Design Pattern Lab
(20CP210P)
Assignment 6

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Interface JourneyPrototype

```java
public interface JourneyPrototype {
    public JourneyPrototype clone( String journey_2 );
}
```

Class Location :

```java
public class Location {
    public String locName;
    public int x;
    public int y;

    public Location(){
        this.locName = "";
    }

    public Location(String name){
        this.locName = name;
    }

    public Location ( String name , int x , int y ) {
        this.locName = name;
        this.x = x;
        this.y = y;
    }
}
```

Class Journey :

```java
import java.util.ArrayList;
import java.util.HashMap;
import java.util.Scanner;

    public class Journey implements JourneyPrototype{

        String jName;
        ArrayList<Location> journey = new
ArrayList<Location>();


        // >>>>>>>> Getters and setters >>>>>>>>>

        // (1) >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
        public String getjName() {
            return jName;
        }
        // (2) >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
        public ArrayList<Location> getJourney() {
            return journey;
        }
        // (3) >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
        public void setJourney() {

            System.out.println("Enter the location you want to
add ");
            HashMap<Integer , String> map = new HashMap<>();
            map.put(1,"Somnath");
            map.put(2,"Junagadh");
            map.put(3,"Jetpur");
            map.put(4,"Rajkot");
            map.put(5,"Amdavad");
            map.put(6,"Jaipur");
            map.put(7,"Delhi");
            map.put(8,"Manali");

            for ( int i = 0 ; i < 8 ; i++ ){
                System.out.println( i + "  " + map.get(i) );
            }

            System.out.println("How many Location you want to
include in this Journey ??");
            Scanner sc = new Scanner(System.in);
            int numofLoc = sc.nextInt();
```

```java
for ( int i = 1 ; i <= numofLoc ; i++ ) {
            int keyForMap = sc.nextInt();
            journey.add(new Location (  map.get(keyForMap)
) );
        }

        System.out.println("Location added succesfully");

    }

    // (4) >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
    public void setrName(String rName) {
        this.jName = rName;
    }


    // >>>>> Constructors >>>>>>
    public Journey() {
        this.jName = "";
    }
    public Journey(String name) {
        this.jName = name;
    }


    // Clone method
    public Journey clone(String journey2 ) {
        Journey j = new Journey( journey2 );
        j.journey = this.journey;
        return j;
    }

    // To String
    public void printJourney() {
        System.out.println("Journey name is : " + jName );
        String text = "";
        for ( int i = 0 ; i < journey.size() ; i++ ) {
            text += " " + journey.get(i).locName + " -> ";
        }
        System.out.println(text);
    }

}
```

Class Main

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

        // Here " Regular-SomnathExpress " and " Luxury-
SomnathExpress " Both are diffrent train/bus
        // ... but both follows same path so we can use clone
method

        Journey j1 = new Journey("Regular-SomnathExpress");
        j1.setJourney();

        j1.printJourney();

        Journey j2 = j1.clone("Luxury-SomnathExpress");
        j2.printJourney();


    }
}
```

Output :

```
"C:\Program Files\Java\jdk-18.0.2\bin\java.exe" "-javaagent:C:\Program Fil
Enter the location you want to add
0   null
1   Somnath
2   Junagadh
3   Jetpur
4   Rajkot
5   Amdavad
6   Jaipur
7   Delhi
How many Location you want to include in this Journey ??
4

1 4 6 7

Location added succesfully
Journey name is : Regular-SomnathExpress
 Somnath ->  Rajkot ->  Jaipur ->  Delhi ->
Journey name is : Luxury-SomnathExpress
 Somnath ->  Rajkot ->  Jaipur ->  Delhi ->


Process finished with exit code 0
```