

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}')
10
11
```

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

//Storing student object in second file

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

```
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 3E57-713D

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  06:37 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
```

// 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
```

- 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
```