Experiment No.6
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Serialization in python using Pickle
Date of Performance:
Date of Submission:
Roll no : 71

Aim: Serialization in python using Pickel

Objective: To introduce basic concept of Pickel module

Theory:

- What is Serialization?
- Serialization is the process of converting a Python object into a byte stream that can be stored in a file or transmitted over a network.
- What is Pickle?
- Pickle is a Python module used for serializing and deserializing Python objects.
- Why Pickle?
- Pickle provides a convenient way to save Python objects to disk and load them back into memory later.
- How to use Pickle?
- The pickle module provides two main functions: dump() for serialization and load() for deserialization.

1) **pickle.dump(obj, file)**:
   - The **pickle.dump()** function is used to serialize a Python object **obj** and write it to a file specified by the file object **file**.
   - This function takes two parameters:
     - **obj**: The Python object to be serialized.
     - **file**: A file object opened in binary write mode ('wb') where the serialized data will be written.

2) **pickle.load(file)**:
   - The **pickle.load()** function is used to deserialize data from a file specified by the file object **file** and reconstruct the original Python object.
   - This function takes one parameter:
     - **file**: A file object opened in binary read mode ('rb') from which the serialized data will be read and deserialized.

Code:-

Emp.py

```
class Emp:
   def __init__(self,id,name,sal):
      self.id=id
      self.name=name
```

```
        self.sal=sal

    def display(self):
        print("{:5d} {:20s} {:10.2f}".format(self.id,self.name,self.sal))
```

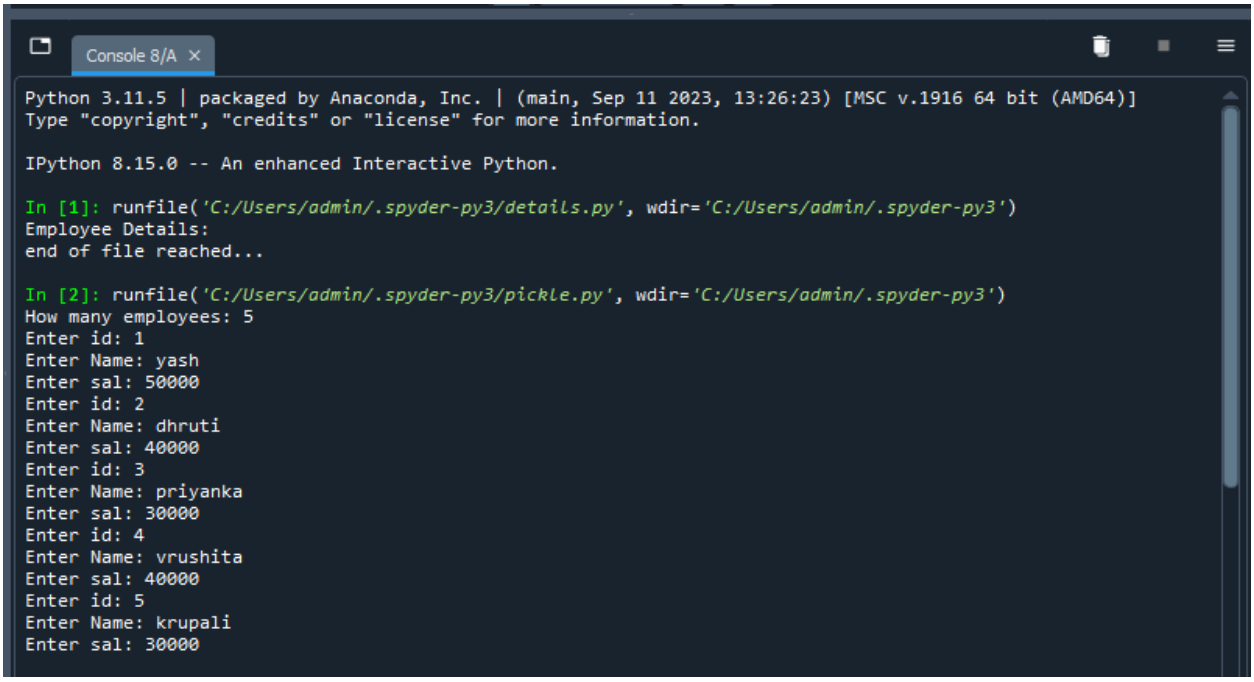
Pickle.py

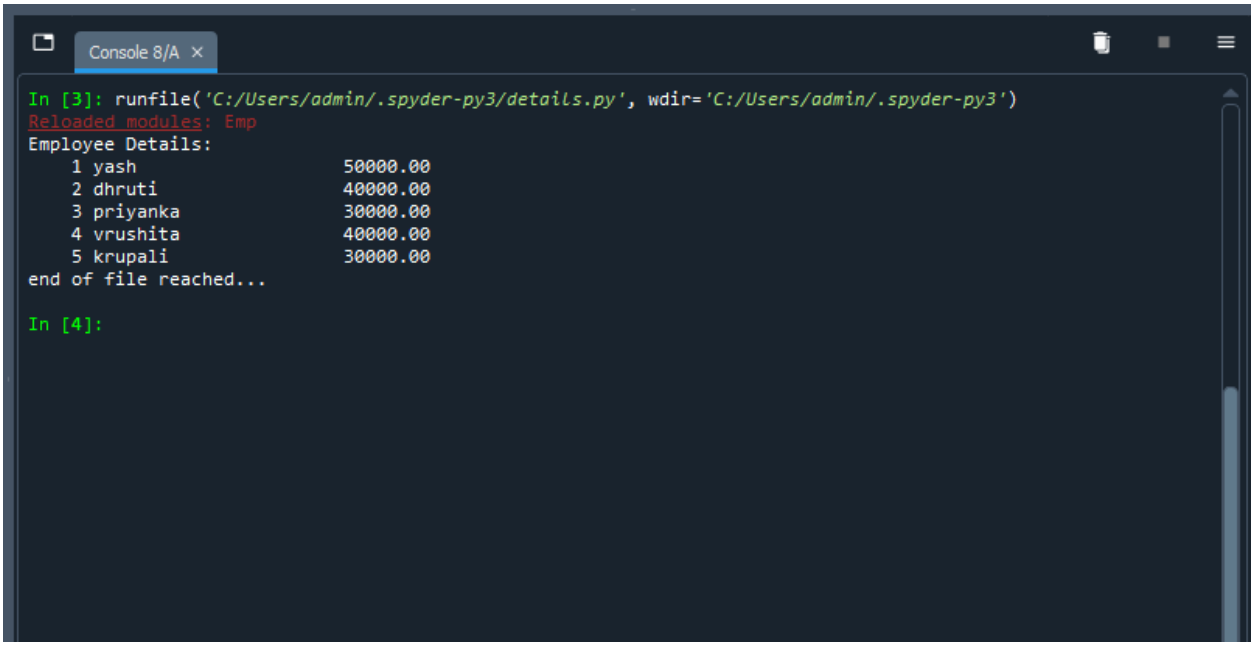
```
import Emp,pickle
f=open('Emp.dat','wb')
n=int(input("How many employees"))
for i in range(n):
    id=int(input("Enter id: "))
    name=input("Enter Name: ")
    sal=float(input("Enter sal: "))
    e=Emp.Emp(id,name,sal)
    pickle.dump(e,f)
f.close()
```

Details.py

```
import Emp,pickle
f=open("Emp.dat","rb")
print("Employee Details: ")
while True:
    try:
        obj=pickle.load(f)
        obj.display()
    except EOFError:
        print("end of file reached...")
        break
f.close()
```

Output:


Console 8/A
Python 3.11.5 | packaged by Anaconda, Inc. | (main, Sep 11 2023, 13:26:23) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.
IPython 8.15.0 -- An enhanced Interactive Python.
In [1]: runfile('C:/Users/admin/.spyder-py3/details.py', wdir='C:/Users/admin/.spyder-py3')
Employee Details:
end of file reached...
In [2]: runfile('C:/Users/admin/.spyder-py3/pickle.py', wdir='C:/Users/admin/.spyder-py3')
How many employees: 5
Enter id: 1
Enter Name: yash
Enter sal: 50000
Enter id: 2
Enter Name: dhruti
Enter sal: 40000
Enter id: 3
Enter Name: priyanka
Enter sal: 30000
Enter id: 4
Enter Name: vrushita
Enter sal: 40000
Enter id: 5
Enter Name: krupali
Enter sal: 30000


Console 8/A
In [3]: runfile('C:/Users/admin/.spyder-py3/details.py', wdir='C:/Users/admin/.spyder-py3')
Reloaded modules: Emp
Employee Details:
1 yash 50000.00
2 dhruti 40000.00
3 priyanka 30000.00
4 vrushita 40000.00
5 krupali 30000.00
end of file reached...
In [4]:

Conclusion: Serialization in Python using Pickle has been demonstrated.