

# UNDERSTAND PROGRAMMING CONCEPTS ( WITH PYTHON )

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To learn python:

[www.pythonclassroomdiary.wordpress.in](http://www.pythonclassroomdiary.wordpress.in)

To practice python:

[www.testpythonknowledge.wordpress.com](http://www.testpythonknowledge.wordpress.com)



## DICTIONARY IN PYTHON

[www.pythonclassroomdiary.wordpress.com](http://www.pythonclassroomdiary.wordpress.com)

# PYTHON DICTIONARY

- Python dictionary is an unordered collection of items that is changeable. Dictionaries are written with curly brackets, and they have keys and values pair as data item.

```
Fee_Qtr1={1: "Apr",2:"Jul", 3: "Sep", 4:"Dec"}
```

Here **1,2,3,4** are keys and **Apr , Jul, Sep & Dec** are Values

# Characteristics of Dictionary

- 1. Unordered Set
- 2. Not a Sequence because it is unordered
- 3. Keys must be unique
- 4. Only Immutable data types can be selected for keys.
- 5. Dictionary is mutable datatype
- 6. Key : Values are mapped

# CREATING EMPTY DICTIONARY

Dict={}

or

Dict1=dict()

# CREATING DICTIONARIES

## BY INITIALIZING:

```
>>>STUDENT1 = { 'RNO' : 101 , 'NAME' : 'LATA' , 'CLASS' : 'XI' }
```

## BY ADDING KEY VALUE PAIR AFTER CREATING EMPTY DICTIONARY

```
>>> STUDENT1={ }
```

```
>>>STUDENT1['RNO'] = 101
```

```
>>>STUDENT1['NAME'] = 'LATA'
```

```
>>> STUDENT1={'RNO' : 101 , 'NAME' : 'LATA' , 'CLASS' : 'XI' }  
>>> STUDENT1  
{'RNO': 101, 'NAME': 'LATA', 'CLASS': 'XI'}
```

## How to create DICTIONARY by taking input at run time.

```
D={ }

nm=input("Enter name of employee")
sal=input("Enter Salary ")
post=input("Enter post of Employee")
D['Name']=nm
D['Sal']=sal
D['Post']=post

print("You have successfully created Dictionary:\n ",D)
```

```
Enter name of employeeJatin
Enter Salary 67000
Enter post of EmployeeManager
You have successfully created Dictionary:
  {'Name': 'Jatin', 'Sal': '67000', 'Post': 'Manager'}
>>> |
```

# UPDATING DICTIONARY

```
>>> STUDENT1={ 'RNO' : 101 , 'NAME' : 'LATA' , 'CLASS' : 'XI' }  
>>> STUDENT1  
{ 'RNO': 101, 'NAME': 'LATA', 'CLASS': 'XI' }  
>>>
```

**STUDENT1['NAME'] = 'MEETA'**

```
>>> STUDENT1['NAME'] = 'MEETA'  
>>> STUDENT1  
{ 'RNO': 101, 'NAME': 'MEETA', 'CLASS': 'XI' }  
>>> |
```

# DELETING DICTIONARY ELEMENT

- 1. **del <dictionary\_name>[key]**

```
>>> del STUDENT1 ['CLASS']
```

```
>>> STUDENT1
{'RNO': 101, 'NAME': 'MEETA', 'CLASS': 'XI'}
>>> del STUDENT1['CLASS']
>>> STUDENT1
{'RNO': 101, 'NAME': 'MEETA'}
>>>
```

- 2. **<dictionary>.pop(key)**

```
>>> STUDENT1.pop('CLASS')
```

```
>>> STUDENT1={'RNO': 101, 'NAME': 'MEETA', 'CLASS': 'XI'}
>>> STUDENT1.pop('CLASS')
'XI'
>>> STUDENT1
{'RNO': 101, 'NAME': 'MEETA'}
>>>
```



# WHAT HAPPENED IF **WRONG KEY** IS GIVEN while DELETing OR ACCESS

```
>>>
>>> STUDENT1={'RNO': 101, 'NAME': 'MEETA', 'CLASS': 'XI'}
>>> STUDENT1['SCHOOL']
Traceback (most recent call last):
  File "<pyshell#11>", line 1, in <module>
    STUDENT1['SCHOOL']
KeyError: 'SCHOOL'

Traceback (most recent call last):
  File "<pyshell#12>", line 1, in <module>
    STUDENT1.pop('RESULT')
KeyError: 'RESULT'
>>> |
```

## DICTIONARY METHODS :

- `clear()`
- `get()`
- `keys()`
- `values()`
- `update()`

## Clear () – to remove all key: value from dictionary

```
>>> dict1={1:'mon', 2:'tue', 3:'wed', 4:'thu', 5:'fri', 6:'sat', 7:'sun'}
>>> dict1
{1: 'mon', 2: 'tue', 3: 'wed', 4: 'thu', 5: 'fri', 6: 'sat', 7: 'sun'}
>>> dict1.clear()
>>> dict1
{}
>>> |
```

get() – is used to get the value from the key

```
>>>  
>>> dict1={1:'mon', 2:'tue', 3:'wed', 4:'thu', 5:'fri', 6:'sat', 7:'sun'}  
>>> dict1.get(5)  
'fri'  
>>> dict1.get(2)  
'tue'  
>>>
```

keys() : it returns all the available keys from dictionary

```
'''  
>>> dict1={1:'mon', 2:'tue', 3:'wed', 4:'thu', 5:'fri', 6:'sat', 7:'sun'}  
>>> dict1.keys()  
dict keys([1, 2, 3, 4, 5, 6, 7])  
>>> |
```

values() : it returns all the available values from dictionary

```
>>>
>>> dict1={1:'mon', 2:'tue', 3:'wed', 4:'thu', 5:'fri', 6:'sat', 7:'sun'}
>>> dict1.keys()
dict_keys([1, 2, 3, 4, 5, 6, 7])
>>> dict1.values()
dict_values(['mon', 'tue', 'wed', 'thu', 'fri', 'sat', 'sun'])
>>> [
```

## Update(): it combines another dictionary with current dictionary

```
>>> stud1={'rno':1, 'Name':'Dhruvika', 'Class':1}
>>> marks={'eng':80, 'hin':89, 'maths':98, 'evs':78}
>>> stud1
{'rno': 1, 'Name': 'Dhruvika', 'Class': 1}
>>> marks
{'eng': 80, 'hin': 89, 'maths': 98, 'evs': 78}
>>> stud1.update(marks)
>>> stud1
{'rno': 1, 'Name': 'Dhruvika', 'Class': 1, 'eng': 80, 'hin': 89, 'maths': 98, 'evs': 78}
>>> |
```

# DICTIONARY WITH MEMBERSHIP OPERATORS ( in , not in)

```
Dict1= { 1: 'jan' , 2:'feb' , 3:'mar' }
```

<b>'jan' in Dict1</b>	
<b>2 in 'Dict1'</b>	
<b>2 in Dict1'</b>	
<b>'mar' not in Dict1</b>	



# TRAVERSING A DICTIONARY

(VISITING EACH ELEMENT)

```
>>> dict1={'name':'Pihu','age':5,'relation':'sister'}
>>> for i in dict1:
    print(i)
```

name

age

relation

```
>>> for i in dict1.keys():
    print(i)
```

name

age

relation

# TRaversING A DICTIONARY

(VISITING EACH ELEMENT)

```
>>> dict1={'name':'Pihu','age':5,'relation':'sister'}
>>> for i in dict1:
    print(i)
```

```
>>> for i in dict1.values():
    print(i)
```

Pihu

5

sister

```
>>> |
```

# NESTED DICTIONARY

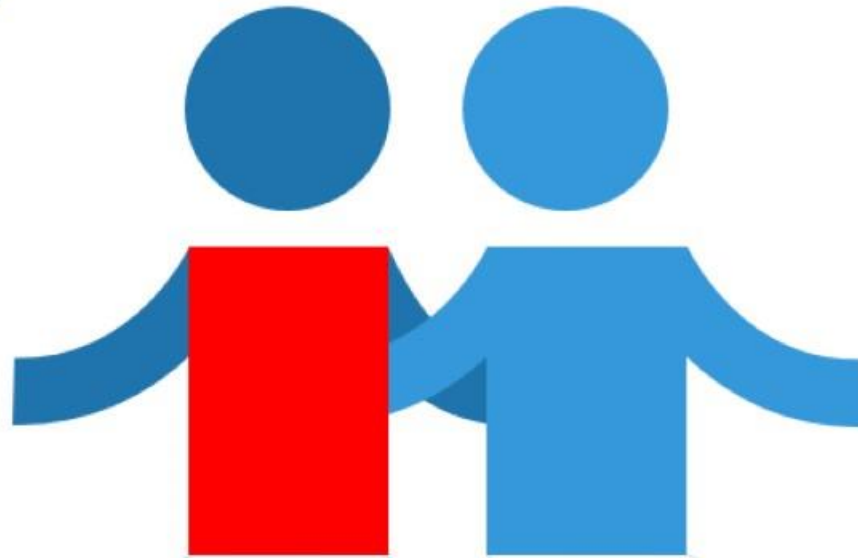
```
CLASS_XII={'stu1':{'NAME': 'MANASVI', 'STREAM': 'SCIENCE'},  
          'stu2':{'NAME': 'NIYATI', 'STREAM': 'COMMERCE'}}  
print(CLASS_XII)
```

```
{'stu1': {'NAME': 'MANASVI', 'STREAM': 'SCIENCE'}, 'stu2': {'NAME': 'NIYATI', 'STREAM': 'COMMERCE'}}
```

```
for key in CLASS_XII.keys():  
    print(CLASS_XII[key])
```

```
{'NAME': 'MANASVI', 'STREAM': 'SCIENCE'}  
{'NAME': 'NIYATI', 'STREAM': 'COMMERCE'}  
>>>
```

**\*\*\* Thanks \*\*\***



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in python language

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