Hospital Database Management System

By: Emin Riyaz

ABSTRACT

The project's goal is to computerise hospital front office administration in order to create software that is user-friendly, straightforward, quick, and economical. It deals with gathering patient data, including diagnosis specifics, etc. Traditionally, it was carried out by hand. The system's primary purpose is to register, store, and retrieve patient and information as needed and to usefully change that information if required. While system output is to display these details on the screen, system input contains patient and diagnosis-specific information. The information is simple to retrieve.

SCOPE OF THE PROJECT

- Simply writing the patient's name, age, and gender serves as information about the patient. Every time the patient comes up, new data is stored about him.
- Different diseases' information is not recorded in any documents. Doctors themselves carry out this work by keeping track of numerous medications.
- The sick need medical treatment, nursing care and shelter. With the advent of the modern society, the institution developed to cater to the needs of the sick was the hospitals.

ADVANTAGES

- Computerization - All the details regarding hospitals, whether it is small or big, will be computerised.
- No redundancy of patient records.
- Keep the Records - It will be easier task for the management to keep the record of the patients for historical purpose.
- Simple to use.

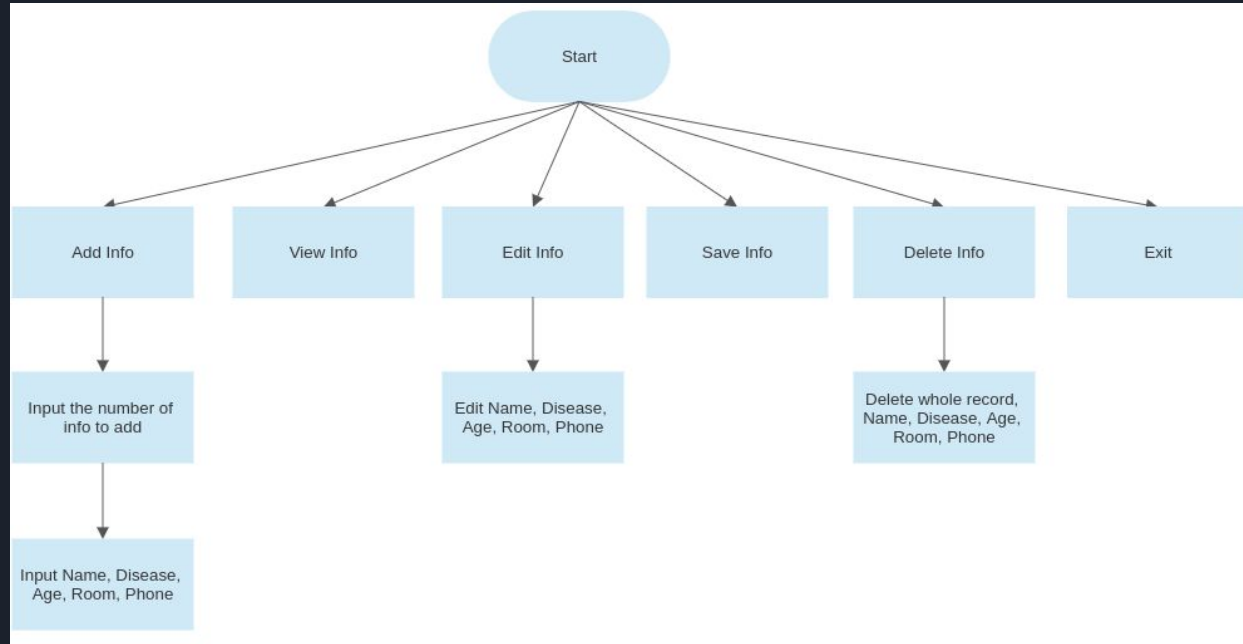# C CONCEPTS AND BUILT-IN FUNCTIONS USED IN THE PROGRAM

- To Add,Update, Delete Records : Functions
- For storing large data : Structures
- For backing up the records : File Handling
- For decision making : if-else
- For looping constructs : for, while

FUNCTIONS USED

1. Add Information
2. View Information
3. Edit Information
4. Delete Information
5. Save Information to a file
6. Exit the program

FLOWCHART

```c
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

struct ad
{
    char name[50],disease[50];
    int room,phone,age;
};
struct ad x[100];

int n,i,j=0,sum=0,num;

void read();
void add();
void view();
void edit();
void del();
void show();

int main()
{
    read();
    int c,i;
    system("clear");
    printf("Hospital Database Management System\n");
    printf("Program by Emin Riyaz\n");
    printf("\n----------------------------------------\n");
```

```c
while(c!=6)
{

    printf("Enter the number below to perform operations :\n\n1. Add Patient Information\n2. View Patient Information\n3.
Edit Patient Information\n4. Delete Patient Information\n5. Exit the program\n\nSelected Option : ");
    scanf("%d",&c);
    fflush(stdin);
    if(c==1)
    {
        system("clear");
        add();
    }
    else if(c==2)
    {
        system("clear");
        view();
    }
    else if(c==3)
    {
        system("clear");
        edit();
    }
    else if(c==4)
    {
        system("clear");
        del();
    }
    else if(c==5)
    {
        write();
        printf("\nThank you for using HOSPITAL DBMS\n-BY EMIN RIYAZ\n");
        return 0;
    }
    else
    {
        system("clear");
        printf("\n\nInvalid input , Please try again by using valid inputs");
    }
    printf("\n\n");
  }
}
```

```c
void add()
{
    printf("\n\n");
    printf("Number of patient entries existing in the database = %d\n\n",num);
    printf("How many patient entries would you like to add now: ");
    scanf("%d",&n);
    sum=n+num;

    for(i=num,j=0; i<sum; i++)
    {

        printf("\nEnter Patient's Name : \n");
        scanf("%s",x[i].name);
        fflush(stdin);
        printf("Enter Patient's disease : \n");
        scanf("%s",x[i].disease);
        fflush(stdin);
        printf("Enter Patient's age : \n");
        scanf("%d",&x[i].age);
        fflush(stdin);
        printf("Enter Patient's allotted Room No.: ");
        scanf("%d",&x[i].room);
        fflush(stdin);
        printf("Enter Caretaker's Phone Number : ");
        scanf("%d",&x[i].phone);
        fflush(stdin);
        printf("\n");
        j++;
        num++;
        printf("\nThis operation completed successfully\n");
    }
}
```

```c
void view()
{
  for(i=0;i<num;i++)
  {
    printf("\n");
    printf("Serial Number: %d\n",i);
    printf("Name: ");
    puts(x[i].name);
    printf("Disease: ");
    puts(x[i].disease);
    printf("Room No.: %d\nPhone No.: %d\nAge: %d",x[i].room,x[i].phone,x[i].age);
    printf("\n\n");
  }
}
void edit()
{
  int q,p;
  fflush(stdin);
  printf("What information do you want to edit ?\n");
  printf("Enter your option\n");
  printf("1.Name\n2.Disease\n3.Age\n4.Room No.\n5.Phone No.\n");
  printf("Your Option: ");
  scanf("%d",&q);
  if(q<=5)
  {
    printf("Enter the Serial No. of that patient to edit: (0 - %d) :",num-1);
    scanf("%d",&p);
    if(p<num)
    {
      if(q==1)
      {
        fflush(stdin);
        printf("Enter the corrected name :");
        scanf("%s",x[p].name);
        printf("\nThis operation completed successfully\n");

      }
```

```c
        else if(q==2)
        {
            fflush(stdin);
            printf("Enter the corrected Disease :");
            scanf("%s",x[p].disease);
            printf("\nThis operation completed successfully\n");
        }
        else if(q==3)
        {
            fflush(stdin);
            printf("Enter the corrected Age :");
            scanf("%d",&x[p].age);
            printf("\nThis operation completed successfully\n");
        }

        else if(q==4)
        {
            fflush(stdin);
            printf("Enter the corrected Room No. :");
            scanf("%d",&x[p].room);
            printf("\nThis operation completed successfully\n");
        }

        else if(q==5)
        {
            fflush(stdin);
            printf("Enter the corrected Phone No. :");
            scanf("%d",&x[p].phone);
            printf("\nThis operation completed successfully\n");
        }
    }
    else
    {
        printf("\n\nInvalid Serial No. of the patient\nPlease Try Again !!\n\n");
    }
}
else
{
    printf("\n\nInvalid option given\nPlease Try Again!!\n\n");
}
}
```

```c
void del()
{
   int f,h;
   printf("Enter the serial number of the patient that you want to delete: ");
   scanf("%d",&f);
   if(f<num)
   {
      printf("What information do you want to delete?\n");
      printf("1.Remove the whole record\n2.Remove only Name\n3.Remove only Disease\n4.Remove only Age\n5.Remove obly
Room No.\n6.Remove only Phone No.\nYour Option: ");
      scanf("%d",&h);
      if(h==1)
      {
         while(f<num)
         {
            strcpy(x[f].name,x[f+1].name);
            strcpy(x[f].disease,x[f+1].disease);
            x[f].age=x[f+1].age;
            x[f].room=x[f+1].room;
            x[f].phone=x[f+1].phone;
            f++;
         }
         num--;
         printf("\nThis operation completed successfully\n");
      }
      else if(h==2)
      {
         strcpy(x[f].name,"Nil");
         printf("\nThis operation completed successfully\n");

      }
```

```c
        else if(h==3)
            {
              strcpy(x[f].disease,"Nil");
              printf("\nThis operation completed successfully\n");
            }
            else if(h==4)
            {
              x[f].age=0;
              printf("\nThis operation completed successfully\n");
            }
            else if(h==5)
            {
              x[f].room=0;
              printf("\nThis operation completed successfully\n");
            }
            else if(h==6)
            {
              x[f].phone=0;
              printf("\nThis operation completed successfully\n");
            }

    }
    else
        printf("\n\nInvalid Serial number\n");

}
```

```c
void read()
{
    FILE *fp = fopen("patient.txt","r");
    if(fp == NULL)
    {

        fp = fopen("patient.txt","w");
        fclose(fp);
        return 0;
    }

    num = fread(x, sizeof(struct ad),100, fp);
    fclose(fp);
}
void write()
{
    FILE *fp = fopen("patient.txt","w");
    if(fp == NULL)
    {
        printf("Error");
        exit(1);
    }
    fwrite(x, sizeof(struct ad),num, fp);

    fclose(fp);
}
```

—-----------------------------------END OF PROGRAM—-----------------------------------

OUTPUT

Main Menu

Adding Patient details to the file


```
Number of patient entries existing in the database = 10

How many patient entries would you like to add now: 1

Enter Patient's Name :
Rohan
Enter Patient's disease :
Diarrhea
Enter Patient's age :
24
Enter Patient's allotted Room No.: 501
Enter Caretaker's Phone Number : 2478567
```

Viewing Patient details from the file

```
Serial Number: 8
Name: Abhinav
Disease: Cancer
Room No.: 306
Phone No.: 989574
Age: 22


Serial Number: 9
Name: Maryam
Disease: Injury
Room No.: 502
Phone No.: 1305805594
Age: 23


Serial Number: 10
Name: Rohan
Disease: Diarrhea
Room No.: 501
Phone No.: 2478567
Age: 24
```

Editing Patient details

```
What information do you want to edit ?
Enter your option
1.Name
2.Disease
3.Age
4.Room No.
5.Phone No.
Your Option: |
```

Editing Patient details

```
What information do you want to edit ?
Enter your option
1.Name
2.Disease
3.Age
4.Room No.
5.Phone No.
Your Option: 1
Enter the Serial No. of that patient to edit: (0 - 10) :10
Enter the corrected name :Ron

This operation completed successfully


Enter the number below to perform operations :

1. Add Patient Information
2. View Patient Information
3. Edit Patient Information
4. Delete Patient Information
5. Exit the program

Select Option : |
```

Deleting Patient details from the file

```
Enter the serial number of the patient that you want to delete: 10
What information do you want to delete?
1.Remove the whole record
2.Remove only Name
3.Remove only Disease
4.Remove only Age
5.Remove obly Room No.
6.Remove only Phone No.
Your Option: |
```

Deleting Patient details from the file

```
Serial Number: 8
Name: Abhinav
Disease: Cancer
Room No.: 306
Phone No.: 989574
Age: 22


Serial Number: 9
Name: Maryam
Disease: Injury
Room No.: 502
Phone No.: 1305805594
Age: 23



Enter the number below to perform operations :

1. Add Patient Information
2. View Patient Information
3. Edit Patient Information
4. Delete Patient Information
5. Exit the program

Select Option : |
```

Serial No. 10 deleted from the file.

THANK YOU