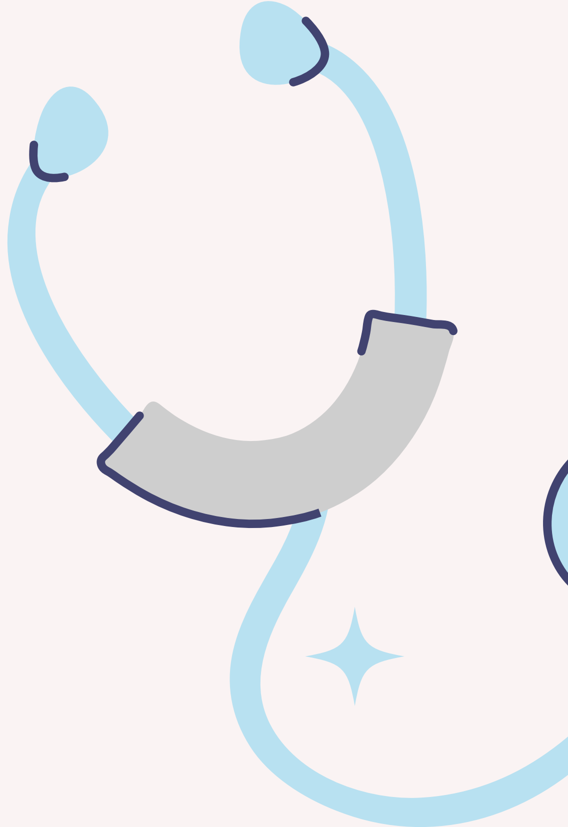
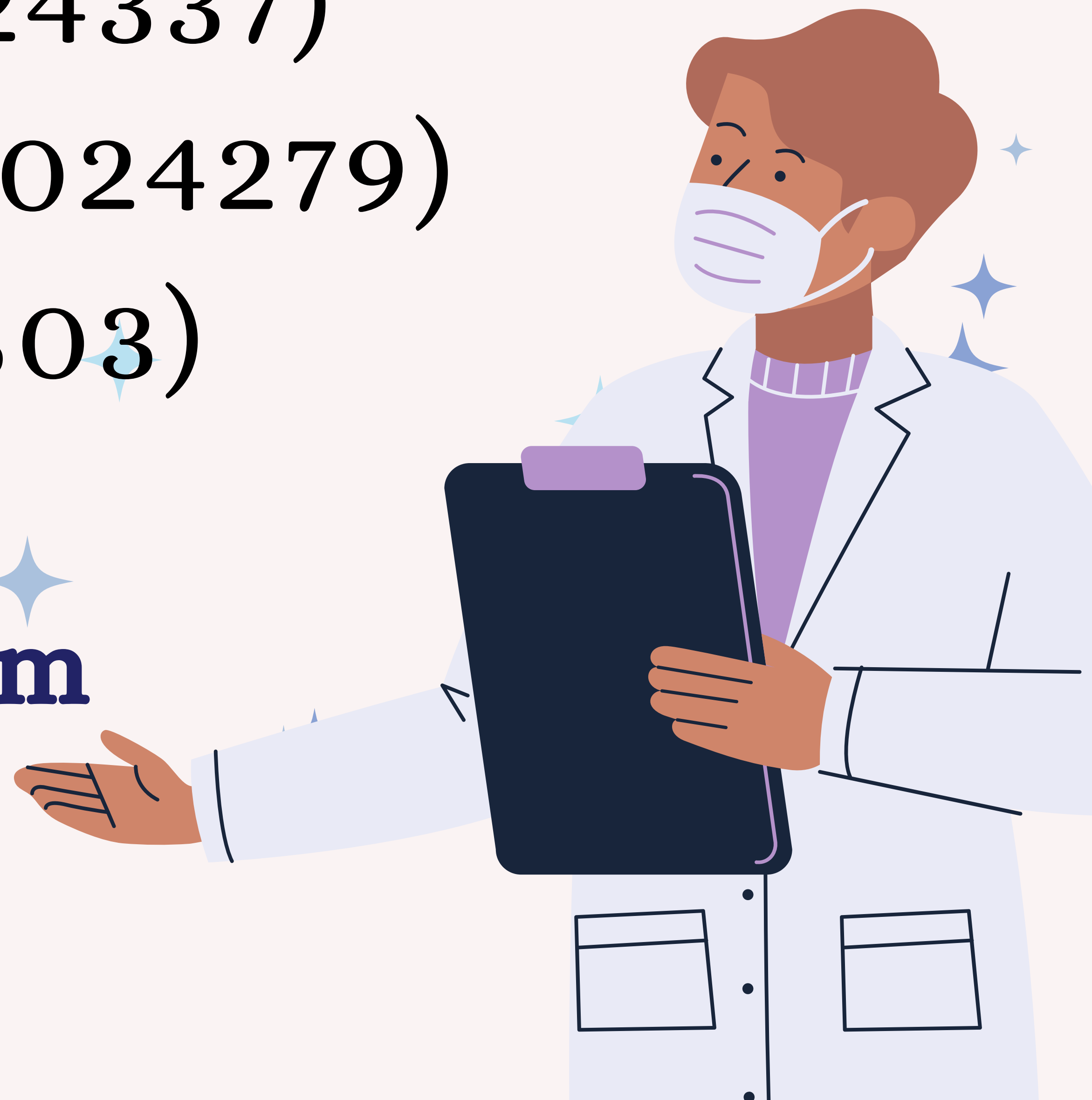
Hospital Management System in C Programming



Team Members

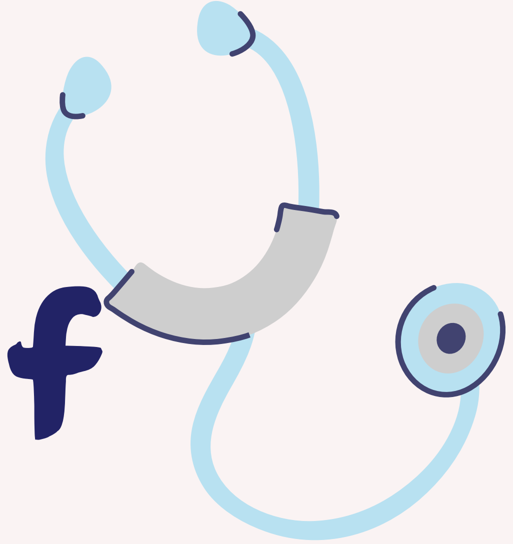
- Anubhav Kumar (BCS2024314)
- Hemant Rathore (BCS2024330)
- Shekhar Gangwar (BCS2024337)
- Mohit Kumar Singh (BCS2024279)
- Harikesh Singh (BCS2024303)

Guidance by: Harshita Ma'am



INVERTIS
UNIVERSITY BAREILLY

Introduction Of Project



Hospital Management System in C Programming

Overview of the Project:

- Brief introduction to the hospital management system.
- **Purpose**: To manage patient records, doctor details, appointment, and hospital administration tasks.

Why C programming?

- Chosen for simplicity, control over system resources, and fast execution.
- A good way to practice C programming basics like structures, file handling, and control flow.

Key features

Patient Management:

Adding, viewing, update and searching patient details.

Doctor Management:

Adding, viewing, update and searching doctor details.

Appointment Management:

Adding Appointment and searching appointment details.

Search and Display:

Search for a patient by ID and display their records.

Cancel/Modify management record:

Enable entry record cancellations or modifications as needed.

System Design

Data Structures Used:

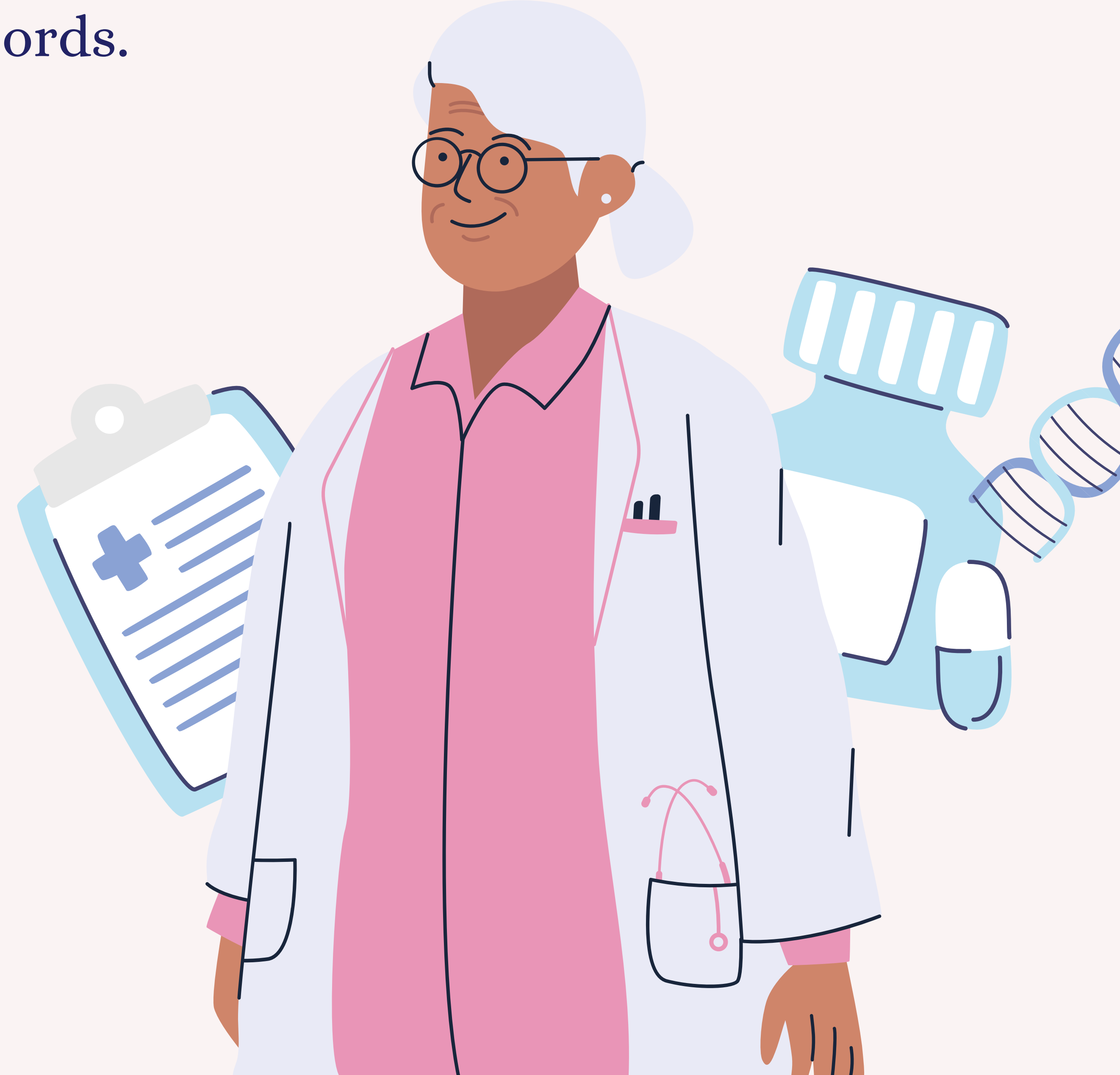
- **Structures:** A Patient structure to store details like name, ID, disease, doctor address and gender etc.
- Arrays or dynamic memory allocation for storing multiple patient records.

Functions:

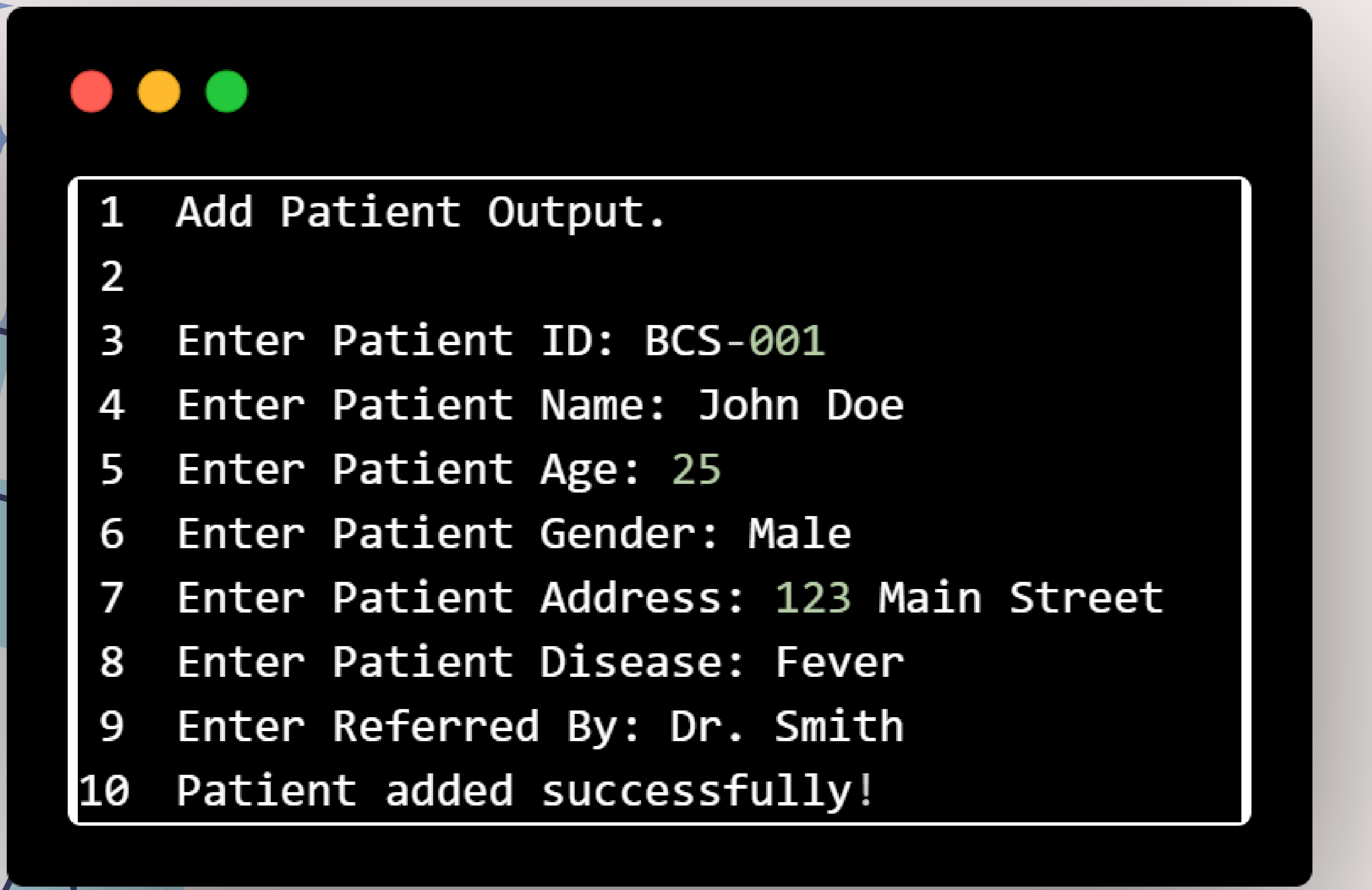
- **addPatient()**: Function to add a new patient's details.
- **addDoctor()** : Function to add a new doctor's details.
- **addAppointment()**: Function to add a appointment's details.

Menu System:

- A simple text-based menu for the user to interact with the system.
- Options to add, display, search, or exit the system.



Patient output



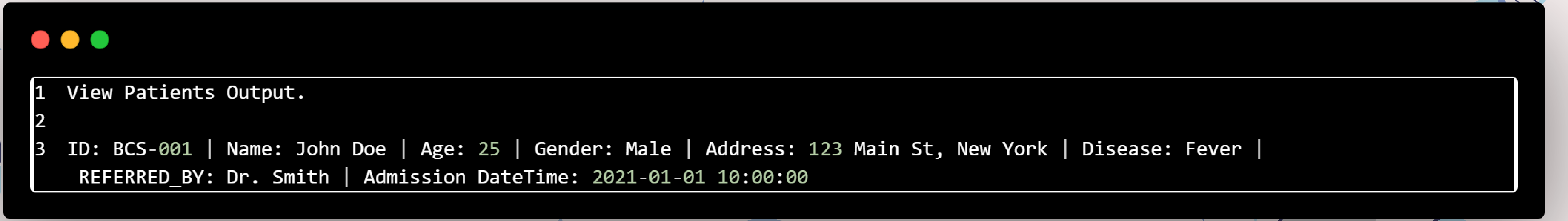
```
Add Patient Output.

Enter Patient ID: BCS-001
Enter Patient Name: John Doe
Enter Patient Age: 25
Enter Patient Gender: Male
Enter Patient Address: 123 Main Street
Enter Patient Disease: Fever
Enter Referred By: Dr. Smith
Patient added successfully!
```

```
void addPatient() {
    printf("Enter Patient ID: ");
    scanf("%s", patients[patientCount].id);
    printf("Enter Patient Name: ");
    scanf("%s", patients[patientCount].name);
    printf("Enter Patient Age: ");
    scanf("%d", &patients[patientCount].age);
    printf("Enter Patient Gender: ");
    scanf("%s", patients[patientCount].gender);
    printf("Enter Patient address: ");
    scanf("%s", patients[patientCount].address);
    printf("Enter Patient Disease: ");
    scanf("%s", patients[patientCount].disease);
    printf("Enter Referred By: ");
    scanf("%s", patients[patientCount].REFERRED_BY);
    getCurrentDateTime(patients[patientCount].admissionDateTime);
    patientCount++;
    printf("Patient added successfully!\n");
}
```

ViewPatients output

```
void viewPatients() {
   for (int i = 0; i < patientCount; i++) {
   printf("ID: %s, Name: %s, Age: %d, Gender: %s, Disease: %s, Admission DateTime: %s\n", patients[i].id,
patients[i].name, patients[i].age, patients[i].gender, patients[i].disease, patients[i].admissionDateTime);
   }
```

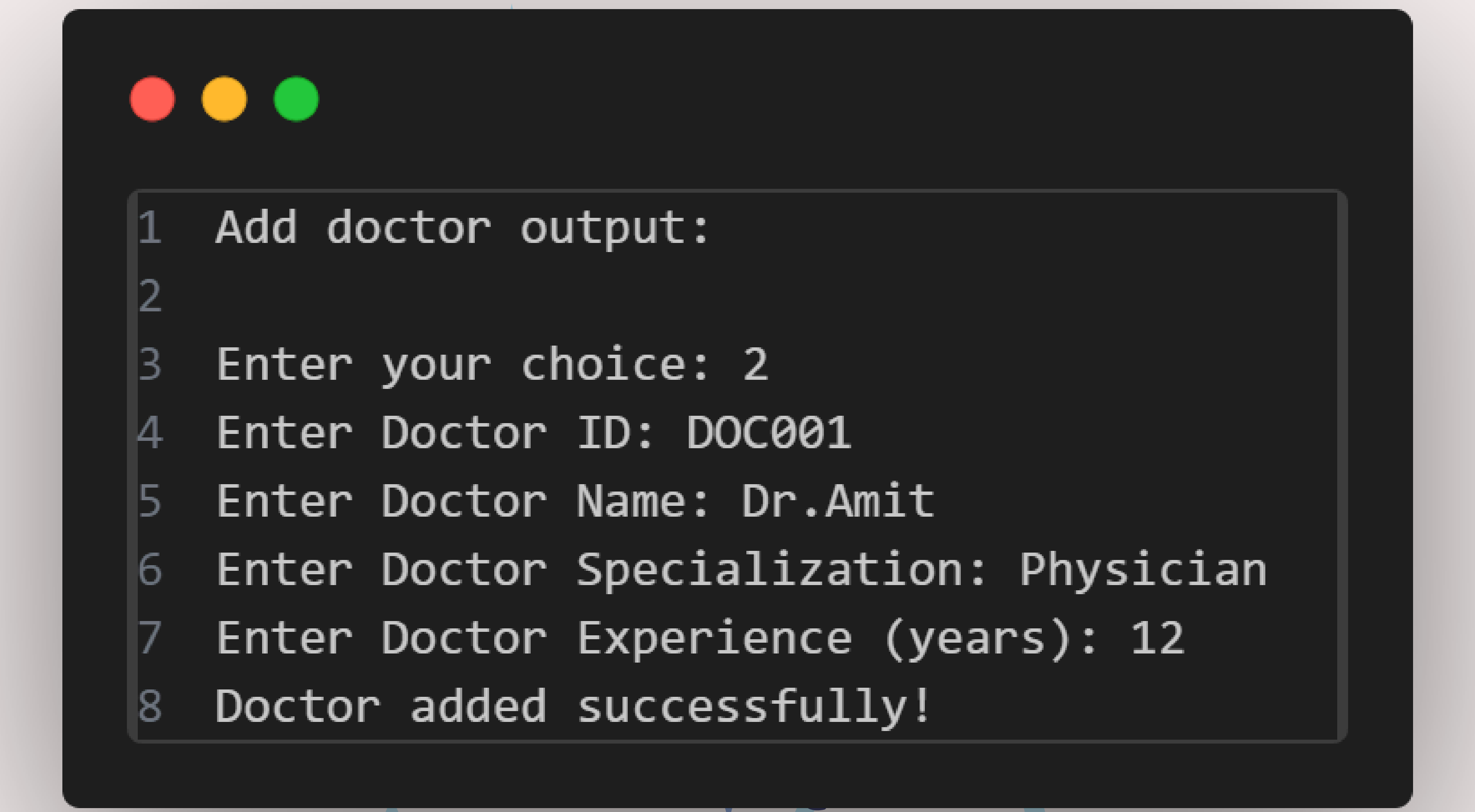


```
View Patients Output.

ID: BCS-001 | Name: John Doe | Age: 25 | Gender: Male | Address: 123 Main St, New York | Disease: Fever |
 REFERRED_BY: Dr. Smith | Admission DateTime: 2021-01-01 10:00:00
```

Doctor Output

```
void addDoctor() {
    printf("Enter Doctor ID: ");
    scanf("%s", &doctors[doctorCount].id);
    printf("Enter Doctor Name: ");
    scanf("%s", doctors[doctorCount].name);
    printf("Enter Doctor Specialization: ");
    scanf("%s", doctors[doctorCount].specialization);
    printf("Enter Doctor Experience (years): ");
    scanf("%d", &doctors[doctorCount].experience);
    doctorCount++;
    printf("Doctor added successfully!\n");
}
```

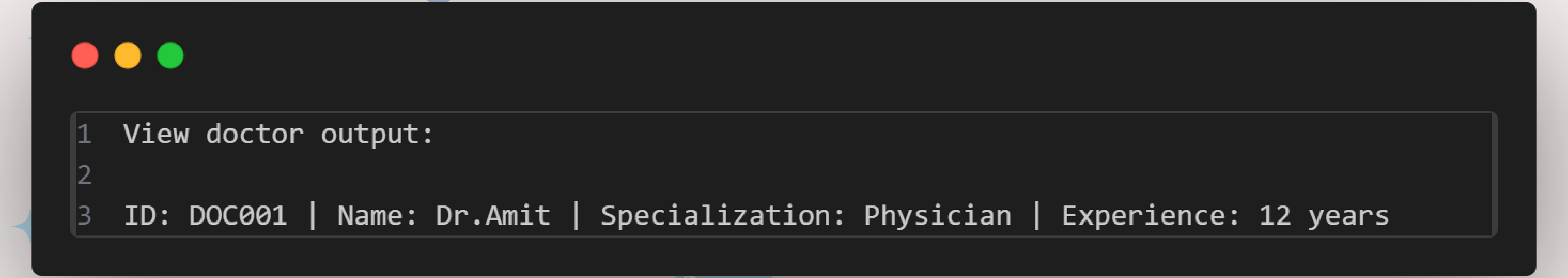


```
Add doctor output:

Enter your choice: 2
Enter Doctor ID: DOC001
Enter Doctor Name: Dr.Amit
Enter Doctor Specialization: Physician
Enter Doctor Experience (years): 12
Doctor added successfully!
```

ViewDoctor output

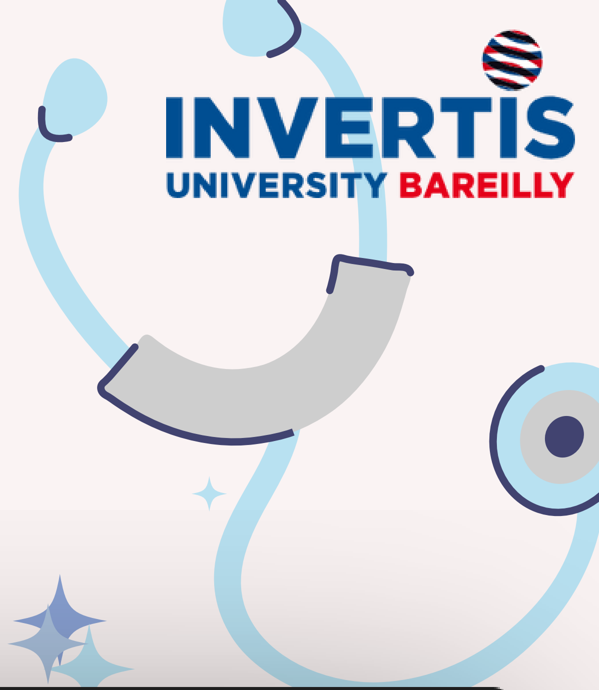
```
void viewDoctors() {
    for (int i = 0; i < doctorCount; i++) {
        printf("ID: %s, Name: %s, Specialization: %s, Experience: %d years\n", doctors[i].id,
doctors[i].name, doctors[i].specialization, doctors[i].experience);
    }
}
```



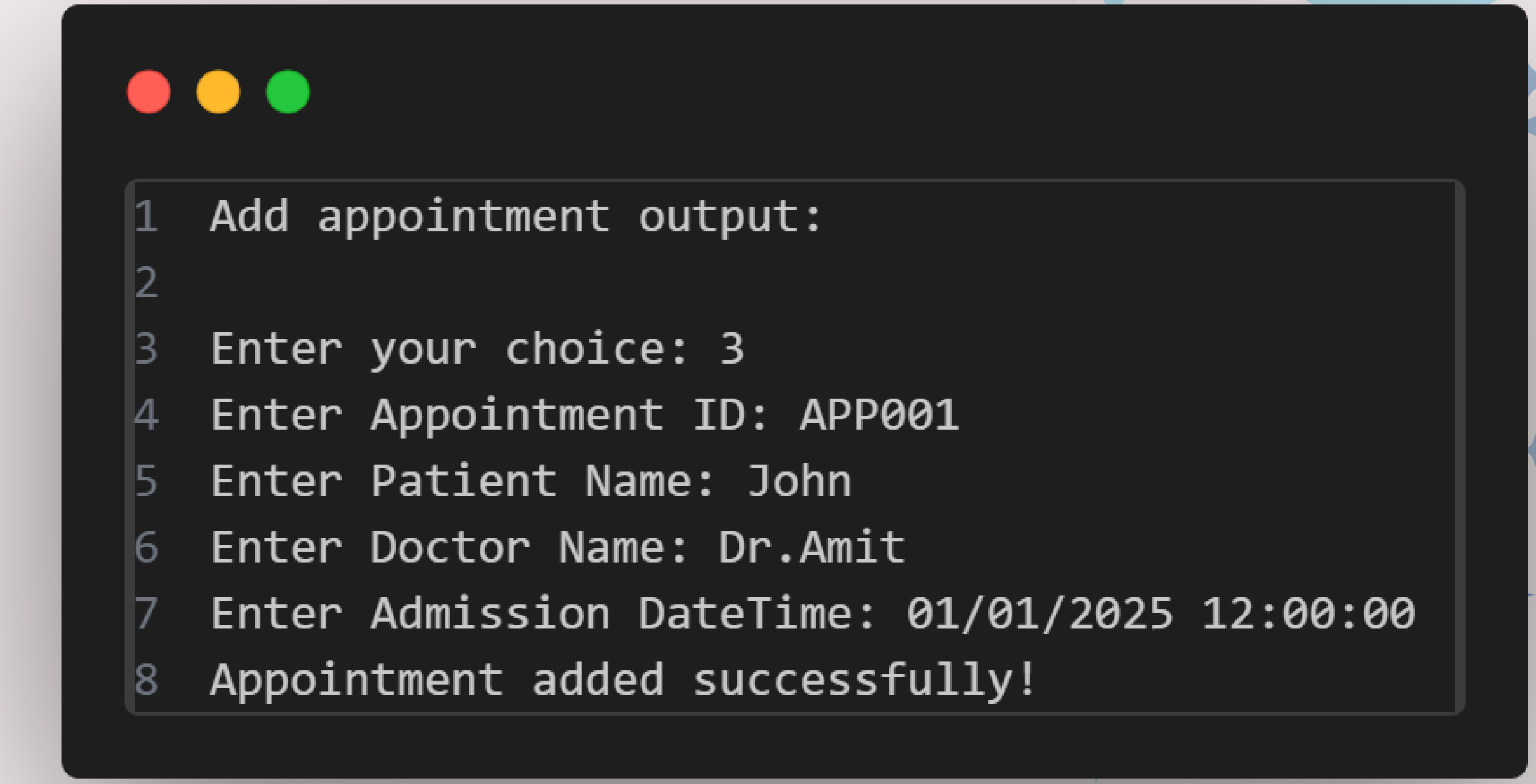
```
View doctor output:

ID: DOC001 | Name: Dr.Amit | Specialization: Physician | Experience: 12 years
```

Appointment Output



```c
void addAppointment() {
    printf("Enter Appointment ID: ");
    scanf("%s", &appointments[appointmentCount].id);
    printf("Enter Patient ID: ");
    scanf("%s", &appointments[appointmentCount].patientId);
    printf("Enter Doctor ID: ");
    scanf("%s", &appointments[appointmentCount].doctorId);
    printf("Enter Appointments Date :");
    scanf("%s",&appointments[appointmentCount].appointmentDateTime);
    appointmentCount++;
    printf("Appointment added successfully!\n");
}
```

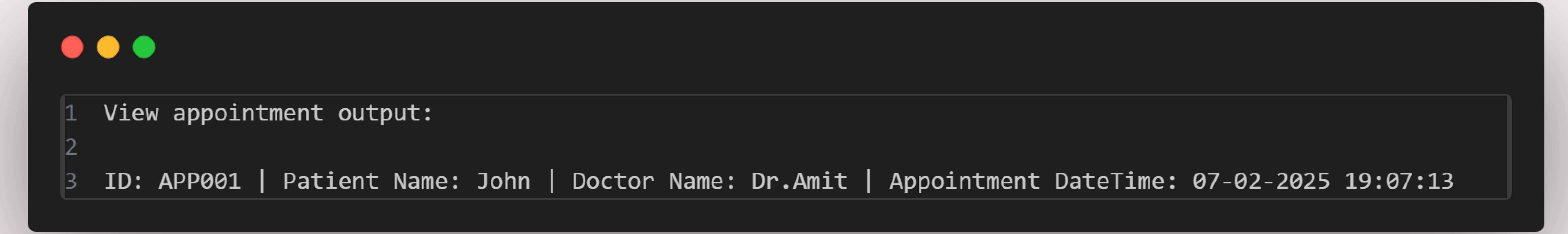


```
Add appointment output:

Enter your choice: 3
Enter Appointment ID: APP001
Enter Patient Name: John
Enter Doctor Name: Dr.Amit
Enter Admission DateTime: 01/01/2025 12:00:00
Appointment added successfully!
```

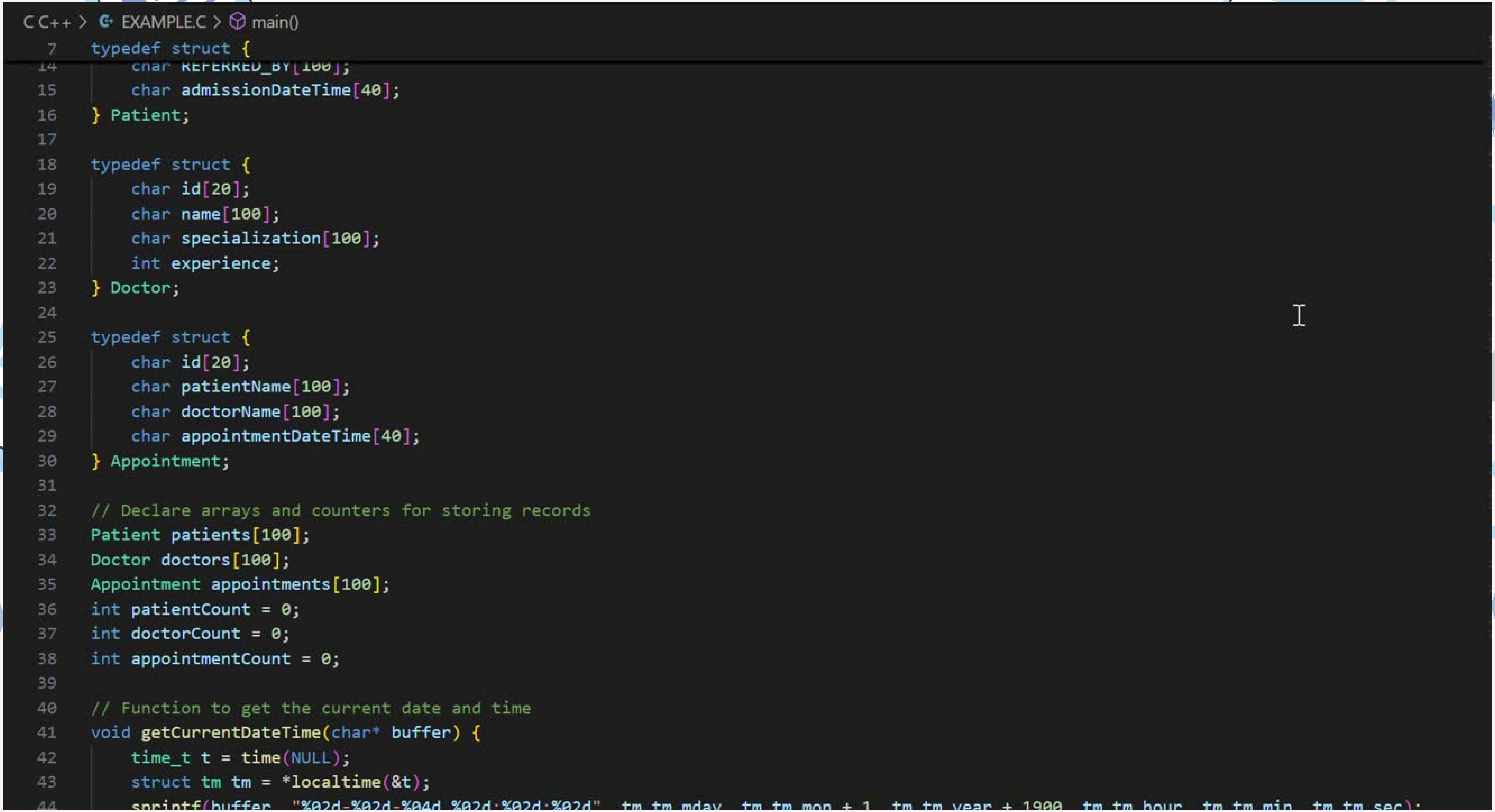
ViewAppointment output

```c
void viewAppointments() {
    for (int i = 0; i < appointmentCount; i++) {
    printf("ID: %s, Patient ID: %s, Doctor ID: %s, Appointment DateTime: %s\n",
    appointments[i].id,appointments[i].patientId,appointments[i].doctorId,
    appointments[i].appointmentDateTime);
  }
}
```



```
View appointment output:

ID: APP001 | Patient Name: John | Doctor Name: Dr.Amit | Appointment DateTime: 07-02-2025 19:07:13
```



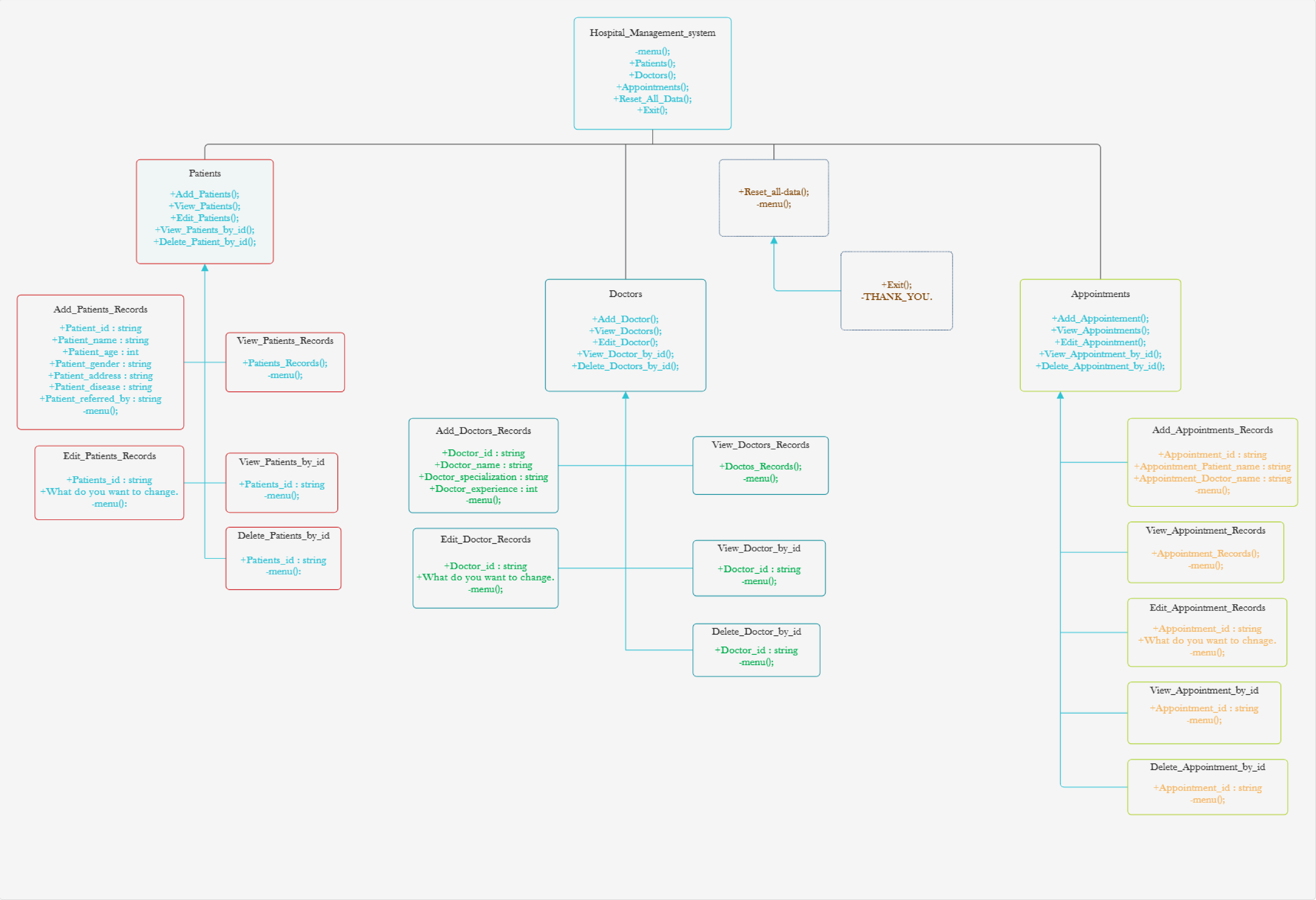
```c
typedef struct {
    char REFERRED_BY[100];
    char admissionDateTime[40];
} Patient;

typedef struct {
    char id[20];
    char name[100];
    char specialization[100];
    int experience;
} Doctor;

typedef struct {
    char id[20];
    char patientName[100];
    char doctorName[100];
    char appointmentDateTime[40];
} Appointment;

// Declare arrays and counters for storing records
Patient patients[100];
Doctor doctors[100];
Appointment appointments[100];
int patientCount = 0;
int doctorCount = 0;
int appointmentCount = 0;

// Function to get the current date and time
void getCurrentDateTime(char* buffer) {
    time_t t = time(NULL);
    struct tm tm = *localtime(&t);
    sprintf(buffer, "%02d-%02d-%04d %02d:%02d:%02d", tm.tm_mday, tm.tm_mon + 1, tm.tm_year + 1900, tm.tm_hour, tm.tm_min, tm.tm_sec);
```


Hospital_Management_system
-menu();
+Patients();
+Doctors();
+Appointments();
+Reset_All_Data();
+Exit();
Patients
+Add_Patients();
+View_Patients();
+Edit_Patients();
+View_Patients_by_id();
+Delete_Patient_by_id();
Add_Patients_Records
+Patient_id : string
+Patient_name : string
+Patient_age : int
+Patient_gender : string
+Patient_address : string
+Patient_disease : string
+Patient_referred_by : string
-menu();
View_Patients_Records
+Patients_Records();
-menu();
Edit_Patients_Records
+Patients_id : string
+What do you want to change.
-menu():
View_Patients_by_id
+Patients_id : string
-menu();
Delete_Patients_by_id
+Patients_id : string
-menu():
Doctors
+Add_Doctor();
+View_Doctors();
+Edit_Doctor();
+View_Doctor_by_id();
+Delete_Doctors_by_id();
Add_Doctors_Records
+Doctor_id : string
+Doctor_name : string
+Doctor_specialization : string
+Doctor_experience : int
-menu();
View_Doctors_Records
+Doctos_Records();
-menu();
Edit_Doctor_Records
+Doctor_id : string
+What do you want to change.
-menu();
View_Doctor_by_id
+Doctor_id : string
-menu();
Delete_Doctor_by_id
+Doctor_id : string
-menu();
+Reset_all-data();
-menu();
+Exit();
-THANK_YOU.
Appointments
+Add_Appointement();
+View_Appointments();
+Edit_Appointment();
+View_Appointment_by_id();
+Delete_Appointment_by_id();
Add_Appointments_Records
+Appointment_id : string
+Appointment_Patient_name : string
+Appointment_Doctor_name : string
-menu();
View_Appointment_Records
+Appointment_Records();
-menu();
Edit_Appointment_Records
+Appointment_id : string
+What do you want to chnage.
-menu();
View_Appointment_by_id
+Appointment_id : string
-menu();
Delete_Appointment_by_id
+Appointment_id : string
-menu();

INVERTIS
UNIVERSITY BAREILLY

Thank You

for your attention