HOSPITAL MANAGEMNET SYSTEM

BACHELOR OF TECHNOLOGY

(Computer Engineering)

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SUBMITTED BY: -

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SEMESTER: 1

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I would also like to thank HOD sir and teachers who gave us such an opportunity to develop or skills.

Lastly, I want to thank my parents and colleagues who have been a support system throughout my life and help me lessen my burden and stress of work
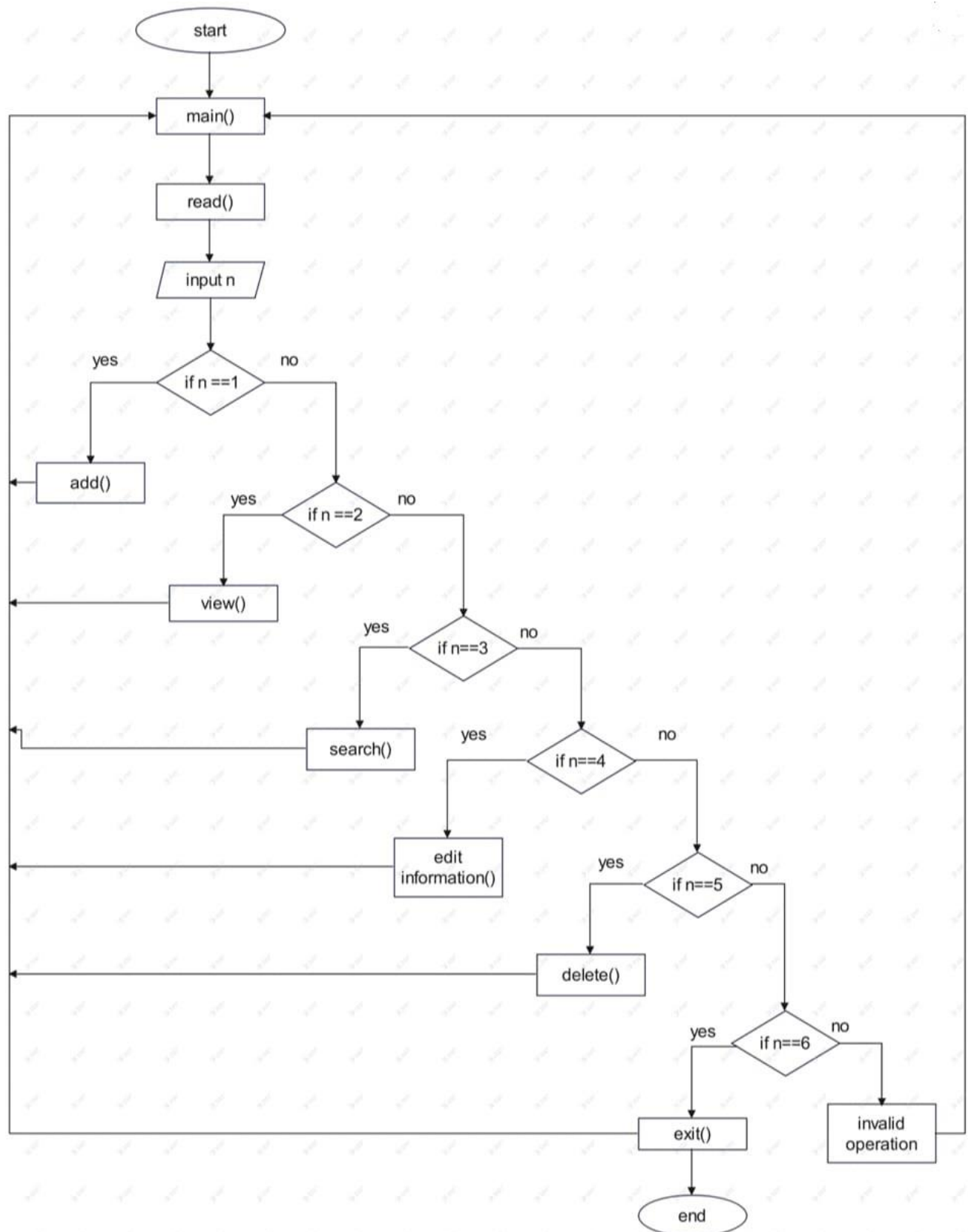
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INTRODUCTION

Health of citizen is the wealth of Nation. India has contributes to the most ancient Medical science "AYURVEDA" the world besides other medical sciences. This field had witnessed a rapid metamorphosis in all of its sections. Hospital Management System is designed to improve the quality and management of hospital in the areas of clinical process analysis and activity-based costing. Hospital Management System enables you to develop your organization and improve its effectiveness and quality of work. Managing the key processes efficiently is critical to the success of the hospital helps you manage your processes. The data can be retrieved easily. The data are well protected for personal use and makes the data processing very fast. Hospital Management System is powerful, flexible, and easy to use and is designed and developed to deliver real conceivable benefits to hospitals.

So, the embedded management system which is created by my team in c language with the help of structures and file handling includes the features of adding, viewing, editing, searching and deleting a patient's details

FLOWCHART

```
                    ┌─────────┐
                    │  start  │
                    └─────────┘
                         │
                         ▼
         ┌──────────────main()◄──────────────────┐
         │            └─────────┘                 │
         │                 │                      │
         │                 ▼                      │
         │            ┌─────────┐                 │
         │            │ read()  │                 │
         │            └─────────┘                 │
         │                 │                      │
         │                 ▼                      │
         │            ┌─────────┐                 │
         │            │ input n │                 │
         │            └─────────┘                 │
         │                 │                      │
         │      yes        ▼        no            │
         │        ◄─── if n ==1 ───►              │
         │        │                │              │
         │        ▼                ▼              │
         │    ┌───────┐     yes          no       │
         ◄────│ add() │       ◄─── if n ==2 ───►  │
         │    └───────┘       │               │   │
         │                    ▼               ▼   │
         │                ┌───────┐   yes       no│
         ◄────────────────│ view()│     ◄─ if n==3 ─►
         │                └───────┘     │          │
         │                              ▼          ▼
         │                         ┌────────┐ yes    no
         ◄─────────────────────────│search()│  ◄─ if n==4 ─►
         │                         └────────┘  │           │
         │                                     ▼           ▼
         │                              ┌──────────┐ yes     no
         ◄──────────────────────────────│  edit    │  ◄─ if n==5 ─►
         │                              │information│  │         │
         │                              └──────────┘  ▼          ▼
         │                                     ┌────────┐  yes     no
         ◄─────────────────────────────────────│delete()│  ◄─ if n==6 ─►
         │                                     └────────┘  │          │
         │                                                 ▼          ▼
         │                                          ┌────────┐  ┌─────────┐
         └──────────────────────────────────────────│ exit() │  │ invalid │
                                                     └────────┘  │operation│
                                                          │      └─────────┘
                                                          ▼
                                                     ┌─────────┐
                                                     │   end   │
                                                     └─────────┘
```

TECHNICAL DETAILS(Coding)

```c
1   #include<stdio.h>
2   #include<string.h>
3   //The Code Given Below Is A Declaring  Method Various Structures And Variable
4   struct ad
5   {
6       char name[30];
7       char disease[30];
8       int ward,phone,age;
9   } x[100];
10  int n,i,j=0,a=0,sum=0,g,flag,num;
11  void read();
12  void add();
13  void view();
14  void search();
15  void edit();
16  void del();
17  void show();
18  //The Code Given Below Is For The Main Module
19  int main()
20  {
21      system("Color 2");
22      read();
23      int c,i,q;
24  // Making a pattern for the home screen of the output
25      printf("\n\t\t\t\t\t   *                            *\n\t\t\t\t\t   *                        *\n");
26      printf("\t\t\t\t\t* * * * WELCOME TO BREACH CANDY HOSPITAL PORTAL * * * *");
27      printf("\n\t\t\t\t\t   *   - - - - - - - - - - - - - - - - - - -   *\n\t\t\t\t\t   *                        *\n");
28
29      while(c!=6)
30      {
31          printf("\n\t\t\t\t\t\t\t* * * * * * * * * *");
32          printf("\n\t\t\t\t\t\t\t*OPTIONS AVAILABLE*\n");
33          printf("\t\t\t\t\t\t\t* * * * * * * * * *\n");
34          printf("\n\n\t1. Add Information\n\t2. View Information\n\t3. Search\n\t4. Edit Information\n\t5. Delete Information\n\t6. Exit\n\n\tEnter your choice : ");
35  //Asking for the choice of the user
36          scanf("%d",&c);
37  //Making it clear
38          fflush(stdin);
39  //Adding the details of patient
40          if(c==1)
41          {
```

```c
41          system("cls");
42          add();
43      }
44  //Viewing the details of patient
45          else if(c==2)
46      {
47          system("cls");
48          view();
49      }
50  //Searching the details of the patient
51          else if(c==3)
52      {
53          system("cls");
54          search();
55      }
56  //Editing the details of the patient
57          else if(c==4)
58      {
59          system("cls");
60          edit();
61      }
62  //deleting the details of patient
63          else if(c==5)
64      {
65          system("cls");
66          del();
67      }
68  //Terminating the program
69          else if(c==6)
70      {
71          printf("\n:) THANK YOU FOR VISITING OUR PORTAL :)\n");
72          write();
73          return 0;
74      }
75          else
76      {
77          system("cls");
78          printf("\n\nInvalid input , try again by using valid inputs");
79      }
80          printf("\n\n");
81      }
82  }
83  //The Code Given Below Is For The Adding Module
84  void add()
85  {
86      printf("\n\n");
87      printf("There are already %d records of patients exisisting in our database\n\n",num);
88      printf("Please enter how many entry do you want to add in our database :\n");
89  //Asking for how many records do you want to add in database
90      scanf("%d",&n);
91      sum=n+num;
92
93      for(i=num,j=0; i<sum; i++)
94      {
95          printf("\n");
96          fflush(stdin);
97          printf("Enter Patient's Name : ");
98          gets(x[i].name);
99          fflush(stdin);
100         printf("Enter Disease : ");
```

```c
101        gets(x[i].disease);
102        fflush(stdin);
103        printf("Enter the Age : ");
104        scanf("%d",&x[i].age);
105        fflush(stdin);
106        printf("Enter Ward no : ");
107        scanf("%d",&x[i].ward);
108        fflush(stdin);
109        printf("Enter Phone Number : ");
110        scanf("%d",&x[i].phone);
111        fflush(stdin);
112        printf("\n");
113        j++;
114        a++;
115        num++;
116    }
117 }
118 //The Code Given Below Is For The View Module
119 void view()
120 {
121     for(i=0; i<num; i++)
122     {
123        printf("\n");
124        printf("Serial Number : %d\n",i);
125        printf("Name : ");
126        puts(x[i].name);
127        printf("Disease : ");
128        puts(x[i].disease);
129        printf("Ward no : %d\nPhone number : 0%d\nAge :%d",x[i].ward,x[i].phone,x[i].age);
130        printf("\n\n");
131     }
132 }
133 //The Code Given Below Is For The Module Edit
134 void edit()
135 {
136     int q,p;
137     fflush(stdin);
138     printf("What do you want to edit ?\n");
139     printf("Enter your option\n");
140     printf("1.Name\n2.Disease\n3.Age\n4.Ward\n5.Phone no.\n");
141     printf("Option : ");
142 //Asking user what detail of patient is to be edited
143     scanf("%d",&q);
144     if(q<=5)
145     {
146        printf("Enter the serial no of that patient : (0 - %d) : ",num-1);
147 //Asking for what serial no. patient detail is to be editied
148        scanf("%d",&p);
149        if(p<num)
150        {
151 //Editing patient name
152            if(q==1)
153            {
154                fflush(stdin);
155                printf("Enter the new name : ");
156                gets(x[p].name);
157
158            }
159 //Editing patient disease
160            else if(q==2)
```

```c
161              {
162                  fflush(stdin);
163                  printf("Enter the new Disease : ");
164                  gets(x[p].disease);
165              }
166  //Editing patient age
167          else if(q==3)
168              {
169                  fflush(stdin);
170                  printf("Enter the new Age : ");
171                  scanf("%d",&x[p].age);
172              }
173  //Editing patient ward no.
174          else if(q==4)
175              {
176                  fflush(stdin);
177                  printf("Enter the new Ward no : ");
178                  scanf("%d",&x[p].ward);
179              }
180  //Editing patient phone number
181          else if(q==5)
182              {
183                  fflush(stdin);
184                  printf("Enter the new Phone no : ");
185                  scanf("%d",&x[p].phone);
186              }
187          }
188          else
189          {
190              printf("\n\nInvalid Serial \nTry Again !!\n\n");
191          }
192      }
193      else
194      {
195          printf("\n\nInvalid option\nTry Again!!\n\n");
196      }
197  }
198  //The Code Given Below Is For The Search Module
199  void search()
200  {
```

```c
201         int s,h,f;
202         char u[100];
203         printf("By what do you want to search ?\n");
204         printf("1.Serial no.\n2.Name\n3.Disease\n4.Ward no.\n5.Phone no.\n6.Age\n\nEnter your choice :  ");
205     //Asking on what grounds do you want to search a patient
206         scanf("%d",&h);
207         if(h==1)
208         {
209             printf("Enter Serial number of the patient : ");
210             scanf("%d",&s);
211             if(s<num)
212             {
213                 printf("\n");
214                 printf("Serial Number : %d\n",s);
215                 printf("Name : ");
216                 puts(x[s].name);
217                 printf("Disease : ");
218                 puts(x[s].disease);
219                 printf("Ward no : %d\nPhone number : 0%d\nAge : %d",x[s].ward,x[s].phone,x[s].age);
220                 printf("\n\n");
221             }
222             else
223                 printf("\n\nNot Found\n\n");
224         }
225         else if(h==2)
226         {
227             int f=1;
228             fflush(stdin);
229             printf("Enter your name : ");
230             gets(u);
231             fflush(stdin);
232             for(g=0; g<num; g++)
233             {
234                 if(strcmp(u,x[g].name)==0)
235                 {
236                     printf("\n");
237                     printf("Serial Number : %d\n",g);
238                     printf("Name : ");
239                     puts(x[g].name);
240                     printf("Disease : ");
```

```c
241             puts(x[g].disease);
242             printf("Ward no : %d\nPhone number : 0%d\nAge : %d",x[g].ward,x[g].phone,x[g].age);
243             printf("\n\n");
244             f=0;
245
246         }
247     }
248     if(f==1)
249         printf("\nNot Found\n");
250
251
252
253 }
254 else if(h==3)
255 {
256     int f=1;
257     fflush(stdin);
258     printf("Enter Disease : ");
259     gets(u);
260     fflush(stdin);
261     for(g=0; g<num; g++)
262     {
263         if(strcmp(u,x[g].disease)==0)
264         {
265             printf("\n");
266             printf("Serial Number : %d\n",g);
267             printf("Name : ");
268             puts(x[g].name);
269             printf("Disease : ");
270             puts(x[g].disease);
271             printf("Ward no : %d\nPhone number : 0%d\nAge : %d",x[g].ward,x[g].phone,x[g].age);
272             printf("\n\n");
273             f=0;
274         }
275
276     }
277     if(f==1)
278         printf("\nNot Found\n");
279
280 }
281 else if(h==4)
282 {
283     int f=1;
284     printf("Enter Ward number : ");
285     scanf("%d",&f);
286     for(g=0; g<num; g++)
287     {
288         if(f==x[g].ward)
289         {
290             printf("\n");
291             printf("Serial Number : %d\n",g);
292             printf("Name : ");
293             puts(x[g].name);
294             printf("Disease : ");
295             puts(x[g].disease);
296             printf("Ward no : %d\nPhone number : 0%d\nAge : %d",x[g].ward,x[g].phone,x[g].age);
297             printf("\n\n");
298             f=0;
299         }
300
```

```c
        }
        if(f==1)
            printf("Not Found\n\n");

    }
    else if(h==5)
    {
        int f=1;
        printf("Enter Phone number : ");
        scanf("%d",&f);
        for(g=0; g<num; g++)
        {
            if(f==x[g].phone)
            {
                printf("\n");
                printf("Serial Number : %d\n",g);
                printf("Name : ");
                puts(x[g].name);
                printf("Disease : ");
                puts(x[g].disease);
                printf("Ward no : %d\nPhone number : 0%d\nAge : %d",x[g].ward,x[g].phone,x[g].age);
                printf("\n\n");
                f=0;
            }

        }
        if(f==1)
            printf("Not Found");
    }
    else if(h==6)
    {
        int f=1;
        printf("Enter Age = ");
        scanf("%d",&f);
        for(g=0; g<num; g++)
        {
            if(f==x[g].age)
            {
                printf("\n");
                printf("Serial Number :%d\n",g);
                printf("Name : ");
                puts(x[g].name);
                printf("Disease : ");
                puts(x[g].disease);
                printf("Ward no : %d\nPhone number : 0%d\nAge : %d",x[g].ward,x[g].phone,x[g].age);
                printf("\n\n");
                f=0;
            }

        }
        if(f==1)
            printf("Not Found\n\n");

    }
    else
        printf("\n\nInvalid input\n\n");
}
//The Code Given Below Is For The Delete Module
void del()
{
```

```c
361        int f,h;
362        printf("Enter the serial number of the patient that you want to delete : ");
363        scanf("%d",&f);
364        if(f<num)
365        {
366            printf("What do you want ?\n");
367            printf("1.Remove the whole record\n2.Remove Name\n3.Remove Disease\n4.Remove age\n5.Remove Ward\n6.Remove phone number\nEnter your choice : ");
368            scanf("%d",&h);
369            if(h==1)
370            {
371                while(f<num)
372                {
373                    strcpy(x[f].name,x[f+1].name);
374                    strcpy(x[f].disease,x[f+1].disease);
375                    x[f].age=x[f+1].age;
376                    x[f].ward=x[f+1].ward;
377                    x[f].phone=x[f+1].phone;
378                    f++;
379                }
380                num--;
381            }
382            else if(h==2)
383            {
384                strcpy(x[f].name,"Cleared");
385
386            }
387            else if(h==3)
388            {
389                strcpy(x[f].disease,"Cleared");
390            }
391            else if(h==4)
392            {
393                x[f].age=0;
394            }
395            else if(h==5)
396            {
397                x[f].ward=0;
398            }
399            else if(h==6)
400            {
```

```c
401             x[f].phone=0;
402         }
403
404     }
405     else
406         printf("\n\nInvalid Serial number\n");
407
408 }
409 //The Code Given Below Is For The Module Reading The Data
410 void read()
411 {
412     FILE *fp = fopen("patient.txt","r");
413     if(fp == NULL)
414     {
415 //creating an empty file, so that we can open it in the next execution of this program
416         fp = fopen("patient.txt","w");
417         fclose(fp);
418         printf("File does not exist, I JUST CREATED IT, exiting...\n\n\n");
419         return 0;
420     }
421
422     num = fread(x, sizeof(struct ad),100, fp);
423     fclose(fp);
424 }
425 //The Code Given Below Is For The Module Write The Data
426 void write()
427 {
428     FILE *fp = fopen("patient.txt","w");
429     if(fp == NULL)
430     {
431         printf("Error");
432         exit(1);
433     }
434     fwrite(x, sizeof(struct ad),num, fp);
435
436     fclose(fp);
437 }
```

OUTPUTS

MAIN SCREEN: -

```
                         *                                    *
                         *                                    *
                 * * * * WELCOME TO BREACH CANDY HOSPITAL PORTAL * * * *
                         *    - - - - - - - - - - - - - - - - - - -    *
                         *                                    *

                              * * * * * * * * * *
                              *OPTIONS AVAILABLE*
                              * * * * * * * * * *


            1. Add Information
            2. View Information
            3. Search
            4. Edit Information
            5. Delete Information
            6. Exit

            Enter your choice :
```

ADDING PATIENT DETAILS: -

```
There are already 4 records of patients exisisting in our database

Please enter how many entry do you want to add in our database :
2

Enter Patient's Name : Rhiana Gupta
Enter Disease : Mononucleosis.
Enter the Age : 20
Enter Ward no : 2
Enter Phone Number : 9837465290


Enter Patient's Name : Pratik Malhotra
Enter Disease : Stomach Aches
Enter the Age : 25
Enter Ward no : 3
Enter Phone Number : 9872106542
```

VIEWING PATIENT DETAILS: -

```
Serial Number : 0
Name : Rohan Mehra
Disease : Cancer
Ward no : 4
Phone number : 0644648309
Age :55


Serial Number : 1
Name : Sohani Sharma
Disease : Tuberculosis
Ward no : 2
Phone number : 0829300078
Age :35


Serial Number : 2
Name : Sidharth Shukla
Disease : Fever
Ward no : 1
Phone number : 0357651710
Age :25


Serial Number : 3
Name : Harsh Sharma
Disease : Conjunctivitis
Ward no : 2
Phone number : 02039471763
Age :30


Serial Number : 4
Name : Rhiana Gupta
Disease : Mononucleosis.
Ward no : 2
Phone number : 01247530698
Age :20
```

SEARCHING PATIENT DETAILS: -

```
By what do you want to search ?
1.Serial no.
2.Name
3.Disease
4.Ward no.
5.Phone no.
6.Age

Enter your choice :  2
Enter your name : Pratik Malhotra

Serial Number : 5
Name : Pratik Malhotra
Disease : Stomach Aches
Ward no : 3
Phone number : 01282171950
Age : 25
```

EDITING PATIENT DETAILS: -

```
What do you want to edit ?
Enter your option
1.Name
2.Disease
3.Age
4.Ward
5.Phone no.
Option : 3
Enter the serial no of that patient : (0 - 5) : 4
Enter the new Age : 28
```

DELETING PATIENT DETAILS: -

```
Enter the serial number of the patient that you want to delete : 1
What do you want ?
1.Remove the whole record
2.Remove Name
3.Remove Disease
4.Remove age
5.Remove Ward
6.Remove phone number
Enter your choice : 1
```

REFERENCES

REFERRED LINKS FOR COMPLETION OF THE PROJECT

- https://www.geeksforgeeks.org/
- https://www.tutorialspoint.com/index.htm
- https://www.codingninjas.com/

BOOKS REFERRED FOR COMPLETION OF THE PROJECT

- Programming with C | 4th Edition (Schaum's Outlines) By Byron S Gotftfried

- The C Programming Language | 2nd Edition By Brian Kernighan and Dennis Ritchie