

```
import java.io.*;
import java.util.*;

class Patient {
    private String name;
    private int age;
    private String gender;
    private String illness;
    private String doctor;
    private String room;

    public Patient(String name, int age, String gender, String illness, String doctor, String room) {
        this.name = name;
        this.age = age;
        this.gender = gender;
        this.illness = illness;
        this.doctor = doctor;
        this.room = room;
    }

    public String getName() {
        return name;
    }

    public int getAge() {
        return age;
    }

    public String getGender() {
        return gender;
    }

    public String getIllness() {
        return illness;
    }

    public String getDoctor() {
        return doctor;
    }

    public String getRoom() {
        return room;
    }

    public String toString() {
        return "Name: " + name + "\nAge: " + age + "\nGender: " + gender + "\nIllness: " + illness +
            "\nDoctor: " + doctor + "\nRoom: " + room + "\n";
    }
}
```

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}
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```
class Hospital {  
    private ArrayList<Patient> patients = new ArrayList<Patient>();  
  
    public void addPatient(Patient p) {  
        patients.add(p);  
    }  
  
    public void writeToFile() throws IOException {  
        BufferedWriter bw = new BufferedWriter(new FileWriter("patients.txt"));  
        for (Patient p : patients) {  
            bw.write(p.getName() + "," + p.getAge() + "," + p.getGender() + "," + p.getIllness() + "," +  
p.getDoctor() + "," + p.getRoom() + "\n");  
        }  
        bw.close();  
    }  
  
    public void readFromFile() throws IOException {  
        BufferedReader br = new BufferedReader(new FileReader("patients.txt"));  
        String line;  
        while ((line = br.readLine()) != null) {  
            String[] parts = line.split(",");  
            Patient p = new Patient(parts[0], Integer.parseInt(parts[1]), parts[2], parts[3], parts[4],  
parts[5]);  
            patients.add(p);  
        }  
        br.close();  
    }  
  
    public void displayPatients() {  
        for (Patient p : patients) {  
            System.out.println(p);  
        }  
    }  
}
```

```
public class HospitalManagementSystem {  
    public static void main(String[] args) throws IOException {  
        Hospital hospital = new Hospital();  
  
        // Add patients  
        Patient p1 = new Patient("John", 35, "Male", "Flu", "Dr. Smith", "101");  
        Patient p2 = new Patient("Sarah", 25, "Female", "Migraine", "Dr. Johnson", "102");  
        Patient p3 = new Patient("David", 45, "Male", "Heart Attack", "Dr. Thompson", "103");  
        hospital.addPatient(p1);  
        hospital.addPatient(p2);  
        hospital.addPatient(p3);  
    }  
}
```

```
// Write patients to file
hospital.writeToFile();

// Read patients from file
hospital.readFromFile();

// Display patients
hospital.displayPatients();
}
}
```