Major Project Report

on

Project Title: -

Hospital Patient Management System

Course: PROGRAMMIG METHODOLOGIES-LABORATORY
Course Code: CAP173

Submitted by	Submitted to
Mona Raj Reg ID: 12417598 Section: D2404	Ms. Anjana Sharma Assistant Professor, SCA, LPU

Lovely Faculty of Technology & Sciences

School of Computer Applications

Lovely Professional University

Punjab

1. Title of the Project:

Hospital Patient Management System

2. Problem Statement:

This This project implements a patient management system for hospitals. The system allows users to perform operations such as viewing, adding, searching, editing, and deleting patient records. The program involves the following operations:

a. Displaying a menu for user input
b. Viewing pre-defined patient records.
c. Adding new patient records.
d. Searching for a patient by ID.
e. Editing existing patient records.
f. Deleting patient records.

3. Objectives of the Proposed Project:

a. Create a system to manage patient records effectively.
b. Allow users to perform CRUD (Create, Read, Update, Delete) operations.
c. Ensure accurate record maintenance and retrieval.
d. Provide a simple interface for hospital staff.

4. System Requirements:

a. **Front-End**: Command-line interface for user interaction.
b. **Back-End**: Implemented in C language using structures and functions.

4.1 Flowchart/Algorithm:

a. Display menu options (View, Add, Search, Edit, Delete, Quit).
b. Take user input for menu selection.
c. Perform corresponding operations using functions.
- View: Display all patient records.
- Add: Allow the user to enter a new record.
- Search: Search records by patient ID.
- Edit: Modify details of a selected patient.
- Delete: Remove patient information by resetting fields.
d. Exit when the user selects "Quit".

4.2 Input:
    a. User choice from the menu.
    b. Patient details (ID, name, age, gender, bill).

4.2 Output:
    a. Display of patient records.
    b. Confirmation of successful CRUD operations.

5. Constraints:
    a. The program is limited to five patient records at a time.
    b. Patient IDs must be unique.
    c. The menu requires single-character input (V, A, S, E, D, Q).
    d. Default patient records are pre-defined.

6. Benefits of the Proposed Project:
    a. Simplifies hospital record management.
    b. Provides an easy-to-use interface for performing operations.
    c. Allows efficient searching and editing of records.
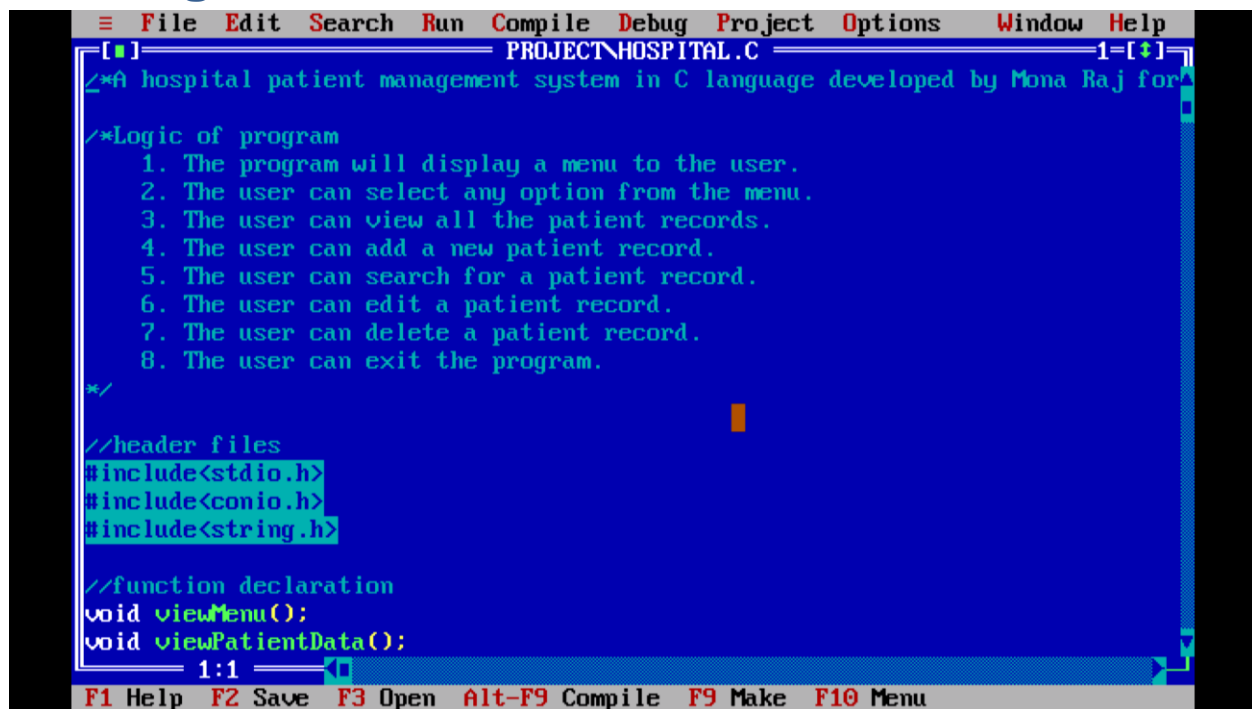   d. Serves as a foundation for building advanced management systems.

7. Expected Outcomes:
    a. A functional patient management system capable of handling basic operations.
    b. Accurate and consistent maintenance of patient data.
    c. User-friendly interaction for hospital staff.

8. Future Scope:
    a. Extend the system to handle more patient records dynamically using file handling or databases.
    b. Implement a GUI for better usability.
    c. Add features like patient history and billing details.
    d. Include user authentication for data security.
    e. Integrate reporting tools to generate summaries.

9. Coding Screenshots:
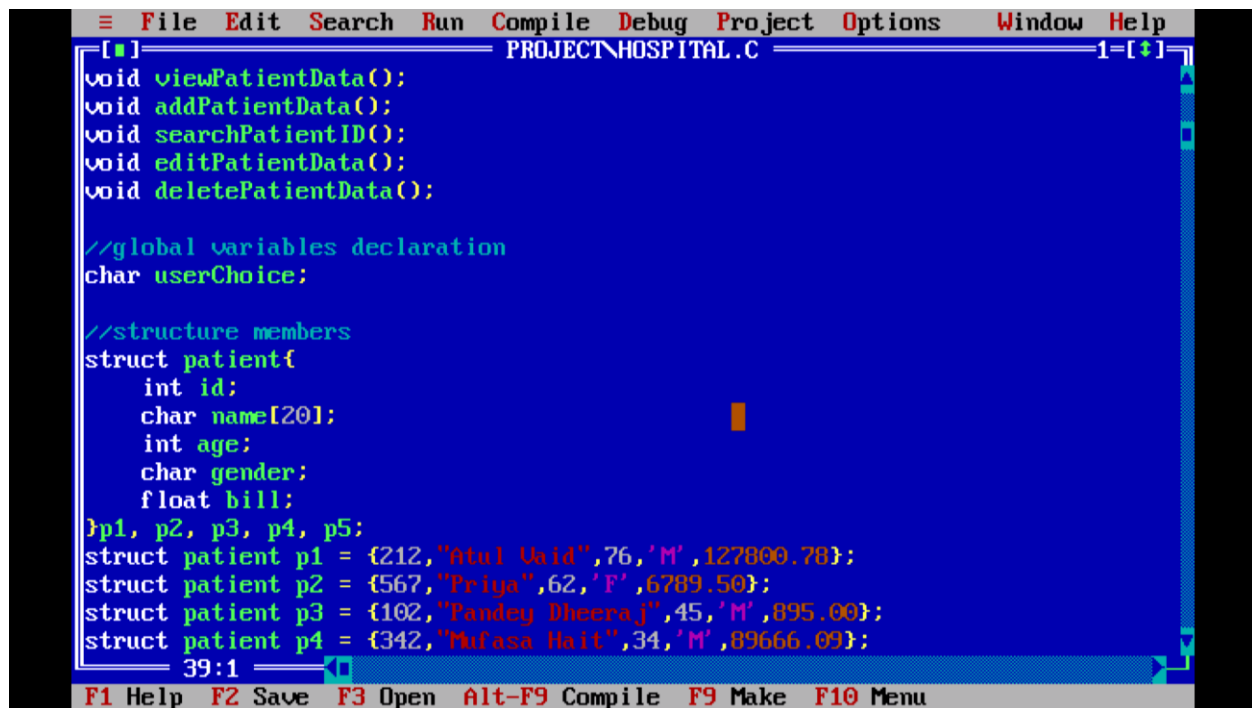
```
  ≡   File   Edit   Search   Run   Compile   Debug   Project   Options      Window   Help
┌[■]══════════════════════ PROJECT\HOSPITAL.C ══════════════════════1═[↕]═┐
/*A hospital patient management system in C language developed by Mona Raj for
/*Logic of program
    1. The program will display a menu to the user.
    2. The user can select any option from the menu.
    3. The user can view all the patient records.
    4. The user can add a new patient record.
    5. The user can search for a patient record.
    6. The user can edit a patient record.
    7. The user can delete a patient record.
    8. The user can exit the program.
*/

//header files
#include<stdio.h>
#include<conio.h>
#include<string.h>

//function declaration
void viewMenu();
void viewPatientData();
└══════ 1:1 ══════◄□
 F1 Help   F2 Save   F3 Open   Alt-F9 Compile   F9 Make   F10 Menu
```

```
  ≡   File   Edit   Search   Run   Compile   Debug   Project   Options      Window   Help
┌[■]══════════════════════ PROJECT\HOSPITAL.C ══════════════════════1═[↕]═┐
void viewPatientData();
void addPatientData();
void searchPatientID();
void editPatientData();
void deletePatientData();

//global variables declaration
char userChoice;

//structure members
struct patient{
    int id;
    char name[20];
    int age;
    char gender;
    float bill;
}p1, p2, p3, p4, p5;
struct patient p1 = {212,"Atul Vaid",76,'M',127800.78};
struct patient p2 = {567,"Priya",62,'F',6789.50};
struct patient p3 = {102,"Pandey Dheeraj",45,'M',895.00};
struct patient p4 = {342,"Mufasa Hait",34,'M',89666.09};
└══════ 39:1 ══════◄□
 F1 Help   F2 Save   F3 Open   Alt-F9 Compile   F9 Make   F10 Menu
```

```
[■]════════════════════════ PROJECT\HOSPITAL.C ═══════════════════1=[↕]
struct patient p4 = {342,"Mufasa Hait",34,'M',89666.09};
struct patient p5 = {000,"",00,'\0',00.00};

//main function
void main()
{
    clrscr();
    userChoice = 'V';    //default initialization
    do{
        viewMenu();
        switch(userChoice)
        {
            case 'V':
            viewPatientData();
            getch();
            break;
            case 'A':
            addPatientData();
            getch();
            break;
            case 'S':
```

```
[■]════════════════════════ PROJECT\HOSPITAL.C ═══════════════════1=[↕]
            break;
            case 'S':
            searchPatientID();
            getch();
            break;
            case 'E':
            editPatientData();
            getch();
            break;
            case 'D':
            deletePatientData();
            getch();
            break;
            case 'Q':
            printf("Thank you for using our patient management system.\n");
            break;
            default:
            printf("Invalid input. Try again.\n");
            break;
        }
    }
```

```
[■]══════════════════ PROJECT\HOSPITAL.C ═══════════════════1=[↕]
    while(userChoice != 'Q');
    getch();
}


//viewMenu() definition
void viewMenu()
{
    printf("\n---------------------------\n");
    printf("HEALTHSTAR HOSPITAL\nWelcome to our patient management system.\n")
    printf("What would you like to do?\nUse the following key --\nV : View\tA
    scanf("%c",&userChoice);
}


//viewPatientData() definition
void viewPatientData()
{
    printf("The patient records are\n");
    printf("Patient #1 Record --\n");
    printf("ID : %d\tName : %s\tAge : %d\tGender : %c\tBill : %.2f\n",p1.id, p
    printf("Patient #2 Record --\n");
    printf("ID : %d\tName : %s\tAge : %d\tGender : %c\tBill : %.2f\n",p2.id, p
══ 100:1 ══
```

```
[■]══════════════════ PROJECT\HOSPITAL.C ═══════════════════1=[↕]
    printf("Patient #4 Record --\n");
    printf("ID : %d\tName : %s\tAge : %d\tGender : %c\tBill : %.2f\n",p4.id, p
    printf("Patient #5 Record --\n");
    printf("ID : %d\tName : %s\tAge : %d\tGender : %c\tBill : %.2f\n",p5.id, p
}


//addPatientData() definition
void addPatientData()
{
    printf("Enter patient ID : ");
    scanf("%d",&p5.id);
    printf("Enter patient's name : ");
    scanf("%s",p5.name);
    printf("Enter patient's age, gender(M/F) and bill : ");
    scanf("%d %c %f", &p5.age, &p5.gender, &p5.bill);
}


//searchPatientID() definition
void searchPatientID()
{
    int patientID;
══ 124:1 ══
```

PROJECT\HOSPITAL.C

```c
    int patientID;
    printf("Enter Patients's ID : ");
    scanf("%d",&patientID);
    if (patientID == p1.id || patientID == p2.id || patientID == p3.id || pati
    {
            printf("Patient record found.\n");
    }
    else
    {
            printf("Patient record does not exist.\n\n");
    }
}

//editPatientData() definition
void editPatientData()
{
    int patientNum;
    printf("Enter Patients's Number(1/2/3/4/5) : ");
    scanf("%d",&patientNum);
    switch(patientNum)
    {
```

144:1

PROJECT\HOSPITAL.C

```c
    switch(patientNum)
    {
            case 1:
            printf("Enter patient ID : ");
            scanf("%d",&p1.id);
            printf("Enter patient's name : ");
            scanf("%s",p1.name);
            printf("Enter patient's age, gender(M/F) and bill : ");
            scanf("%d %c %f", &p1.age, &p1.gender, &p1.bill);
            break;
        case 2:
            printf("Enter patient ID : ");
            scanf("%d",&p2.id);
            printf("Enter patient's name : ");
            scanf("%s",p2.name);
            printf("Enter patient's age, gender(M/F) and bill : ");
            scanf("%d %c %f", &p2.age, &p2.gender, &p2.bill);
            break;
        case 3:
            printf("Enter patient ID : ");
            scanf("%d",&p3.id);
```

163:1

```
┌[■]══════════════════════ PROJECT\HOSPITAL.C ══════════════════1=[↕]┐
            scanf("%d",&p3.id);
            printf("Enter patient's name : ");
            scanf("%s",p3.name);
            printf("Enter patient's age, gender(M/F) and bill : ");
            scanf("%d %c %f", &p3.age, &p3.gender, &p3.bill);
            break;
        case 4:
            printf("Enter patient ID : ");
            scanf("%d",&p4.id);
            printf("Enter patient's name : ");
            scanf("%s",p4.name);
            printf("Enter patient's age, gender(M/F) and bill : ");
            scanf("%d %c %f", &p4.age, &p4.gender, &p4.bill);
            break;
        case 5:
            printf("Enter patient ID : ");
            scanf("%d",&p5.id);
            printf("Enter patient's name : ");
            scanf("%s",p5.name);
            printf("Enter patient's age : ");
            scanf("%d",&p5.age);
── 183:1 ──
```

```
┌[■]══════════════════════ PROJECT\HOSPITAL.C ══════════════════1=[↕]┐
//deletePatientData() definition
void deletePatientData()
{
    int patientNum;
    printf("Enter Patients's Number(1/2/3/4/5) : ");
    scanf("%d",&patientNum);
    switch(patientNum)
    {
        case 1:
        p1.id = 000;
        strcpy(p1.name,"Undefined");
        p1.age = 00;
        p1.gender = '\0';
        p1.bill = 00.00;
        break;
        case 2:
        p2.id = 000;
        strcpy(p2.name,"Undefined");
        p2.age = 00;
        p2.gender = '\0';
        p2.bill = 00.00;
── 215:1 ──
```

10. Results screenshots:

```
------------------------
HEALTHSTAR HOSPITAL
Welcome to our patient management system.
What would you like to do?
Use the following key --
V : View        A : Add S : Search       E : Edit        D : Delete        Q : Quit
V
The patient records are
Patient #1 Record --
ID : 212        Name : Atul Vaid        Age : 76        Gender : M        Bill : 1
27800.78
Patient #2 Record --
ID : 567        Name : Priya     Age : 62        Gender : F      Bill : 6789.50
Patient #3 Record --
ID : 102        Name : Pandey Dheeraj   Age : 45        Gender : M        Bill : 8
95.00
Patient #4 Record --
ID : 342        Name : Mufasa Hait      Age : 34        Gender : M        Bill : 8
9666.09
Patient #5 Record --
ID : 0  Name :  Age : 0 Gender :        Bill : 0.00

_
```

```
95.00
Patient #4 Record --
ID : 342        Name : Mufasa Hait      Age : 34        Gender : M        Bill : 8
9666.09
Patient #5 Record --
ID : 0  Name :  Age : 0 Gender :        Bill : 0.00

----------------------------
HEALTHSTAR HOSPITAL
Welcome to our patient management system.
What would you like to do?
Use the following key --
V : View        A : Add S : Search       E : Edit        D : Delete        Q : Quit
Invalid input. Try again.

----------------------------
HEALTHSTAR HOSPITAL
Welcome to our patient management system.
What would you like to do?
Use the following key --
V : View        A : Add S : Search       E : Edit        D : Delete        Q : Quit
S
Enter Patients's ID : 342
Patient record found.

_
```

```
---------------------------
HEALTHSTAR HOSPITAL
Welcome to our patient management system.
What would you like to do?
Use the following key --
V : View          A : Add S : Search        E : Edit        D : Delete      Q : Quit
A
Enter patient ID : 45
Enter patient's name : Jiya
Enter patient's age, gender(M/F) and bill : 76 F 6787.99
```

```
What would you like to do?
Use the following key --
V : View          A : Add S : Search        E : Edit        D : Delete      Q : Quit
A
Enter patient ID : 45
Enter patient's name : Jiya
Enter patient's age, gender(M/F) and bill : 76 F 6787.99

---------------------------
HEALTHSTAR HOSPITAL
Welcome to our patient management system.
What would you like to do?
Use the following key --
V : View          A : Add S : Search        E : Edit        D : Delete      Q : Quit
Invalid input. Try again.

---------------------------
HEALTHSTAR HOSPITAL
Welcome to our patient management system.
What would you like to do?
Use the following key --
V : View          A : Add S : Search        E : Edit        D : Delete      Q : Quit
Q
Thank you for using our patient management system.
```