DICTIONARY

DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'cse', 'se  
m': '9th', 'color': ['black', 'white', 'red']}

AFTER CHANGING = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'CSE', 'se  
m': '9th', 'color': ['black', 'white', 'red']}

AFTER CHANGING = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'CSE', 'se  
m': '10th', 'color': ['black', 'white', 'red']}



```
In [58]: print("DICTIONARY - ADDING ITEMS")

#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "dept" : "cse",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY\t=", dict_1)

dict_1["id"] = "201071054"
print("\nDICTIONARY\t=", dict_1)

#USING UPDATE
dict_1.update({"sem" : "9th"})
print("\nDICTIONARY\t=", dict_1)
```

DICTIONARY - ADDING ITEMS

DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'cse', 'color': ['black', 'white', 'red']}

DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'cse', 'color': ['black', 'white', 'red'], 'id': '201071054'}

DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'dept': 'cse', 'color': ['black', 'white', 'red'], 'id': '201071054', 'sem': '9th'}

In [72]: `print("DICTIONARY - REMOVING ITEMS, CLEARING, DELETING")`

```
#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "id"     : "201071054",
    "dept"   : "cse",
    "sem"    : "10th",
    "color"  : ["black", "white", "red"]
}

print("\nDICTIONARY\t=", dict_1)

#REMOVING ITEM USING POP()
dict_1.pop("color")
print("\nAFTER POOPING(COLOR)\t=", dict_1)

#REMOVING ITEM USING POPITEM (REMOVE LAST ITEM)
dict_1.popitem()
print("\nAFTER POOPITEM()\t=", dict_1)

#REMOVING ITEM USING DELETE
del dict_1["dept"]
print("\nAFTER DELETING(DEPT)\t=", dict_1)

#CLEARING ITEMS
dict_1.clear()
print("\nAFTER CLEARING\t\t=", dict_1)

#DELETING DICTIONARY
del dict_1
print("\nAFTER DELETING\t=", dict_1)
```

DICTIONARY - REMOVING ITEMS, CLEARING, DELETING

DICTIONARY = {'fname': 'sharmin', 'lname ': 'akhter', 'id': '201071054', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}

AFTER POOPING(COLOR) = {'fname': 'sharmin', 'lname ': 'akhter', 'id': '201071054', 'dept': 'cse', 'sem': '10th'}

AFTER POOPITEM() = {'fname': 'sharmin', 'lname ': 'akhter', 'id': '201071054', 'dept': 'cse'}

AFTER DELETING(DEPT) = {'fname': 'sharmin', 'lname ': 'akhter', 'id': '201071054'}

AFTER CLEARING = {}

---

```
NameError                                Traceback (most recent call last)
Cell In[72], line 33
      31 #DELETING DICTIONARY
      32 del dict_1
----> 33 print("\nAFTER DELETING\t=", dict_1)

NameError: name 'dict_1' is not defined
```

In [81]: `print("DICTIONARY - KEYS NAME WITH FOR-IN LOOP")`

```
#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "id"     : "201071054",
    "dept"   : "cse",
    "sem"    : "10th",
    "color"  : ["black", "white", "red"]
}

print("\nDICTIONARY=", dict_1)

#keys with fro in loop
print("\n\nKEYS NAME PRINTING")
for key in dict_1:
    print("\nKEY ELEMENT =", key)

print("\n\nKEYS NAME PRINTING")
for key in dict_1.keys():
    print("\nKEY ELEMENT =", key)
```

DICTIONARY - KEYS NAME WITH FOR-IN LOOP

```
DICTIONARY= {'fname': 'sharmin', 'lname ': 'akhter', 'id': '201071054', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}
```

KEYS NAME PRINTING

KEY ELEMENT = fname

KEY ELEMENT = lname

KEY ELEMENT = id

KEY ELEMENT = dept

KEY ELEMENT = sem

KEY ELEMENT = color

KEYS NAME PRINTING

KEY ELEMENT = fname

KEY ELEMENT = lname

KEY ELEMENT = id

KEY ELEMENT = dept

KEY ELEMENT = sem

KEY ELEMENT = color

In [82]: `print("DICTIONARY - VALUES WITH FOR-IN LOOP")`

```
#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "id"     : "201071054",
    "dept"   : "cse",
    "sem"     : "10th",
    "color"  : ["black", "white", "red"]
}

print("\nDICTIONARY=", dict_1)

#values with fro in loop
print("\n\nVALUES PRINTING")
for value in dict_1:
    print("\nVALUE ELEMENT =", dict_1[value])

print("\n\nVALUES PRINTING")
for value in dict_1.values():
    print("\nVALUE ELEMENT =", value)
```

## DICTIONARY - VALUES WITH FOR-IN LOOP

```
DICTIONARY= {'fname': 'sharmin', 'lname ': 'akhter', 'id': '201071054', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}
```

## VALUES PRINTING

```
VALUE ELEMENT = sharmin
```

```
VALUE ELEMENT = akhter
```

```
VALUE ELEMENT = 201071054
```

```
VALUE ELEMENT = cse
```

```
VALUE ELEMENT = 10th
```

```
VALUE ELEMENT = ['black', 'white', 'red']
```

## VALUES PRINTING

```
VALUE ELEMENT = sharmin
```

```
VALUE ELEMENT = akhter
```

```
VALUE ELEMENT = 201071054
```

```
VALUE ELEMENT = cse
```

```
VALUE ELEMENT = 10th
```

```
VALUE ELEMENT = ['black', 'white', 'red']
```

```

In [102]: print("DICTIONARY - KEYS PROGRAM")

#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "name" : "sharmin akhter",
    "id" : "201071054",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY=", dict_1)

key_item = dict_1.keys()
print("\n")
print(key_item)
key_item_list = list(key_item)
print("\n")
print(key_item_list)

for item in range(len(key_item_list)):
    if key_item_list[item] == "name":
        print("\n")
        print(key_item_list[item], "exist")

for item in key_item:
    if item == "fname":
        print("\n")
        print(item , "exist")

```

DICTIONARY - KEYS PROGRAM

DICTIONARY= {'fname': 'sharmin', 'lname ': 'akhter', 'name': 'sharmin akhte  
r', 'id': '201071054', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'whit  
e', 'red']}

dict\_keys(['fname', 'lname ', 'name', 'id', 'dept', 'sem', 'color'])

['fname', 'lname ', 'name', 'id', 'dept', 'sem', 'color']

name exist

fname exist



```
In [103]: print("DICTIONARY - VALUES PROGRAM")

#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "name" : "sharmin akhter",
    "id" : "201071054",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY=", dict_1)

value_item = dict_1.values()
print("\n")
print(key_item)
value_item_list = list(value_item)
print("\n")
print(value_item_list)

for item in range(len(value_item_list)):
    if value_item_list[item] == "sharmin":
        print("\n")
        print(value_item_list[item], "exist")

for item in value_item:
    if item == "cse":
        print("\n")
        print(item , "exist")
```

DICTIONARY - VALUES PROGRAM

```
DICTIONARY= {'fname': 'sharmin', 'lname ': 'akhter', 'name': 'sharmin akhte
r', 'id': '201071054', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'whit
e', 'red']}
```

```
dict_keys(['fname', 'lname ', 'name', 'id', 'dept', 'sem', 'color'])
```

```
['sharmin', 'akhter', 'sharmin akhter', '201071054', 'cse', '10th', ['black',
'white', 'red']]
```

```
sharmin exist
```

```
cse exist
```

In [108]: `print("DICTIONARY - ITEM PROGRAM")`

```
#duplicate not allowed
dict_1 = {
    "fname" : "sharmin",
    "lname" : "akhter",
    "name" : "sharmin akhter",
    "id" : "201071054",
    "dept" : "cse",
    "sem" : "10th",
    "color" : ["black", "white", "red"]
}

print("\nDICTIONARY=", dict_1)

item = dict_1.items()
print("\n")
print(item)

for key, value in item:
    print("\n")
    print(key.upper(),value)
```

DICTIONARY - ITEM PROGRAM

DICTIONARY= {'fname': 'sharmin', 'lname ': 'akhter', 'name': 'sharmin akhter', 'id': '201071054', 'dept': 'cse', 'sem': '10th', 'color': ['black', 'white', 'red']}

dict\_items([('fname', 'sharmin'), ('lname ', 'akhter'), ('name', 'sharmin akhter'), ('id', '201071054'), ('dept', 'cse'), ('sem', '10th'), ('color', ['black', 'white', 'red'])])

FNAME sharmin

LNAME akhter

NAME sharmin akhter

ID 201071054

DEPT cse

SEM 10th

COLOR ['black', 'white', 'red']

