```
/* Group Project C programming

topic : Patient records management system

Group members :
1) Chaudhary Mohd Yasir (leader)
   Roll no : 26
   UIN     : 241P027
   Class   : F.E Comps (C)

2) Chowdhary Mohd Kaif
   Roll no : 20
   UIN     : 241P021
   Class   : F.E Comps (C)

3) Khan Mohd Shoaib
   Roll no : 27
   UIN     : 241P028
   Class   : F.E Comps (C)

4) Siddique Arsalan
   Roll no : 11
   UIN     : 241P011
   Class   : F.E Comps (C)

5) Mansoori Mohd Jeesan
   Roll no : 30
   UIN     : 241P031
   Class   : F.E Comps (C)

*/


#include <stdio.h>

#define MAX_PATIENTS 100
#define MAX_NAME_LEN 50
#define MAX_DIAGNOSIS_LEN 100
#define MAX_CONTACT_LEN 20
#define FILE_NAME "patient_records.txt"

// Structure to hold patient information
struct Patient {
    int id;
    char name[MAX_NAME_LEN];
    int age;
    char diagnosis[MAX_DIAGNOSIS_LEN];
    char contact[MAX_CONTACT_LEN];
};

// Function prototypes
void addPatient(struct Patient patients[], int *count);
void searchPatient(struct Patient patients[], int count);
void viewPatients(struct Patient patients[], int count);
void saveToFile(struct Patient patients[], int count);
void loadFromFile(struct Patient patients[], int *count);
int stringEquals(char str1[], char str2[]);
void stringCopy(char dest[], char src[]);

int main() {
    struct Patient patients[MAX_PATIENTS];
    int count = 0;
    int choice;
```

```
    loadFromFile(patients, &count);

    do {
        printf("\n--- Patient Record Management System ---\n");
        printf("1. Add Patient Record\n");
        printf("2. Search Patient Record\n");
        printf("3. View All Patient Records\n");
        printf("4. Save and Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);

        switch (choice) {
            case 1:
                addPatient(patients, &count);
                break;
            case 2:
                searchPatient(patients, count);
                break;
            case 3:
                viewPatients(patients, count);
                break;
            case 4:
                saveToFile(patients, count);
                printf("Records saved. Exiting...\n");
                break;
            default:
                printf("Invalid choice. Please try again.\n");
        }
    } while (choice != 4);

    return 0;
}

void addPatient(struct Patient patients[], int *count) {
    if (*count >= MAX_PATIENTS) {
        printf("Error: Maximum patient limit reached.\n");
        return;
    }

    struct Patient newPatient;
    printf("Enter Patient ID: ");
    scanf("%d", &newPatient.id);
    printf("Enter Name: ");
    scanf(" %[^\n]", newPatient.name);
    printf("Enter Age: ");
    scanf("%d", &newPatient.age);
    printf("Enter Diagnosis: ");
    scanf(" %[^\n]", newPatient.diagnosis);
    printf("Enter Contact Info: ");
    scanf(" %[^\n]", newPatient.contact);

    patients[*count] = newPatient;
    (*count)++;
    printf("Patient record added successfully!\n");
}

void searchPatient(struct Patient patients[], int count) {
    int id, found = 0;
    printf("Enter Patient ID to search: ");
    scanf("%d", &id);

    for (int i = 0; i < count; i++) {
        if (patients[i].id == id) {
            printf("\n--- Patient Record ---\n");
```

```
            printf("ID: %d\n", patients[i].id);
            printf("Name: %s\n", patients[i].name);
            printf("Age: %d\n", patients[i].age);
            printf("Diagnosis: %s\n", patients[i].diagnosis);
            printf("Contact: %s\n", patients[i].contact);
            found = 1;
            break;
        }
    }

    if (!found) {
        printf("Patient with ID %d not found.\n", id);
    }
}

void viewPatients(struct Patient patients[], int count) {
    if (count == 0) {
        printf("No patient records available.\n");
        return;
    }

    printf("\n--- All Patient Records ---\n");
    for (int i = 0; i < count; i++) {
        printf("\nPatient %d:\n", i + 1);
        printf("ID: %d\n", patients[i].id);
        printf("Name: %s\n", patients[i].name);
        printf("Age: %d\n", patients[i].age);
        printf("Diagnosis: %s\n", patients[i].diagnosis);
        printf("Contact: %s\n", patients[i].contact);
    }
}

void saveToFile(struct Patient patients[], int count) {
    FILE *file = fopen(FILE_NAME, "w");
    if (!file) {
        printf("Error: Could not open file for writing.\n");
        return;
    }

    for (int i = 0; i < count; i++) {
    fprintf(file, "%d,%s,%d,%s,%s\n", patients[i].id, patients[i].name,
     patients[i].age, patients[i].diagnosis, patients[i].contact);
    }

    fclose(file);
}

void loadFromFile(struct Patient patients[], int *count) {
    FILE *file = fopen(FILE_NAME, "r");
    if (!file) {
        return; // File doesn't exist, no need to load anything
    }

    while (fscanf(file, "%d,%49[^,],%d,%99[^,],%19[^\n]\n",
                  &patients[*count].id,
                  patients[*count].name,
                  &patients[*count].age,
                  patients[*count].diagnosis,
                  patients[*count].contact) == 5) {
        (*count)++;
    }

    fclose(file);
}
```

```
int stringEquals(char str1[], char str2[]) {
    int i = 0;
    while (str1[i] != '\0' && str2[i] != '\0') {
        if (str1[i] != str2[i]) {
            return 0;
        }
        i++;
    }
    return str1[i] == '\0' && str2[i] == '\0';
}

void stringCopy(char dest[], char src[]) {
    int i = 0;
    while (src[i] != '\0') {
        dest[i] = src[i];
        i++;
    }
    dest[i] = '\0';
}

/* output

--- Patient Record Management System ---
1. Add Patient Record
2. Search Patient Record
3. View All Patient Records
4. Save and Exit
Enter your choice: 1

Enter Patient ID: 01
Enter Name: Yasir
Enter Age: 18
Enter Diagnosis: Cancer
Enter Contact Info: 9987829340
Patient record added successfully!

--- Patient Record Management System ---
1. Add Patient Record
2. Search Patient Record
3. View All Patient Records
4. Save and Exit
Enter your choice: 1

Enter Patient ID: 02
Enter Name: Kaif
Enter Age: 18
Enter Diagnosis: Diabatese
Enter Contact Info: +91 80977 53152
Patient record added successfully!

--- Patient Record Management System ---
1. Add Patient Record
2. Search Patient Record
3. View All Patient Records
4. Save and Exit
Enter your choice: 1

Enter Patient ID: 03
Enter Name: Shoaib
Enter Age: 18
Enter Diagnosis: Malaria
Enter Contact Info: +91 96195 65744
Patient record added successfully!
```

```
--- Patient Record Management System ---
1. Add Patient Record
2. Search Patient Record
3. View All Patient Records
4. Save and Exit
Enter your choice: 1

Enter Patient ID: 04
Enter Name: Arsalan
Enter Age: 18
Enter Diagnosis: Asthama
Enter Contact Info: +91 93216 32469
Patient record added successfully!

--- Patient Record Management System ---
1. Add Patient Record
2. Search Patient Record
3. View All Patient Records
4. Save and Exit
Enter your choice: 1

Enter Patient ID: 05
Enter Name: Jeeshan
Enter Age: 18
Enter Diagnosis: Fever
Enter Contact Info: +91 86527 80069
Patient record added successfully!

--- Patient Record Management System ---
1. Add Patient Record
2. Search Patient Record
3. View All Patient Records
4. Save and Exit
Enter your choice: 2

Enter Patient ID to search: 01

--- Patient Record ---
ID: 1
Name: Yasir
Age: 18
Diagnosis: Cancer
Contact: 9987829340

--- Patient Record Management System ---
1. Add Patient Record
2. Search Patient Record
3. View All Patient Records
4. Save and Exit
Enter your choice: 3

--- All Patient Records ---

Patient 1:
ID: 1
Name: Yasir
Age: 18
Diagnosis: Cancer
Contact: 9987829340

Patient 2:
ID: 2
Name: Kaif
```

```
Age: 18
Diagnosis: Diabatese
Contact: +91 80977 53152

Patient 3:
ID: 3
Name: Shoaib
Age: 18
Diagnosis: Malaria
Contact: +91 96195 65744

Patient 4:
ID: 4
Name: Arsalan
Age: 18
Diagnosis: Asthama
Contact: +91 93216 32469

Patient 5:
ID: 5
Name: Jeeshan
Age: 18
Diagnosis: Fever
Contact: +91 86527 80069

--- Patient Record Management System ---
1. Add Patient Record
2. Search Patient Record
3. View All Patient Records
4. Save and Exit
Enter your choice: 4

Records saved. Exiting...
*/
```