

LAB ASSIGNMENT 15

MEMENTO DESIGN PATTERN

Memento is a behavioral design pattern that lets you save and restore the previous state of an object without revealing the details of its implementation.

CODE:

- Memento.java

```
public class Memento {  
    private String order;  
  
    public Memento(String order) {  
        this.order = order;  
    }  
  
    public String getOrder() {  
        return order;  
    }  
}
```

- Originator.java

```
public class Originator {  
    private String order;  
  
    public void setOrder(String order) {  
        this.order = order;  
    }  
  
    public String getOrder() {  
        return order;  
    }  
  
    public Memento saveStateToMemento() {  
        return new Memento(order);  
    }  
  
    public void getStateFromMemento(Memento memento) {  
        order = memento.getOrder();  
    }  
}
```

- CareTaker.java

```
import java.util.ArrayList;
import java.util.List;

public class CareTaker {
    private List<Memento> mementoList = new ArrayList<Memento>();

    public void add(Memento order) {
        mementoList.add(order);
    }

    public Memento get(int index) {
        return mementoList.get(index);
    }
}
```

- Client.java

```
public class Client {
    public static void main(String[] args) {

        Originator originator = new Originator();
        CareTaker careTaker = new CareTaker();

        originator.setOrder("Order #1");
        originator.setOrder("Order #2");
        careTaker.add(originator.saveStateToMemento());

        originator.setOrder("Order #3");
        careTaker.add(originator.saveStateToMemento());

        originator.setOrder("Order #4");
        System.out.println("Current Order: " + originator.getOrder());

        originator.getStateFromMemento(careTaker.get(0));
        System.out.println("First saved Order : " + originator.getOrder());
        originator.getStateFromMemento(careTaker.get(1));
        System.out.println("Second saved Order : " + originator.getOrder());
    }
}
```

OUTPUT:

```
"C:\Users\Shruti Mishra\.jdk\openjdk-18.0.2.1\bin\java.exe" "-j
Order for Instrument taken
Instrument is being built
Instrument is being delivered

Instrument has already been delivered

Process finished with exit code 0
```