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";

}

}

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();

}

}