

Dictionary

In [2]:

- Dictionary **is** a mutable data type **in** python.
- A python dictionary **is** a collection of key **and** value pairs separated by a colon (:) & enclosed **in** curly braces{}.
- Keys must be unique **in** a dictionary, duplicate values are allowed.

Cell In[2], line 1

- Dictionary is a mutable data type in python.

SyntaxError: invalid syntax

create dictionary

In [4]: `mydict=dict()
mydict`

Out[4]: {}

In [5]: `mydict={}
mydict`

Out[5]: {}

In [6]: `mydict={1:'one',2:'two',3:'three'}
mydict`

Out[6]: {1: 'one', 2: 'two', 3: 'three'}

In [7]: `mydict=dict({1:'one',2:'two',3:'three'})
mydict`

Out[7]: {1: 'one', 2: 'two', 3: 'three'}

In [8]: `mydict={'A':'one','B':'two','C':'three'}
mydict`

Out[8]: {'A': 'one', 'B': 'two', 'C': 'three'}

In [9]: `mydict={1:'one',2:'two',3:'three'}
mydict`

Out[9]: {1: 'one', 2: 'two', 3: 'three'}

In [11]: `mydict.keys()`

Out[11]: dict_keys([1, 2, 3])

```
In [12]: mydict.values()
```

```
Out[12]: dict_values(['one', 'two', 'three'])
```

```
In [13]: mydict.items()
```

```
Out[13]: dict_items([(1, 'one'), (2, 'two'), (3, 'three')])
```

```
In [14]: mydict={1:'one',2:'two','A':['asif','john','Maria']}  
mydict
```

```
Out[14]: {1: 'one', 2: 'two', 'A': ['asif', 'john', 'Maria']}
```

```
In [18]: mytdict={1:'one',2:'two','A':['asif','john','Maria'], 'B':('Bat','cat','hat')}  
mydict
```

```
Out[18]: {1: 'one', 2: 'two', 'A': ['asif', 'john', 'Maria']}
```

```
In [19]: mydict={1:'one',2:'two','A':{'Name':'asif','Age':20},'B':('Bat','cat','hat')}  
mydict
```

```
Out[19]: {1: 'one',  
          2: 'two',  
          'A': {'Name': 'asif', 'Age': 20},  
          'B': ('Bat', 'cat', 'hat')}
```

```
In [23]: keys={'a','b','c','d'}  
mydict3=dict.fromkeys(keys)  
mydict3
```

```
Out[23]: {'d': None, 'a': None, 'c': None, 'b': None}
```

```
In [25]: keys={'a','b','c','d'}  
value=10  
mydict=dict.fromkeys(keys,value)  
mydict3
```

```
Out[25]: {'d': None, 'a': None, 'c': None, 'b': None}
```

```
In [26]: keys={'a','b','c','d'}  
value=[10,20,30]  
mydict3=dict.fromkeys(keys,value)  
mydict3
```

```
Out[26]: {'d': [10, 20, 30], 'a': [10, 20, 30], 'c': [10, 20, 30], 'b': [10, 20, 30]}
```

```
In [27]: value.append(40)  
mydict3
```

```
Out[27]: {'d': [10, 20, 30, 40],  
          'a': [10, 20, 30, 40],  
          'c': [10, 20, 30, 40],  
          'b': [10, 20, 30, 40]}
```

Accessing items

```
In [28]: mydict={1:'one',2:'two',3:'three',4:'four'}  
mydict
```

```
Out[28]: {1: 'one', 2: 'two', 3: 'three', 4: 'four'}
```

```
In [29]: mydict[1]
```

```
Out[29]: 'one'
```

```
In [30]: mydict.get(1)
```

```
Out[30]: 'one'
```

```
In [49]: mydict1={'Name':'Raghava','ID':225132,'DOB':2005,'job':'Analyst'}  
mydict1
```

```
Out[49]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'job': 'Analyst'}
```

```
In [51]: mydict1['Name']
```

```
Out[51]: 'Raghava'
```

```
In [52]: mydict1.get('job')
```

```
Out[52]: 'Analyst'
```

Add,Remove&Change Items

```
In [53]: mydict={'Name':'Raghava','ID':225132,'DOB':2005,'Address':'Hilsinki'}  
mydict1
```

```
Out[53]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'job': 'Analyst'}
```

```
In [54]: mydict1['DOB']=2006  
mydict1['Address']='Delhi'  
mydict1
```

```
Out[54]: {'Name': 'Raghava',  
          'ID': 225132,  
          'DOB': 2006,  
          'job': 'Analyst',  
          'Address': 'Delhi'}
```

```
In [55]: dict1={'DOB':2009}  
mydict1.update(dict1)  
mydict1
```

```
Out[55]: {'Name': 'Raghava',  
         'ID': 225132,  
         'DOB': 2009,  
         'job': 'Analyst',  
         'Address': 'Delhi'}
```

```
In [56]: mydict['job']='Analyst'  
mydict1
```

```
Out[56]: {'Name': 'Raghava',  
         'ID': 225132,  
         'DOB': 2009,  
         'job': 'Analyst',  
         'Address': 'Delhi'}
```

```
In [60]: mydict1.pop('job')  
mydict1
```

```
Out[60]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2009, 'Address': 'Delhi'}
```

```
In [61]: mydict1.popitem()
```

```
Out[61]: ('Address', 'Delhi')
```

```
In [62]: mydict1
```

```
Out[62]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2009}
```

```
In [63]: del[mydict['ID']]  
mydict1
```

```
Out[63]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2009}
```

```
In [64]: mydict1.clear()  
mydict1
```

```
Out[64]: {}
```

```
In [68]: del mydict1  
mydict1
```

```
-----  
NameError                                Traceback (most recent call last)  
Cell In[68], line 2  
      1 del mydict1  
----> 2 mydict1  
  
NameError: name 'mydict1' is not defined
```

copy dictionary

```
In [69]: mydict={'Name':'Raghava','ID':225132,'DOB':2005,'Address':'Hilsinki'}  
mydict
```

```
Out[69]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'Address': 'Hilsinki'}
```

```
In [70]: mydict1=mydict
```

```
In [71]: id(mydict),id(mydict1)
```

```
Out[71]: (2907080965760, 2907080965760)
```

```
In [72]: mydict2=mydict.copy()
```

```
In [73]: id(mydict2)
```

```
Out[73]: 2907081479936
```

```
In [74]: mydict['Address']='Mumbai'
```

```
In [75]: mydict
```

```
Out[75]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'Address': 'Mumbai'}
```

```
In [76]: mydict1
```

```
Out[76]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'Address': 'Mumbai'}
```

```
In [77]: mydict2
```

```
Out[77]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'Address': 'Hilsinki'}
```

loop through a dictionary

```
In [78]: mydict1={'Name':'Asif','ID':225132,'DOB':2005,'Address':'Hislinki'}  
mydict1
```

```
Out[78]: {'Name': 'Asif', 'ID': 225132, 'DOB': 2005, 'Address': 'Hislinki'}
```

```
In [83]: for i in mydict1:  
         print(i,': ',mydict1[i])
```

```
Name : Asif  
ID : 225132  
DOB : 2005  
Address : Hislinki
```

```
In [84]: for i in mydict1:  
         print(mydict1[i])
```

Asif
225132
2005
Hislinki

dictionary membership

```
In [85]: mydict1={'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'JOB': 'Analyst'}  
mydict
```

```
Out[85]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'Address': 'Mumbai'}
```

```
In [87]: 'Name' in mydict1
```

```
Out[87]: True
```

```
In [89]: 'Raghava' in mydict1
```

```
Out[89]: False
```

```
In [90]: 'ID' in mydict1
```

```
Out[90]: True
```

```
In [91]: 'Address' in mydict1
```

```
Out[91]: False
```

All/Any

```
In [92]: The all()method returns:  
- True-If all keys of the dictionary are true  
- False-If any key of the dictionary is false  
the any()function returns True if any key of ythe dictionary is true.If not,any()re
```

```
Cell In[92], line 1  
    The all()method returns:  
    ^
```

SyntaxError: invalid syntax

```
In [93]: mydict1={'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'Job': 'Analyst'}  
mydict1
```

```
Out[93]: {'Name': 'Raghava', 'ID': 225132, 'DOB': 2005, 'Job': 'Analyst'}
```

```
In [94]: all(mydict1)
```

```
Out[94]: True
```

In []: