Create Dictionary

In [3]:
```
mydict = dict() # Empty dictionary
mydict
```

Out[3]:
```
{}
```

In [4]:
```
mydict = {} # Empty dictionary
mydict
```

Out[4]:
```
{}
```

In [5]:
```
type(mydict)
```

Out[5]:
```
dict
```

In [6]:
```
mydict = {1:'one', 2:'two', 3:'three'} # Dictionary with intger keys
mydict
```

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

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

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

In [8]:
```
mydict = {'A':'one', 'B':'two', 'C':'three'} # Dictionary with character keys
mydict
```

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

In [9]:
```
mydict = {1:'one', 'A':'two', 3:'three'} # Dictionary with mixed keys
mydict
```

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

In [10]:
```
mydict.keys() # Return Dictionary keys using keys() method
```

Out[10]:
```
dict_keys([1, 'A', 3])
```

In [11]:
```
mydict.values() # Return Dictionary values using values() method
```

Out[11]:
```
dict_values(['one', 'two', 'three'])
```

In [12]:
```
mydict.items() # Access each key- alue pair within dictionary
```

Out[12]:
```
dict_items([(1, 'one'), ('A', 'two'), (3, 'three')])
```

In [13]:
```
mydict = {1:'one', 2:'two', 3:'three', 'A':[1,2,'ram']}
mydict
```

Out[13]:
```
{1: 'one', 2: 'two', 3: 'three', 'A': [1, 2, 'ram']}
```

In [14]:
```
mydict = {1:'one', 2:'two', 'A':{'Name':'Rahul', 'Age':23}, 'B':('karn','arjun','bh
mydict
```

Out[14]:
```
{1: 'one',
 2: 'two',
 'A': {'Name': 'Rahul', 'Age': 23},
 'B': ('karn', 'arjun', 'bheem')}
```

In [15]:
```
keys = {'a', 'b', 'c', 'd'}
mydict1 = dict.fromkeys(keys) # Create a dictionary from sequence of keys
mydict1
```

Out[15]:
```
{'c': None, 'a': None, 'd': None, 'b': None}
```

In [16]:
```
keys = {'a', 'b', 'c', 'd'}
value = 10
mydict1 = dict.fromkeys(keys, value)
mydict1
```

Out[16]:
```
{'c': 10, 'a': 10, 'd': 10, 'b': 10}
```

In [17]:
```
kyes = {'a', 'b', 'c', 'd'}
values = [10,20,30]
mydict1 = dict.fromkeys(keys, values)
mydict1
```

Out[17]:
```
{'c': [10, 20, 30], 'a': [10, 20, 30], 'd': [10, 20, 30], 'b': [10, 20, 30]}
```

In [18]:
```
values.append(40)
mydict1
```

Out[18]:
```
{'c': [10, 20, 30, 40],
 'a': [10, 20, 30, 40],
 'd': [10, 20, 30, 40],
 'b': [10, 20, 30, 40]}
```

Accessing Items

In [19]:
```
mydict = {1:'one', 2:'two', 3:'three', 4:'four', 5:'five'}
mydict
```

Out[19]:
```
{1: 'one', 2: 'two', 3: 'three', 4: 'four', 5: 'five'}
```

In [20]:
```
mydict[1] # Accessing item using key
```

Out[20]:
```
'one'
```

In [21]:
```
mydict.get(1) # Accessing item using get() method
```

Out[21]: 'one'

In [22]:
```
mydict1 = {'Name':'Ram', 'ID': 3751, 'DOB': 2002, 'Job':'Artist'}
mydict1
```

Out[22]: {'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Artist'}

In [23]:
```
mydict1['Name']
```

Out[23]: 'Ram'

In [24]:
```
mydict1['DOB']
```

Out[24]: 2002

Add, Remove and Change Items

In [25]:
```
mydict1 = {'Name':'Ram', 'ID': 3751, 'DOB': 2002, 'Job':'Artist'}
mydict1
```

Out[25]: {'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Artist'}

In [26]:
```
mydict1['DOB'] = 2003   # Changing Dictionary Items
mydict1['Job'] = 'Singer'
mydict1
```

Out[26]: {'Name': 'Ram', 'ID': 3751, 'DOB': 2003, 'Job': 'Singer'}

In [27]:
```
dict1 = {'DOB':2002}
mydict1.update(dict1)
mydict1
```

Out[27]: {'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Singer'}

In [29]:
```
mydict1['Address'] = 'Pune' # Adding items in the dictionary
mydict1
```

Out[29]: {'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Singer', 'Address': 'Pune'}

In [30]:
```
mydict1.pop('Job') # Removing items from the dictionary using pop() method
mydict1
```

Out[30]: {'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Address': 'Pune'}

In [31]:
```
mydict1.popitem() # A random item is removed
mydict1
```

Out[31]: {'Name': 'Ram', 'ID': 3751, 'DOB': 2002}

In [32]:
```
del [mydict1['ID']] # remove item using del method
mydict1
```

Out[32]:
```
{'Name': 'Ram', 'DOB': 2002}
```

In [33]:
```
mydict1.clear() # Delete all item of the dictionary using clear() method
mydict1
```

Out[33]:
```
{}
```

In [34]:
```
del mydict1 # Deleting the dictionary object
mydict1
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[34], line 2
      1 del mydict1 # Deleting the dictionary object
----> 2 mydict1

NameError: name 'mydict1' is not defined
```

Copy Dictionary

In [35]:
```
mydict = {'Name':'Ram', 'ID': 3751, 'DOB': 2002, 'Job':'Artist'}
mydict
```

Out[35]:
```
{'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Artist'}
```

In [36]:
```
mydict1 = mydict
```

In [37]:
```
id(mydict), id(mydict1)
```

Out[37]:
```
(2163972358464, 2163972358464)
```

In [38]:
```
mydict2 = mydict.copy()
```

In [39]:
```
id(mydict2)
```

Out[39]:
```
2163972242112
```

In [40]:
```
mydict['Job'] = 'Actor'
mydict
```

Out[40]:
```
{'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Actor'}
```

In [41]:
```
mydict1 # impacted due to stored on same location
```

Out[41]:
```
{'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Actor'}
```

In [42]:
```
mydict2 # Not impacted due to stored on different location
```

Out[42]:
```
{'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Artist'}
```

Loop through a Dictionary

In [47]:
```
for i in mydict:
    print(i, ':' , mydict[i]) # Key & Value pair
```

```
Name : Ram
ID : 3751
DOB : 2002
Job : Actor
```

In [46]:
```
for i in mydict:
    print(i)   # Keys
```

```
Name
ID
DOB
Job
```

In [45]:
```
for i in mydict:
    print(mydict[i]) # Dictionary items (Values)
```

```
Ram
3751
2002
Actor
```

Dictionary Membership

In [48]:
```
mydict
```

Out[48]:
```
{'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Actor'}
```

In [49]:
```
'Name' in mydict # Test if a key is in dictionary or not
```

Out[49]:
```
True
```

In [51]:
```
'Ram' in mydict  # Membership test can be only done for keys
```

Out[51]:
```
False
```

In [50]:
```
'Address' in mydict
```

Out[50]:
```
False
```

In [52]:
```
'ID' in mydict
```

Out[52]:
```
True
```

All / Any

In [60]:
```
mydict = {'Name':'Ram', 'ID': 3751, 'DOB': 2002, 'Job':'Artist'}
mydict
```

Out[60]:
```
{'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Artist'}
```

In [61]:
```
all(mydict)
```

Out[61]:
```
True
```

In [62]:
```
mydict[0] = 100
mydict
```

Out[62]:
```
{'Name': 'Ram', 'ID': 3751, 'DOB': 2002, 'Job': 'Artist', 0: 100}
```

In [63]:
```
all(mydict)
```

Out[63]:
```
False
```

In [64]:
```
any(mydict)
```

Out[64]:
```
True
```

In [ ]:

In [ ]: