Hands-on Activity 5.2 Polymorphism	
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C:\Users\lauper xavier\Desktop\ \python\oopfa1_group13_lab8\FileReaderWriter.py

FileReaderWriter.py | CSVFileReaderWriter.py | JSONFileReaderWriter.py | sample.csv | sample.json | main.py

```python
class FileReaderWriter():
    def read(self):
        print("This is the default read method")

    def write(self):
        print("This is the default write method")
```

C:\Users\lauper xavier\Desktop\ \python\oopfa1_group13_lab8\CSVFileReaderWriter.py

FileReaderWriter.py | CSVFileReaderWriter.py | JSONFileReaderWriter.py | sample.csv | sample.json | main.py

```python
from FileReaderWriter import FileReaderWriter
import csv

class CSVFileReaderWriter(FileReaderWriter):
    def read(self, filepath):
        with open(filepath, newline='') as csvfile:
            data = csv.reader(csvfile, delimiter=',', quotechar='|')
            for row in data:
                print(row)
            return data

    def write(self, filepath, data):
        with open(filepath, 'w', newline='') as csvfile:
            writer = csv.writer(csvfile, delimiter=',',
                                quotechar='|', quoting=csv.QUOTE_MINIMAL)
            writer.writerow(data)

```

C:\Users\lauper xavier\Desktop\ \python\oopfa1_group13_lab8\JSONFileReaderWriter.py

FileReaderWriter.py | CSVFileReaderWriter.py | JSONFileReaderWriter.py | sample.csv | sample.json | main.py

```python
from FileReaderWriter import FileReaderWriter
import json

class JSONFileReaderWriter(FileReaderWriter):
    def read(self, filepath):
        with open(filepath, "r") as read_file:
            data = json.load(read_file)
            print(data)
            return data

    def write(self, filepath, data):
        with open(filepath, "w") as write_file:
            json.dump(obj=data, fp=write_file)
```

C:\Users\lauper xavier\Desktop\ \python\oopfa1_group13_lab8\sample.csv

FileReaderWriter.py | CSVFileReaderWriter.py | JSONFileReaderWriter.py | sample.csv | sample.json | main.py

```
Apple,Banana,Mango,Orange,Cherry
```

C:\Users\lauper xavier\Desktop\ \python\oopfa1_group13_lab8\sample.json

FileReaderWriter.py | CSVFileReaderWriter.py | JSONFileReaderWriter.py | sample.csv | sample.json | main.py

```
{
    "description":"This is a JSON Sample",
    "accounts": [
        {"id":1,"name":"Jack"},
        {"id":2,"name":"Rose"}
    ]
}
```

C:\Users\lauper xavier\Desktop\ \python\oopfa1_group13_lab8\main.py

FileReaderWriter.py | CSVFileReaderWriter.py | JSONFileReaderWriter.py | sample.csv | sample.json | main.py

```python
from FileReaderWriter import FileReaderWriter
from CSVFileReaderWriter import CSVFileReaderWriter
from JSONFileReaderWriter import JSONFileReaderWriter


df = FileReaderWriter()
df.read()
df.write()


c = CSVFileReaderWriter()
c.read("sample.csv")
c.write(filepath="sample2.csv", data=["Hello", "World"])

j = JSONFileReaderWriter()
j.read("sample.json")
j.write(data=['foo', {'bar': ('baz', None, 1.0, 2)}], filepath="sample2.json")
```

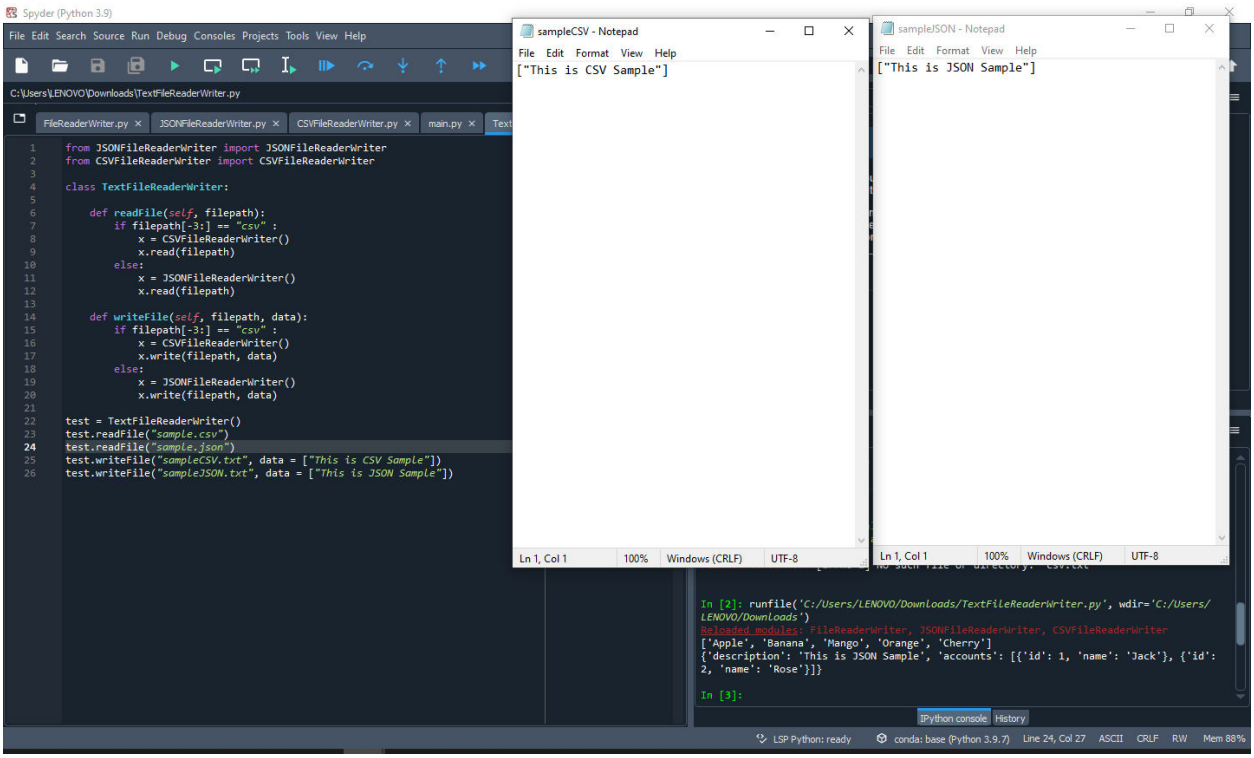
```
In [2]: runfile('C:/Users/lauper xavier/Desktop/  /python/oopfa1_group13_lab8/main.py', wdir='C:/
Users/lauper xavier/Desktop/  /python/oopfa1_group13_lab8')
Reloaded modules: FileReaderWriter, CSVFileReaderWriter, JSONFileReaderWriter
This is the default read method
This is the default write method
['Apple', 'Banana', 'Mango', 'Orange', 'Cherry']
{'description': 'This is a JSON Sample', 'accounts': [{'id': 1, 'name': 'Jack'}, {'id': 2, 'name':
'Rose'}]}

In [3]:
```

6. Supplementary Activity:

Task

Create a simple TextFileReaderWriter .py file and Class that will be able to **read** from and **write** (override) to a text file. The read and write method should be overriden according to the requirement of Text File Reading and Writing as performed in Laboratory Activity 5.



Questions 1. Why is Polymorphism important?

_It allows us to have one interface to perform similar tasks in many different ways. Polymorphism makes the code easy to change, maintain, and extend by increasing flexibility._____

2. Explain the advantages and disadvantages of using applying Polymorphism in an Object-Oriented Program.

_Less disruption of client code, modulo specific “factory” operations to set up the kinds of objects that code needs to interact with for a given application._____

3. What maybe the advantage and disadvantage of the program we wrote to read and write csv and json files?

_advantage- Readable and easy to edit manually disadvantage - CSV allows to move most basic data only. Complex configurations cannot be imported and exported this way._____

4. What maybe considered if Polymorphism is to be implemented in an Object-Oriented Program?
_Polymorphism is another fundamental concept in OOP, which means multiple forms. Polymorphism allows the use of a single interface with different underlying forms, such as data types or classes.

5. How do you think Polymorphism is used in an actual programs that we use today?

_Like a man at the same time is a father, a husband, an employee. So the same person possesses different behavior in different situations. This is called polymorphism. Polymorphism is considered one of the important features of Object-Oriented Programming._____

Conclusion

During this activity it allows us to know the importance of polymorphism in programming since programmers will most like deal with polymorphism during different types of problems since polymorphism makes the code easy to change, maintain and extend because you can use the same name of the method of the child class to its parent class but inheritance is different since polymorphism does not inherit the methods that has the same name.

"I accept responsibility for my role in ensuring the integrity of the work submitted by the group in which I participated."