

## Pickle and Unpickle

- There is a module available in python that is used for storing and retrieving objects of a class
- The process of **storing multiple objects** of a class in a single file is called **Pickle**
- To **read** the entire object of a class at once is called **Unpickle**
- Therefore, storing an object in a file is **Pickle** , Retrieving an object from a file is called **Unpickle**
- The pickle module provides a function called ‘ **Dump** ’ , which will store the contents in a file
- Pickling is always done in **Binary Mode**
- The function called **Load** is used to read the file as well
- The **display function** is used to display the object in a file

### Example :

// Creating instance of a class named student

```
1
2  class Student:
3      def __init__(self, roll, name, dept):
4          self.roll = roll
5          self.name = name
6          self.dept = dept
7
8      def display(self):
9          print(f'Roll: {self.roll} \nName: {self.name}\nDept: {self.dept}')
```

- Writing this in separate file and importing this in second file

```
//Storing student object in second file
```

```
1 import Student, pickle
2
3 studs = [ Student.Student(10,'John','cs'), Student.Student(20, 'Ajay', 'ec'), Student.Student(30, 'Khan', 'me') ]
4
5 with open('students.data', 'wb') as f:
6     for s in studs:
7         pickle.dump(s,f)
8
9
```

- Creating 3 objects in list of students , using for loop to call dump for storing object in files

// running the program in **CMD** , to check for any errors

```
// Checking the student data , here we can see how the dump function works
```

```
C:\Users\Abdul Bari\Desktop\MyPython>python Storing.py

C:\Users\Abdul Bari\Desktop\MyPython>dir
 Volume in drive C is OS
 Volume Serial Number is 3E57-7130

 Directory of C:\Users\Abdul Bari\Desktop\MyPython

03/25/2022  06:39 AM <DIR> .
03/25/2022  06:39 AM <DIR> ..
03/25/2022  06:39 AM 233 Storing.py
03/25/2022  06:24 AM 243 Student.py
03/25/2022  06:39 AM 207 students.data
03/25/2022  06:39 AM <DIR> .pycache__
               3 File(s)          683 bytes
               3 Dir(s)  417,277,509,632 bytes free

C:\Users\Abdul Bari\Desktop\MyPython>type students.data
>>>:Istudent@0000000000001>>>roll10x
>>>:Iname01@Johann@dept01@cub,C@:Istudent@h00j@0(|roll0Kj|>name01@Ajay@dept01@cub,C@:Istudent@h00j@0(|roll1Kj|>name01@Khandu@dept01@medub,
C:\Users\Abdul Bari\Desktop\MyPython
```

- Using for loop for retrieving 3 objects and displaying them

```
import Student, pickle

with open('students.data','rb') as f:
    for i in range(3):
        s = pickle.load(f)
        s.display()
```

// Reading a file and loading objects from a file

```
C:\Users\Abdul Bari\Desktop\MyPython>python Reading.py
Roll: 10
Name: John
Dept: cs
Roll: 20
Name: Ajay
Dept: ec
Roll: 30
Name: Khan
Dept: me
```