**//Hospital Management System**

**//Muhammad Atif**

**//19-Arid-1251**

#include<iostream> // for input output stream

#include<conio.h> // for system pause and clear screen

#include<string.h> // for string arguments

#include<iomanip> // for setw

#include<windows.h> // for graphics

#include<stdlib.h>

using namespace std;

bool check(string);

bool check\_alphabet(string);

struct node

{

string name, fname, dob, ward, id;

int srNo;

int days;

node\* next;

};

// Start of the class

class list

{

private:

int count;

node\* head, \* tail;

public:

list()

{

head = tail = NULL;

count = 0;

}

bool isEmpty()

{

if (head == NULL)

{

return true;

}

else

return false;

}

// for positioning of the cursor

void gotoxy(int x, int y)

{

COORD coord;

coord.X = x;

coord.Y = y;

SetConsoleCursorPosition(GetStdHandle(STD\_OUTPUT\_HANDLE), coord);

}

// patient data

void add\_data(int n)

{

int gp = 0;

//1

gotoxy(2, 2);

Above\_horizental();

gotoxy(2, 3);

Line();

gotoxy(77, 3);

Line();

gotoxy(2, 4);

below\_Horizental();

//2

gotoxy(2, 5);

Above\_horizental();

gotoxy(2, 6);

Line();

gotoxy(77, 6);

Line();

gotoxy(2, 7);

below\_Horizental();

//3

gotoxy(2, 8);

Above\_horizental();

gotoxy(2, 9);

Line();

gotoxy(77, 9);

Line();

gotoxy(2, 10);

below\_Horizental();

//4

gotoxy(2, 11);

Above\_horizental();

gotoxy(2, 12);

Line();

gotoxy(77, 12);

Line();

gotoxy(2, 13);

below\_Horizental();

//5

gotoxy(2, 14);

Above\_horizental();

gotoxy(2, 15);

Line();

gotoxy(77, 15);

Line();

gotoxy(2, 16);

below\_Horizental();

//6

gotoxy(2, 17);

Above\_horizental();

gotoxy(2, 18);

Line();

gotoxy(77, 18);

Line();

gotoxy(2, 19);

below\_Horizental();

//

node\* temp = new node;

temp->srNo = n;

//1

gotoxy(23, 3);

cout << "Enter Patient Name: ";

cin >> temp->name;

if (isEmpty())

{

goto z;

}

else

{

while (tail->name == temp->name)

{

gotoxy(43, 3);

cout << " ";

gotoxy(43, 3);

cin >> temp->name;

}

}

z:

while (check(temp->name) == false)

{

gotoxy(43, 3);

cout << " ";

gotoxy(43, 3);

cin >> temp->name;

}

//2

gotoxy(23, 6);

cout << "Enter Patient Father Name: ";

cin >> temp->fname;

if (isEmpty())

{

goto y;

}

else

{

while (tail->fname == temp->fname)

{

gotoxy(50, 6);

cout << " ";

gotoxy(50, 6);

cin >> temp->fname;

}

}

y:

while (check(temp->fname) == false)

{

gotoxy(50, 6);

cout << " ";

gotoxy(50, 6);

cin >> temp->fname;

}

//3

gotoxy(23, 9);

cout << "Enter Patient ID: ";

cin >> temp->id;

if (isEmpty())

{

goto a;

}

else

{

while (tail->id == temp->id)

{

gotoxy(46, 9);

cout << " " << endl;

gotoxy(46, 9);

cin >> temp->id;

}

}

a:

while (check\_alphabet(temp->id) == false)

{

cin.clear();

gotoxy(46, 9);

cout << " " << endl;

gotoxy(46, 9);

cin >> temp->id;

}

//4

gotoxy(23, 12);

cout << "Enter Patient Birth Year: ";

cin >> temp->dob;

//5

gotoxy(23, 15);

cout << "Enter Ward Assigned: ";

cin >> temp->ward;

//6

sa:

gotoxy(23, 18);

cout << "Enter Days of Stay: ";

gotoxy(43, 18);

cout << " ";

//

gotoxy(43, 18);

while (!(cin >> temp->days))

{

gotoxy(43, 18);

cout << " ";

gotoxy(43, 18);

cin >> temp->days;

}

if (temp->days > 30)

{

goto sa;

}

temp->next = NULL;

if (head == NULL)

{

head = temp;

tail = temp;

temp = NULL;

}

else

{

tail->next = temp;

tail = temp;

}

count++;

}

//

void Edit\_Record()

{

node\* f = new node;

node\* t = new node;

cout << "Enter The Serial Number of Patient which you want to Edit :\n";

while (!(cin >> t->srNo))

{

cin.clear();

system("CLS");

cout << "Invalid input...! \n\n";

system("pause");

system("CLS");

goto ss;

}

f = head;

while (f != NULL)

{

if (t->srNo == f->srNo)

break;

f = f->next;

}

if (f == NULL)

{

ss:

system("CLS");

cout << "Sorry .....Record of Patient does'nt Exist \n\n";

}

else

{

system("CLS");

//1

gotoxy(2, 2);

Above\_horizental();

gotoxy(2, 3);

Line();

gotoxy(77, 3);

Line();

gotoxy(2, 4);

below\_Horizental();

//2

gotoxy(2, 5);

Above\_horizental();

gotoxy(2, 6);

Line();

gotoxy(77, 6);

Line();

gotoxy(2, 7);

below\_Horizental();

//3

gotoxy(2, 8);

Above\_horizental();

gotoxy(2, 9);

Line();

gotoxy(77, 9);

Line();

gotoxy(2, 10);

below\_Horizental();

//4

gotoxy(2, 11);

Above\_horizental();

gotoxy(2, 12);

Line();

gotoxy(77, 12);

Line();

gotoxy(2, 13);

below\_Horizental();

//5

gotoxy(2, 14);

Above\_horizental();

gotoxy(2, 15);

Line();

gotoxy(77, 15);

Line();

gotoxy(2, 16);

below\_Horizental();

//6

gotoxy(2, 17);

Above\_horizental();

gotoxy(2, 18);

Line();

gotoxy(77, 18);

Line();

gotoxy(2, 19);

below\_Horizental();

//

node\* tempo = new node;

gotoxy(23, 3);

cout << "Enter Patient Name: ";

cin >> tempo->name;

while (check(tempo->name) == false)

{

gotoxy(43, 3);

cout << " ";

gotoxy(43, 3);

cin >> tempo->name;

}

//

f->name = tempo->name;

gotoxy(23, 6);

cout << "Enter Patient Father Name: ";

cin >> tempo->fname;

while (check(tempo->fname) == false)

{

gotoxy(50, 6);

cout << " ";

gotoxy(50, 6);

cin >> tempo->fname;

}

f->fname = tempo->fname;

gotoxy(23, 9);

cout << "Enter Patient ID: ";

cin >> tempo->id;

while (check\_alphabet(tempo->id) == false)

{

gotoxy(46, 9);

cout << " " << endl;

gotoxy(46, 9);

cin >> tempo->id;

}

f->id = tempo->id;

//

gotoxy(23, 12);

cout << "Enter Patient DOB: ";

cin >> tempo->dob;

f->dob = tempo->dob;

//

gotoxy(23, 15);

cout << "Enter Ward Assigned: ";

cin >> tempo->ward;

f->ward = tempo->ward;

//

s:

gotoxy(23, 18);

cout << "Enter Days of Stay: ";

gotoxy(43, 18);

cout << " ";

//

gotoxy(43, 18);

while (!(cin >> tempo->days))

{

cin.clear();

gotoxy(43, 18);

cout << " ";

gotoxy(43, 18);

cin >> tempo->days;

}

if (tempo->days > 30)

{

goto s;

}

f->days = tempo->days;

cout << "\n\n";

}

}

//

void search\_Record()

{

node\* temp = new node;

node\* t;

cout << "Enter The Serial Number of Patient In Order To Search :\n";

while (!(cin >> temp->srNo))

{

cin.clear();

system("CLS");

cout << "Invalid input...! \n\n";

system("pause");

system("CLS");

goto zz;

}

t = head;

while (t != NULL)

{

if (t->srNo == temp->srNo)

break;

t = t->next;

}

if (t == NULL)

{

zz:

system("CLS");

cout << "Sorry ..... Record does'nt Exist \n\n";

}

else

{

display\_table();

gotoxy(2, 8);

Above\_horizental();

gotoxy(2, 9);

Line();

gotoxy(77, 9);

Line();

gotoxy(4, 9);

cout << setw(9) << left << t->srNo << setw(11) << left << t->name << setw(12) << left << t->fname << setw(12) << left << t->id << setw(11) << left << t->dob << setw(13) << left << t->ward << setw(1) << left << t->days;

gotoxy(2, 10);

below\_Horizental();

}

}

//

void Delete\_Record()

{

int s;

node\* temp;

node\* curr, \* pre;

cout << "Enter The Serial Number of Patient In Order To Delete :\n";

while (!(cin >> s))

{

cin.clear();

system("CLS");

cout << "Invalid input...! \n\n";

system("pause");

system("CLS");

goto aa;

}

if (s == head->srNo)

{

temp = head;

head = head->next;

delete temp;

cout << endl << endl;

display\_table();

table\_data();

}

else

{

curr = head;

pre = NULL;

while (curr != NULL)

{

if (curr->srNo == s)

{

break;

}

pre = curr;

curr = curr->next;

}

if (curr == NULL)

{

aa:

system("CLS");

cout << "No record Found \n\n";

}

else {

pre->next = curr->next;

delete curr;

display\_table();

table\_data();

}

}

}

//

void Day(float x, float y)

{

if (x == y)

{

return;

}

node\* prex = NULL;

node\* currx = head;

while (currx && currx->days != x)

{

prex = currx;

currx = currx->next;

}

node\* prey = NULL;

node\* curry = head;

while (curry && curry->days != y)

{

prey = curry;

curry = curry->next;

}

if (currx == NULL || curry == NULL)

{

return;

}

if (prey != NULL)

{

prey->next = currx;

}

else

{

head = currx;

}

if (prex != NULL)

{

prex->next = curry;

}

else

{

head = curry;

}

node\* temp = currx->next;

currx->next = curry->next;

curry->next = temp;

}

//

void table\_data()

{

node\* t;

t = head;

int x = 4;

int y = 8;

int s = 2;

while (t != NULL)

{

gotoxy(s, y);

Above\_horizental();

gotoxy(s, y + 1);

Line();

gotoxy(s + 75, y + 1);

Line();

gotoxy(x, y + 1);

cout << setw(9) << left << t->srNo << setw(11) << left << t->name << setw(12) << left << t->fname << setw(12) << left << t->id << setw(11) << left << t->dob << setw(13) << left << t->ward << setw(1) << left << t->days;

t = t->next;

gotoxy(s, y + 2);

below\_Horizental();

y = y + 3;

}

gotoxy(s, y + 1);

Above\_horizental();

gotoxy(s, y + 2);

Line();

gotoxy(s + 75, y + 2);

Line();

gotoxy(x + 31, y + 2);

cout << "Finish";

gotoxy(s, y + 3);

below\_Horizental();

}

//

void display\_table()

{

gotoxy(2, 3);

Above\_horizental();

gotoxy(2, 4);

Line();

gotoxy(77, 4);

Line();

gotoxy(2, 5);

Line();

gotoxy(77, 5);

Line();

gotoxy(2, 6);

Line();

gotoxy(77, 6);

Line();

gotoxy(2, 7);

below\_Horizental();

gotoxy(33, 4);

cout << "PATIENT RECORD" << endl;

gotoxy(4, 6);

cout << "Sr.No " << "Name " << "Father " << "ID " << "D-O-B " << "WARD " << "STAY";

}

//

void Above\_horizental()

{

char prev = ' ';

prev = cout.fill((char)205);

cout << (char)201 << setw(74) << "" << (char)187 << endl;

cout.fill(prev);

}

//

void Line()

{

cout << (char)186 << endl;

}

//

void below\_Horizental()

{

char prev = ' ';

prev = cout.fill((char)205);

cout << (char)200 << setw(74) << "" << (char)188 << endl;

cout.fill(prev);

}

//

void Menu()

{

gotoxy(2, 2);

Above\_horizental();

gotoxy(2, 3);

Line();

gotoxy(77, 3);

Line();

gotoxy(2, 4);

Line();

gotoxy(77, 4);

Line();

gotoxy(2, 5);

Line();

gotoxy(77, 5);

Line();

gotoxy(2, 6);

Line();

gotoxy(77, 6);

Line();

gotoxy(2, 7);

Line();

gotoxy(77, 7);

Line();

gotoxy(2, 8);

Line();

gotoxy(77, 8);

Line();

gotoxy(2, 9);

Line();

gotoxy(77, 9);

Line();

gotoxy(2, 10);

Line();

gotoxy(77, 10);

Line();

gotoxy(2, 11);

Line();

gotoxy(77, 11);

Line();

gotoxy(2, 12);

Line();

gotoxy(77, 12);

Line();

gotoxy(2, 13);

Line();

gotoxy(77, 13);

Line();

gotoxy(2, 14);

Line();

gotoxy(77, 14);

Line();

gotoxy(2, 15);

Line();

gotoxy(77, 15);

Line();

gotoxy(2, 16);

Line();

gotoxy(77, 16);

Line();

gotoxy(2, 17);

Line();

gotoxy(77, 17);

Line();

gotoxy(2, 18);

Line();

gotoxy(77, 18);

Line();

gotoxy(2, 19);

Line();

gotoxy(77, 19);

Line();

gotoxy(2, 20);

Line();

gotoxy(77, 20);

Line();

gotoxy(2, 21);

below\_Horizental();

//

gotoxy(35, 3);

cout << "MAIN MENU" << endl;

gotoxy(28, 1);

cout << "HOSPITAL MANAGEMENT SYSTEM" << endl;

gotoxy(33, 6);

cout << "1-Add Record" << endl;

gotoxy(33, 8);

cout << "2-Edit Record" << endl;

gotoxy(33, 10);

cout << "3-Search Record" << endl;

gotoxy(33, 12);

cout << "4-Delete Record" << endl;

gotoxy(33, 14);

cout << "5-Display Record" << endl;

gotoxy(33, 16);

cout << "6-Quit Program" << endl;

}

};

//End of The Class

int main()

{

list obj;

system("CLS");

int n, ch, srno = 1;

char loader = 254;

cout << "\t\t\t\tLoading" << endl;

obj.gotoxy(20, 2);

for (int i = 0;i < 30;i++)

{

system("color 7");

cout << loader;

Sleep(80);

}

system("cls");

L:

obj.Menu();

obj.gotoxy(4, 23);

cout << "Enter Your Choice: ";

l:

char c = \_getch();

if (c >= '1' && c <= '6')

{

ch = c - 48;

cout << c;

goto l2;

}

else

{

ch = \_getch();

}

goto l;

l2:

Sleep(200);

system("CLS");

switch (ch)

{

//1

case 1:

cout << "How Many Patients Record You Want To Enter: ";

while (!(cin >> n))

{

cin.clear();

system("CLS");

obj.gotoxy(2, 2);

obj.Above\_horizental();

obj.gotoxy(2, 3);

obj.Line();

obj.gotoxy(77, 3);

obj.Line();

obj.gotoxy(2, 4);

obj.below\_Horizental();

obj.gotoxy(4, 3);

cout << "Invalid input... Try again: \n\n";

system("pause");

system("CLS");

goto L;

}

system("CLS");

if (obj.isEmpty())

{

srno = 1;

for (int i = 0;i < n;i++)

{

obj.add\_data(srno);

srno++;

system("CLS");

}

}

else

{

for (int i = 0;i < n;i++)

{

obj.add\_data(srno);

srno++;

system("CLS");

}

}

cout << "Record Added Successfully...! \n";

system("pause");

system("CLS");

goto L;

break;

//2

case 2:

system("CLS");

if (obj.isEmpty())

{

cout << "Please Add Record first....! \n" << endl;

}

else

{

obj.Edit\_Record();

}

system("pause");

system("CLS");

goto L;

break;

//3

case 3:

system("CLS");

if (obj.isEmpty())

{

cout << "Please Add Record first....! \n" << endl;

}

else

{

obj.search\_Record();

}

system("pause");

system("CLS");

goto L;

break;

//4

case 4:

system("CLS");

if (obj.isEmpty())

{

cout << "record Is Empty....! \n" << endl;

}

else

{

obj.Delete\_Record();

}

system("pause");

system("CLS");

goto L;

break;

//5

case 5:

system("CLS");

if (obj.isEmpty())

{

cout << "Please Add Record first....! \n" << endl;

}

else

{

obj.display\_table();

obj.table\_data();

}

system("pause");

system("CLS");

goto L;

break;

//6

case 6:

return 0;

default:

system("CLS");

cout << "INVALID NUMBER.. " << endl;

system("pause");

system("CLS");

goto L;

}

}

//

bool check(string a)

{

int i = 0;

while (a[i] != 0)

{

if (a[i] >= 48 && a[i] <= 53)

{

return false;

}

else

{

i++;

}

}

return true;

}

//

bool check\_alphabet(string a)

{

int i = 0;

while (a[i] != 0)

{

if (a[i] >= 65 && a[i] <= 122)

{

return false;

}

else

{

i++;

}

}

return true;

}