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import java.io.*;
import java.util.Scanner;

class Patient {
    private String name;
    private int age;
    private String gender;
    private String ailment;

    // Constructor
    public Patient(String name, int age, String gender, String ailment) {
        this.name = name;
        this.age = age;
        this.gender = gender;
        this.ailment = ailment;
    }

    // Getters
    public String getName() {
        return name;
    }

    public int getAge() {
        return age;
    }

    public String getGender() {
        return gender;
    }

    public String getAilment() {
        return ailment;
    }

    // Method to display patient details
    public void display() {
        System.out.println("Name: " + name);
        System.out.println("Age: " + age);
        System.out.println("Gender: " + gender);
        System.out.println("Ailment: " + ailment);
    }
}

public class HospitalManagementSystem {
    private static final String FILE_NAME = "patients.txt";

    // Method to add a patient record
    public static void addPatient() {

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try {
    BufferedWriter writer = new BufferedWriter(new FileWriter(FILE_NAME, true));
    Scanner scanner = new Scanner(System.in);

    System.out.println("Enter patient name:");
    String name = scanner.nextLine();
    System.out.println("Enter patient age:");
    int age = Integer.parseInt(scanner.nextLine());
    System.out.println("Enter patient gender:");
    String gender = scanner.nextLine();
    System.out.println("Enter patient ailment:");
    String ailment = scanner.nextLine();

    Patient patient = new Patient(name, age, gender, ailment);

    writer.write(patient.getName() + "," + patient.getAge() + "," + patient.getGender() + "," +
patient.getAilment());
    writer.newLine();
    writer.close();
    System.out.println("Patient record added successfully.");
} catch (IOException e) {
    System.err.println("Error adding patient record: " + e.getMessage());
}
}

// Method to search for a patient record
public static void searchPatient() {
    try {
        BufferedReader reader = new BufferedReader(new FileReader(FILE_NAME));
        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter patient name to search:");
        String name = scanner.nextLine();
        String line;
        boolean found = false;

        while ((line = reader.readLine()) != null) {
            String[] parts = line.split(",");
            if (parts[0].equalsIgnoreCase(name)) {
                Patient patient = new Patient(parts[0], Integer.parseInt(parts[1]), parts[2], parts[3]);
                patient.display();
                found = true;
                break;
            }
        }

        if (!found) {
            System.out.println("Patient record not found.");
        }
    }
}

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    }

    reader.close();
} catch (IOException e) {
    System.err.println("Error searching for patient record: " + e.getMessage());
}
}

// Method to display all patient records
public static void displayAllPatients() {
    try {
        BufferedReader reader = new BufferedReader(new FileReader(FILE_NAME));
        String line;

        while ((line = reader.readLine()) != null) {
            String[] parts = line.split(",");
            Patient patient = new Patient(parts[0], Integer.parseInt(parts[1]), parts[2], parts[3]);
            patient.display();
            System.out.println("-----");
        }

        reader.close();
    } catch (Exception e) {
        e.printStackTrace();
    }
}

// Main method
public static void main(String[] args) {
    Scanner scanner = new Scanner(System.in);
    int choice;

    while (true) {
        System.out.println("Hospital Management System");
        System.out.println("1. Add Patient");
        System.out.println("2. Search Patient");
        System.out.println("3. Display All Patients");
        System.out.println("4. Exit");
        System.out.println("Enter your choice:");

        choice = Integer.parseInt(scanner.nextLine());

        switch (choice) {
            case 1:
                addPatient();
                break;
            case 2:
                searchPatient();
                break;
            case 3:

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        displayAllPatients();
        break;
    case 4:
        System.out.println("Thank you for using the Hospital Management System. Exiting...");
        System.exit(0);
        break;
    default:
        System.out.println("Invalid choice. Please try again.");
    }
}
}
```