Cont. Data Structures-II

🎯 Session Objectives

🔑 Understand what dictionaries are.

⚒️ Understand common methods and operations associated with dictionaries.

🤝 Understand the comparison between lists, tuples, sets and dictionaries.

What is Dictionary in Python? ¶

A Dictionary is :

1. `Ordered` : Items have guaranteed sequence.
2. `Mutable` : You can change,add or remove items
3. `Collection of Key-Value Pair` : Each Key is Unique and maps to a Value.

This Makes Dictionary perfect for representing the data as attributes (like a record of a person, settings or products)

```python
_dict = {} # Dictionary Type
print(type(_dict))
```
```
<class 'dict'>
```

```python
# In Dictionary, if we have duplicate keys, then the last occurrence would be kept.
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python'],
    'course' : 'Data Science'
}
student_details
```
```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India',
 'course': 'Data Science',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```
print(student_details)
```

```
{'name': 'Akancha Ranjan', 'age': 25, 'gender': 'Female', 'city': 'Mumbai', 'state': 'Maharashtra', 'country':
'India', 'course': 'Data Science', 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```python
# Using Tuple as Dictionary Keys
_dict = {
    ('stud1','stud2') : 98,
    ('stud3','stud4') : 92,
    ('stud5','stud6') : 77,
    ('stud7','stud8') : 85,
    ('stud9','stud10') : 99,
}
_dict
```

```
{('stud1', 'stud2'): 98,
 ('stud3', 'stud4'): 92,
 ('stud5', 'stud6'): 77,
 ('stud7', 'stud8'): 85,
 ('stud9', 'stud10'): 99}
```

```python
# dict() Constructor
_dict = dict(name = 'Ankita', age = 22, gender = 'Female', country = 'India')
_dict
```

```
{'name': 'Ankita', 'age': 22, 'gender': 'Female', 'country': 'India'}
```

```python
print(type(_dict))
```

```
<class 'dict'>
```

```python
print(id(_dict))
```

```
2861009957248
```

```python
# With a List of List / List of Tuples / Tuple of List , Tuple of Tuples
list_of_list = [
    ['name','Mohit'],
    ['age',27],
    ['gender','Male'],
    ['city','Jaipur'],
    ['state','Rajasthan'],
    ['country','India']
]
_dict = dict(list_of_list)
print(_dict)
```

```
{'name': 'Mohit', 'age': 27, 'gender': 'Male', 'city': 'Jaipur', 'state': 'Rajasthan', 'country': 'India'}
```

```python
_dict
```

```
{'name': 'Mohit',
 'age': 27,
 'gender': 'Male',
 'city': 'Jaipur',
 'state': 'Rajasthan',
 'country': 'India'}
```

```python
# With a List of List / List of Tuples / Tuple of List , Tuple of Tuples
list_of_tuples = [
    ('name','Mohit'),
    ('age',27),
    ('gender','Male'),
    ('city','Jaipur'),
    ('state','Rajasthan'),
    ('country','India')
]
_dict = dict(list_of_tuples)
_dict
```

```
{'name': 'Mohit',
 'age': 27,
 'gender': 'Male',
 'city': 'Jaipur',
 'state': 'Rajasthan',
 'country': 'India'}
```

```python
# With a List of List / List of Tuples / Tuple of List , Tuple of Tuples
tuple_of_list = (
    ['name','Mohit'],
    ['age',27],
    ['gender','Male'],
    ['city','Jaipur'],
    ['state','Rajasthan'],
    {'country','India'}    set
)
_dict = dict(tuple_of_list)
_dict
```

```
{'name': 'Mohit',
 'age': 27,
 'gender': 'Male',
 'city': 'Jaipur',
 'state': 'Rajasthan',
 'India': 'country'}    Unordered
```

```python
# With a List of List / List of Tuples / Tuple of List , Tuple of Tuples
tuple_of_tuple = (
    ('name','Mohit'),
    ('age',27),
    ('gender','Male'),
    ('city','Jaipur'),
    ('state','Rajasthan'),
    ('country','India'),
    ('skills',['Excel','PowerBI','SQL','Python'])
)
_dict = dict(tuple_of_tuple)
_dict
```

```
{'name': 'Mohit',
 'age': 27,
 'gender': 'Male',
 'city': 'Jaipur',
 'state': 'Rajasthan',
 'country': 'India',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```python
_list = [[11, 'rupees']]
_dict = dict(_list)
_dict
```

```
{11: 'rupees'}
```

```python
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python'],
    'course' : 'Data Science'
}
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India',
 'course': 'Data Science',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```python
# Nested Dictionaries.
student_record = {
    'Student1' : {
        'name' : 'Akancha Ranjan',
        'age' : 25,
        'gender': 'Female',
        'city' : 'Mumbai',
        'state': 'Maharashtra',
        'country': 'India',
        'course' : 'Data Analytics',
        'skills' : ['Excel','PowerBI','SQL','Python']
    },
    'Student2' : {
        'name' : 'Ankita Mimani',
        'age' : 22,
        'gender': 'Female',
        'city' : 'Lukhnow',
        'state': 'Uttar Pradesh',
        'country': 'India',
        'course' : 'Data Analytics',
        'skills' : ['Excel','PowerBI','SQL','Python']
    }
}
student_record
```

```
{'Student1': {'name': 'Akancha Ranjan',
  'age': 25,
  'gender': 'Female',
  'city': 'Mumbai',
  'state': 'Maharashtra',
  'country': 'India',
  'course': 'Data Analytics',
  'skills': ['Excel', 'PowerBI', 'SQL', 'Python']},
 'Student2': {'name': 'Ankita Mimani',
  'age': 22,
  'gender': 'Female',
  'city': 'Lukhnow',
  'state': 'Uttar Pradesh',
  'country': 'India',
  'course': 'Data Analytics',
  'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}}
```

```
student_record['Student2']
```

```
{'name': 'Ankita Mimani',
 'age': 22,
 'gender': 'Female',
 'city': 'Lukhnow',
 'state': 'Uttar Pradesh',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```
student_record['Student2']['skills']
```

```
['Excel', 'PowerBI', 'SQL', 'Python']
```

```
student_record['Student2']['city']
```

```
'Lukhnow'
```

```
student_record['Student2']['skills'][-1]
```

```
'Python'
```

```
student_record['Student2']['skills'][2:] # ['SQL','Python']
```

```
['SQL', 'Python']
```

```python
# Common Methods and Operations Associated with Dictionaries
# Length() -> Len() to find how many key-value pairs dictionary exists.
print(len(student_record)) # 2
print(len(student_record['Student1'])) # 8
print(len(student_details)) # 8
```

```
2
8
8
```

```python
# Accessing an Elements
# Use Squared Bracket to access the elements ['keys']
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python'],
    'course' : 'Data Science'
}
student_details['skills']
student_details['course'] # 'Data Science'
```

```
'Data Science'
```

```python
print(student_details['skills']) #  ['Excel','PowerBI','SQL','Python']
print(student_details['course']) # 'Data Science'
```

```
['Excel', 'PowerBI', 'SQL', 'Python']
Data Science
```

```python
# Accessing an element ['Key' - tuple]
_dict = {
    ('stud1','stud2') : 98,
    ('stud3','stud4') : 92,
    ('stud5','stud6') : 77,
    ('stud7','stud8') : 85,
    ('stud9','stud10') : 99,
}
_dict[('stud1','stud2')]
```

```
98
```

```python
_dict[('stud5','stud6')]
```

```
77
```

```python
# .get(key , Default) -> It will safely retrieve the value from a dictionary.
# returns None or Default if value not found
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
student_details['skills'] # Bracket Notation
student_details.get('skills','Machine Learning') # ['Excel','PowerBI','SQL','Python']
```

```
['Excel', 'PowerBI', 'SQL', 'Python']
```

```python
student_details.get('course' , 'Data Science') # 'Data Analytics'
```

```
'Data Analytics'
```

```python
student_details.get('email' , 'xyz@gmail.com') # 'xyz@gmail.com'
```

```
'xyz@gmail.com'
```

```python
student_details.get('country_code') # It Won't Throw an error if the key doesn't exist
```

```python
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```python
# Nested Dictionaries.
student_record = {
    'Student1' : {
        'name' : 'Akancha Ranjan',
        'age' : 25,
        'gender': 'Female',
        'city' : 'Mumbai',
        'state': 'Maharashtra',
        'country': 'India',
        'course' : 'Data Analytics',
        'skills' : ['Excel','PowerBI','SQL','Python']
    },
    'Student2' : {
        'name' : 'Ankita Mimani',
        'age' : 22,
        'gender': 'Female',
        'city' : 'Lukhnow',
        'state': 'Uttar Pradesh',
        'country': 'India',
        'course' : 'Data Analytics',
        'skills' : ['Excel','PowerBI','SQL','Python']
    }
}
student_record.get('Student1',{}).get('name','Unknown') # 'Akancha Ranjan'
```

```
'Akancha Ranjan'
```

```python
student_record.get('Student3',{}) # {}
```

```
{}
```

```python
student_record.get('Student3',{}).get('name','Unknown') # 'Unknown'
```

```
'Unknown'
```

```python
# .keys() -> Returns all the keys from dictionaries
# .values() -> Returns all the values from dictionaries
# .items() -> Returns all the (key,value) from dictionaries
student_details.keys()
```

```
dict_keys(['name', 'age', 'gender', 'city', 'state', 'country', 'course', 'skills'])
```

```python
student_details.values()
```

```
dict_values(['Akancha Ranjan', 25, 'Female', 'Mumbai', 'Maharashtra', 'India', 'Data Analytics', ['Excel', 'PowerBI', 'SQL', 'Python']])
```

```python
student_record.keys()
```

```
dict_keys(['Student1', 'Student2'])
```

```
student_record['Student1'].keys()
```

```
dict_keys(['name', 'age', 'gender', 'city', 'state', 'country', 'course', 'skills'])
```

```
student_record['Student1'].values()
```

```
dict_values(['Akancha Ranjan', 25, 'Female', 'Mumbai', 'Maharashtra', 'India', 'Data Analytics', ['Excel', 'Po
werBI', 'SQL', 'Python']])
```

```
student_details.items()
```

```
dict_items([('name', 'Akancha Ranjan'), ('age', 25), ('gender', 'Female'), ('city', 'Mumbai'), ('state', 'Maha
rashtra'), ('country', 'India'), ('course', 'Data Analytics'), ('skills', ['Excel', 'PowerBI', 'SQL', 'Pytho
n'])])
```

```
student_record.items()
```

```
dict_items([('Student1', {'name': 'Akancha Ranjan', 'age': 25, 'gender': 'Female', 'city': 'Mumbai', 'state':
'Maharashtra', 'country': 'India', 'course': 'Data Analytics', 'skills': ['Excel', 'PowerBI', 'SQL', 'Pytho
n']}), ('Student2', {'name': 'Ankita Mimani', 'age': 22, 'gender': 'Female', 'city': 'Lukhnow', 'state': 'Utta
r Pradesh', 'country': 'India', 'course': 'Data Analytics', 'skills': ['Excel', 'PowerBI', 'SQL', 'Pytho
n']})])
```

```
student_record['Student2'].items()
```

```
dict_items([('name', 'Ankita Mimani'), ('age', 22), ('gender', 'Female'), ('city', 'Lukhnow'), ('state', 'Utta
r Pradesh'), ('country', 'India'), ('course', 'Data Analytics'), ('skills', ['Excel', 'PowerBI', 'SQL', 'Pytho
n'])])
```

```python
# setdefault() -> Retrieves the value if the key exist, else insert key with default
# If No Default provided , it would insert None.
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
student_details.setdefault('course')
```

```
'Data Analytics'
```

```
student_details.setdefault('course' , 'DataScience')
```

```
'Data Analytics'
```

```
student_details.setdefault('email' , 'xyz@gmail.com')
```

```
'xyz@gmail.com'
```

```
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python'],
 'email': 'xyz@gmail.com'}
```

```
student_details.setdefault('phone_number') # 'None' [Value]
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python'],
 'email': 'xyz@gmail.com',
 'phone_number': None}
```

```
# min() , max() , sum()
_dict = {
    ('stud1','stud2') : 98,
    ('stud3','stud4') : 92,
    ('stud5','stud6') : 77,
    ('stud7','stud8') : 85,
    ('stud9','stud10') : 99,
}
_dict.values()
```

```
dict_values([98, 92, 77, 85, 99])
```

```
min(_dict.values()) # [98, 92, 77, 85, 99] # 77
```

```
77
```

```
max(_dict.values()) # [98, 92, 77, 85, 99] # 99
```

```
99
```

```
sum(_dict.values()) # [98, 92, 77, 85, 99] # 451
```

```
451
```

```
_dict.keys()
```

```
dict_keys([('stud1', 'stud2'), ('stud3', 'stud4'), ('stud5', 'stud6'), ('stud7', 'stud8'), ('stud9', 'stud1
0')])
```

```
# min() , max() -> ASCII Code Compare
min(_dict.keys()) # ('stud1', 'stud2')
```

```
('stud1', 'stud2')
```

```
max(_dict.keys()) # ('stud9', 'stud10')
```

```
('stud9', 'stud10')
```

```python
_dict = {
    98 : ['stud1','stud2'],
    92 : ['stud3','stud4'],
    77 : ['stud5','stud6'],
    88 : ['stud7','stud8'],
    99 : ['stud9','stud10'],
    99 : ['stud11','stud12'],
}
_dict
```

```
{98: ['stud1', 'stud2'],
 92: ['stud3', 'stud4'],
 77: ['stud5', 'stud6'],
 88: ['stud7', 'stud8'],
 99: ['stud11', 'stud12']}
```

```python
_dict.keys()
```

```
dict_keys([98, 92, 77, 88, 99])
```

```python
min(_dict.keys()) # 77
```

```
77
```

```python
max(_dict.keys()) # 99
```

```
99
```

```python
# Changing or Adding a Dictionary Items
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
student_details['city'] = 'Banglore'
student_details['state'] = 'Karnataka'
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Banglore',
 'state': 'Karnataka',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```python
student_details.setdefault('email')
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Banglore',
 'state': 'Karnataka',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python'],
 'email': None}
```

```python
student_details['email'] = 'akancha_ranjan.1@gmail.com'
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Banglore',
 'state': 'Karnataka',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python'],
 'email': 'akancha_ranjan.1@gmail.com'}
```

```python
# update()
stud_info = {'name': 'Sandeep Ravindran' ,
             'age':29,
             'gender' : 'Male',
             'email' : 'sandeep_007@gmail.com',
             'phone_number' : '96237932867'}
student_details.update(stud_info)
student_details
```

```
{'name': 'Sandeep Ravindran',
 'age': 29,
 'gender': 'Male',
 'city': 'Banglore',
 'state': 'Karnataka',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python'],
 'email': 'sandeep_007@gmail.com',
 'phone_number': '96237932867'}
```

```
student_record['Student2'].update(stud_info)
```

```
student_record
```

```
{'Student1': {'name': 'Akancha Ranjan',
  'age': 25,
  'gender': 'Female',
  'city': 'Mumbai',
  'state': 'Maharashtra',
  'country': 'India',
  'course': 'Data Analytics',
  'skills': ['Excel', 'PowerBI', 'SQL', 'Python']},
 'Student2': {'name': 'Sandeep Ravindran',
  'age': 29,
  'gender': 'Male',
  'city': 'Lukhnow',
  'state': 'Uttar Pradesh',
  'country': 'India',
  'course': 'Data Analytics',
  'skills': ['Excel', 'PowerBI', 'SQL', 'Python'],
  'email': 'sandeep_007@gmail.com',
  'phone_number': '96237932867'}}
```

```
# zip() -> Combining 2 Iterables into Key-Value Pair
key = ['name','age','city','gender','country']
values = ('Mohit',22,'Jaipur','Male','India')
zip_dict = diclt(zip(key,values))
zip_dict
```

```
{'name': 'Mohit',
 'age': 22,
 'city': 'Jaipur',
 'gender': 'Male',
 'country': 'India'}
```

```
# zip() -> Combining 2 Iterables into Key-Value Pair
key = ['name','age','city','gender','country']
values = ('Mohit',22,'Jaipur','Male','India')
zip(key,values)
```

```
<zip at 0x29a21af58c0>
```

```python
zip_tuple = tuple(zip(key,values))
zip_tuple
```

```
(('name', 'Mohit'),
 ('age', 22),
 ('city', 'Jaipur'),
 ('gender', 'Male'),
 ('country', 'India'))
```

```python
zip_list = list(zip(key,values))
zip_list
```

```
[('name', 'Mohit'),
 ('age', 22),
 ('city', 'Jaipur'),
 ('gender', 'Male'),
 ('country', 'India')]
```

```python
# Removing a Dictionary Items
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
del student_details['city']
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'state': 'Maharashtra',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```python
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
del student_details['course']
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India',
 'skills': ['Excel', 'PowerBI', 'SQL', 'Python']}
```

```python
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
del student_details # Entire Dictionary will be deleted from memory
```

```python
student_details # NameError: name 'student_details' is not defined
```

```python
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
del student_details['skills'][0] # 'Excel' will be removed from the skills
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India',
 'course': 'Data Analytics',
 'skills': ['PowerBI', 'SQL', 'Python']}
```

```python
# pop() -> Removes a Specific key and returns its values
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
skills_info = student_details.pop('skills')
print(skills_info)
```

```
['Excel', 'PowerBI', 'SQL', 'Python']
```

```python
student_details
```

```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India',
 'course': 'Data Analytics'}
```

```python
# popitem() -> It Remove the last Inserted Values
course_detail = student_details.popitem()
print(course_detail)
```
```
('course', 'Data Analytics')
```
```python
student_details
```
```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra',
 'country': 'India'}
```
```python
country_detail = student_details.popitem()
print(country_detail)
```
```
('country', 'India')
```
```python
student_details
```
```
{'name': 'Akancha Ranjan',
 'age': 25,
 'gender': 'Female',
 'city': 'Mumbai',
 'state': 'Maharashtra'}
```

```python
# .clear() -> Empty the Dictionaries
student_details.clear()
student_details
```
```
{}
```
```python
print(type(student_details))
```
```
<class 'dict'>
```

```python
# Shallow Copy()
student_details = {
    'name' : 'Akancha Ranjan',
    'age' : 25,
    'gender': 'Female',
    'city' : 'Mumbai',
    'state': 'Maharashtra',
    'country': 'India',
    'course' : 'Data Analytics',
    'skills' : ['Excel','PowerBI','SQL','Python']
}
stud_details = student_details.copy() # Shallow Copy
print(id(stud_details))
print(id(student_details)) # They stored in different Memory Address
```
```
2861010254784
2861013112384
```
```python
# Shallow Copy() - using dict() Constructor
shallow_dict = dict(stud_details) # Shallow Copy
print(id(stud_details))
print(id(shallow_dict)) # They stored in different Memory Address
```
```
2861010254784
2861013265664
```