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**Assignment-3 (Prototype Pattern)**

**Aim:**

To implement Prototype Design Pattern using Accommodation management system.

**Code:**

room.java

package PrototypePattern;

public class room {

    int roomNo;

    String cName;

    public String getCname(){

        return cName;

    }

    public int getRoomNo(){

        return roomNo;

    }

    public void setCname(String cName){

        this.cName = cName;

    }

    public void setRoomNo(int roomNo){

        this.roomNo = roomNo;

    }

    @Override

    public String toString(){

        return "Room [roomNo:" + roomNo + " customerName" + cName + "]";

    }

}

hotel.java

package PrototypePattern;

import java.util.ArrayList;

import java.util.List;

public class hotel implements Cloneable{

    String hotelName;

    List<room> rooms = new ArrayList<>();

    public String getHotelName(){

        return hotelName;

    }

    public void setHotelName(String hotelName){

        this.hotelName = hotelName;

    }

    public List<room> getRooms(){

        return rooms;

    }

    public void setRooms(List<room> rooms){

        this.rooms = rooms;

    }

    public void loadData(){

        for(int i=1; i<=5; i++){

            room b= new room();

            b.setRoomNo(i);

            b.setCname("Room"+i);

            getRooms().add(b);

        }

    }

    @Override

    public String toString(){

        return "Hotel [HotelName="+ hotelName+ ", rooms="+ rooms+ "]";

    }

    public hotel clone() throws CloneNotSupportedException{

        hotel h = new hotel();

        for (room r : this.getRooms()){

            h.getRooms().add(r);

        }

        return h;

    }

}

Test.java

package PrototypePattern;

public class Test {

    public static void main(String args[]) throws CloneNotSupportedException{

        hotel h1 = new hotel();

        h1.setHotelName("H1");

        h1.loadData();

        hotel h2 = h1.clone();

        h1.getRooms().remove(3);

        h2.setHotelName("H2");

        System.out.println(h1);

        System.out.println(h2);

    }

}

**Output:**

