



Library Management System

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Submitted By:

Sanjeev Kumar (12220131)
Pritam Mukati (12220325)
Abhishek Praksh (12220683)

Submitted To:

Dr. Kala KU.
(Dept. Of Computer Science)

Project Code:

```
#include<iostream>
#include<stdio.h>
#include<stdlib.h>
#include<fstream>
#include<string.h>
#include<conio.h>
using namespace std;
class Lib
{
public:
    char bookname[100],auname[50],sc[20],scl[50];
    int q,B,p;
    Lib()
    {
        strcpy(bookname,"NO Book Name");
        strcpy(auname,"No Author Name");
        strcpy(sc,"No Book ID");
        strcpy(scl,"No Book ID");
        q=0;
        B=0;
        p=0;
    }
    void get();
```

```
void student();
void pass();
void librarian();
void password();
void getdata();
void show(int);
void booklist(int);
void modify();
void see(int);
int branch(int);
void issue();
void der(char[],int,int);
void fine(int,int,int,int,int,int);

};

void Lib::getdata()
{
    int i;
    fflush(stdin);
    cout<<"\n\t\tEnter the details :-\n";
    cout<<"\n\t\tEnter Book's Name : ";
    cin.getline(bookname,100);
    for(i=0;bookname[i]!='\0';i++)
    {
        if(bookname[i]>='a'&&bookname[i]<='z')
            bookname[i]-=32;
    }
    cout<<"\n\t\tEnter Author's Name : ";
```

```
    cin.getline(auname,50);
    cout<<"\n\t\tEnter Publication name : ";
    cin.getline(scl,50);
    cout<<"\n\t\tEnter Book's ID : ";
    cin.getline(sc,20);
    cout<<"\n\t\tEnter Book's Price : ";
    cin>>p;
    cout<<"\n\t\tEnter Book's Quantity : ";
    cin>>q;
}

void Lib::show(int i)
{
    cout<<"\n\t\tBook Name : "<<bookname<<endl;
    cout<<"\n\t\tBook's Author Name : "<<auname<<endl;
    cout<<"\n\t\tBook's ID : "<<sc<<endl;
    cout<<"\n\t\tBook's Publication : "<<scl<<endl;
    if(i==2)
    {
        cout<<"\n\t\tBook's Price : "<<p<<endl;
        cout<<"\n\t\tBook's Quantity : "<<q<<endl;
    }
}

void Lib::booklist(int i)
{
    int b,r=0;
    system("cls");
    b=branch(i);
```

```
system("cls");

ifstream intf("Booksdata.txt",ios::binary);

if(!intf)

    cout<<"\n\t\tFile Not Found.";

else

{

    cout<<"\n\t **** Book List ***** \n\n";

    intf.read((char*)this,sizeof(*this));

    while(!intf.eof())

    {

        if(b==B)

        {

            if(q==0 && i==1)

            {



            }

        else

        {

            r++;

            cout<<"\n\t***** <<r<<. ***** \n";

            show(i);

        }

    }

    intf.read((char*)this,sizeof(*this));

}

}

cout<<"\n\t\tPress any key to continue....";
```

```
getch();
system("cls");
if(i==1)
    student();
else
    librarian();
}

void Lib::modify()
{
    char ch,st1[100];
    int i=0,b,cont=0;
    system("cls");
    cout<<"\n\t\t>Please Choose one option :-\n";
    cout<<"\n\t\t1.Modification In Current Books\n\n\t\t2.Add New
Book\n\n\t\t3.Delete A Book\n\n\t\t4.Go back\n";
    cout<<"\n\n\t\tEnter your choice : ";
    cin>>i;
    if(i==1)
    {
        system("cls");
        b=branch(2);
        ifstream intfl("Booksdata.txt",ios::binary);
        if(!intfl)
        {
            cout<<"\n\t\tFile Not Found\n";
            cout<<"\n\t\tPress any key to continue....";
            getch();
            system("cls");
        }
    }
}
```

```

    librarian();
}

intf1.close();
system("cls");
cout<<"\n\tPlease Choose One Option :-\n";
cout<<"\n\t1.Search By Book Name\n\n\t2.Search By Book's ID\n";
cout<<"\n\tEnter Your Choice : ";
cin>>i;
fflush(stdin);
if(i==1)
{
    system("cls");
    cout<<"\n\tEnter Book Name : ";
    cin.getline(stl,100);
    system("cls");
    fstream intf("Booksdata.txt",ios::in|ios::out|ios::ate|ios::binary);
    intf.seekg(0);
    intf.read((char*)this,sizeof(*this));
    while(!intf.eof())
    {
        for(i=0;b==B&&bookname[i]!='0'&&stl[i]!='0'&&(stl[i]==bookname[i]||stl[i]==bookname[i]+32);i++)
        {
            if(bookname[i]=='0'&&stl[i]=='0')
            {
                cont++;
                getdata();
                intf.seekp(intf.tellp()-sizeof(*this));
            }
        }
    }
}

```

```
    intf.write((char*)this,sizeof(*this));
    break;
}

intf.read((char*)this,sizeof(*this));
}

intf.close();
}

else if(i==2)
{
    cout<<"\n\tEnter Book's ID : ";
    cin.getline(stl,100);
    system("cls");
    fstream intf("Booksdata.txt",ios::in|ios::out|ios::ate|ios::binary);
    intf.seekg(0);
    intf.read((char*)this,sizeof(*this));
    while(!intf.eof())
    {
        for(i=0;b==B&&sc[i]!='0'&&stl[i]!='0'&&stl[i]==sc[i];i++)
        if(sc[i]=='0'&&stl[i]=='0')
        {
            cont++;
            getdata();
            intf.seekp(intf.tellp()-sizeof(*this));
            intf.write((char*)this,sizeof(*this));
            break;
        }
        intf.read((char*)this,sizeof(*this));
    }
}
```

```
        }

        intf.close();

    }

    else

    {

        cout<<"\n\t\tIncorrect Input.....:(\n";
        cout<<"\n\t\tPress any key to continue....";
        getch();
        system("cls");
        modify();
    }

    if(cont==0)

    {

        cout<<"\n\t\tBook Not Found.\n";
        cout<<"\n\t\tPress any key to continue....";
        getch();
        system("cls");
        modify();
    }

    else

        cout<<"\n\t\tUpdate Successful.\n";

    }

else if(i==2)

{
```

```
system("cls");
B=branch(2);
system("cls");
getdata();
ofstream outf("Booksdata.txt",ios::app|ios::binary);
outf.write((char*)this,sizeof(*this));
outf.close();
cout<<"\n\t\tBook added Successfully.\n";
}
else if(i==3)
{
system("cls");
b=branch(2);
ifstream intfl("Booksdata.txt",ios::binary);
if(!intfl)
{
cout<<"\n\t\tFile Not Found\n";
cout<<"\n\t\tPress any key to continue....";
getch();
intfl.close();
system("cls");
librarian();
}
intfl.close();
system("cls");
cout<<"\n\t\tPlease Choose One Option for deletion:-\n";
cout<<"\n\t\t1.By Book Name\n\t\t2.By Book's ID\n";
```

```
cout<<"\n\t\tEnter Your Choice : ";
cin>>i;
fflush(stdin);
if(i==1)
{
    system("cls");
    cout<<"\n\t\tEnter Book Name : ";
    cin.getline(stl,100);
    ofstream outf("temp.txt",ios::app|ios::binary);
    ifstream intf("Booksdata.txt",ios::binary);
    intf.read((char*)this,sizeof(*this));
    while(!intf.eof())
    {
        for(i=0;b==B&&bookname[i]!='0'&&stl[i]!='0'&&(stl[i]==bookname[i]||stl[i]==bookname[i]+32);i++)
        {
            if(bookname[i]=='0'&&stl[i]=='0')
            {
                cont++;
                intf.read((char*)this,sizeof(*this));
            }
        }
        else
        {
            outf.write((char*)this,sizeof(*this));
            intf.read((char*)this,sizeof(*this));
        }
    }
}
```

```
intf.close();
outf.close();
remove("Booksdata.txt");
rename("temp.txt","Booksdata.txt");
}

else if(i==2)
{
    cout<<"\n\tEnter Book's ID : ";
    cin.getline(stl,100);
    ofstream outf("temp.txt",ios::app|ios::binary);
    ifstream intf("Booksdata.txt",ios::binary);
    intf.read((char*)this,sizeof(*this));
    while(!intf.eof())
    {
        for(i=0;b==B&&sc[i]!='0'&&stl[i]!='0'&&stl[i]==sc[i];i++);
        if(sc[i]=='0'&&stl[i]=='0')
        {
            cont++;
            intf.read((char*)this,sizeof(*this));
        }
        else
        {
            outf.write((char*)this,sizeof(*this));
            intf.read((char*)this,sizeof(*this));
        }
    }
}
```

```
    outf.close();

    intf.close();

    remove("Booksdata.txt");

    rename("temp.txt","Booksdata.txt");

}

else

{

    cout<<"\n\t\tIncorrect Input....:(\n";

    cout<<"\n\t\tPress any key to continue.... ";

    getch();

    system("cls");

    modify();

}

if(cont==0)

{

    cout<<"\n\t\tBook Not Found.\n";

    cout<<"\n\t\tPress any key to continue.... ";

    getch();

    system("cls");

    modify();

}

else

    cout<<"\n\t\tDeletion Successful.\n";


}

else if(i==4)

{
```

```
system("cls");
librarian();
}
else
{
cout<<"\n\t\tWrong Input.\n";
cout<<"\n\t\tPress any key to continue....";
getch();
system("cls");
modify();
}

cout<<"\n\t\tPress any key to continue....";
getch();
system("cls");
librarian();

}

int Lib::branch(int x)
{
    int i;
    cout<<"\n\t>>Please Choose one Branch :-\n";
    cout<<"\n\t\t1.IT DEPARTMENT\n\t\t2.EDUCATION
DEPARTMENT\n\t\t3.CRIMINOLOGY DEPARTMENT\n\t\t4.BA
DEPARTMENT\n\t\t5.ENGINEERING
DEPARTMENT\n\t\t6.COMSCI\n\t\t7.Go to menu\n";
    cout<<"\n\t\tEnter your choice : ";
    cin>>i;
    switch(i)
```

```
{  
    case 1: return 1;  
        break;  
    case 2: return 2;  
        break;  
    case 3: return 3;  
        break;  
    case 4: return 4;  
        break;  
    case 5: return 5;  
        break;  
    case 6: return 6;  
        break;  
    case 7: system("cls");  
        if(x==1)  
            student();  
        else  
            librarian();  
    default : cout<<"\n\tPlease enter correct option :(;  
        getch();  
        system("cls");  
        branch(x);  
    }  
}  
void Lib::see(int x)  
{  
    int i,b,cont=0;
```

```
char ch[100];

system("cls");
b=branch(x);

ifstream intf("Booksdata.txt",ios::binary);

if(!intf)

{

    cout<<"\n\t\tFile Not Found.\n";
    cout<<"\n\t\t>Press any key to continue.....";
    getch();
    system("cls");
    if(x==1)
        student();
    else
        librarian();

}

system("cls");

cout<<"\n\t\tPlease Choose one option :-\n";
cout<<"\n\t\t1.Search By Name\n\t\t2.Search By Book's ID\n";
cout<<"\n\t\tEnter Your Choice : ";
cin>>i;
fflush(stdin);
intf.read((char*)this,sizeof(*this));
if(i==1)

{
    cout<<"\n\t\tEnter Book's Name : ";
    cin.getline(ch,100);
```

```
system("cls");

while(!intf.eof())
{

for(i=0;b==B&&q!=0&&bookname[i]!='0'&&ch[i]!='0'&&(ch[i]==bookname[i]||ch[i]==bookname[i]+32);i++)
{
    if(bookname[i]=='0'&&ch[i]=='0')
    {
        cout<<"\n\t\tBook Found :-\n";
        show(x);
        cont++;
        break;
    }
    intf.read((char*)this,sizeof(*this));
}
}

else if(i==2)
{
    cout<<"\n\t\tEnter Book's ID : ";
    cin.getline(ch,100);
    system("cls");
    while(!intf.eof())
    {
        for(i=0;b==B&&q!=0&&sc[i]!='0'&&ch[i]!='0'&&ch[i]==sc[i];i++);
        if(sc[i]=='0'&&ch[i]=='0')
        {
            cout<<"\n\t\tBook Found :-\n";
            show(x);
        }
    }
}
```

```
    cont++;
    break;
}

intf.read((char*)this,sizeof(*this));
}

}

else
{
    cont++;
    cout<<"\n\t\tPlease enter correct option :(";
    getch();
    system("cls");
    see(x);
}

intf.close();
if(cont==0)
    cout<<"\n\t\tThis Book is not available :( \n";

cout<<"\n\t\tPress any key to continue....";
getch();
system("cls");
if(x==1)
    student();
else
    librarian();
```

```
}

void Lib::issue()
{
    char st[50],st1[20];
    int b,i,j,d,m,y,dd,mm,yy,cont=0;
    system("cls");
    cout<<"\n\t\t->Please Choose one option :-\n";
    cout<<"\n\t\t1.Issue Book\n\t\t2.View Issued Book\n\t\t3.Search student who
isuuued books\n\t\t4.Reissue Book\n\t\t5.Return Book\n\t\t6.Go back to
menu\n\t\tEnter Your Choice : ";
    cin>>i;
    fflush(stdin);
    if(i==1)
    {
        system("cls");
        b=branch(2);
        system("cls");
        fflush(stdin);
        cout<<"\n\t\t->Please Enter Details :-\n";
        cout<<"\n\t\tEnter Book Name : ";
        cin.getline(bookname,100);
        cout<<"\n\t\tEnter Book's ID : ";
        cin.getline(sc,20);
        //strcpy(st,sc);
        der(sc,b,1);
        cout<<"\n\t\tEnter Student Name : ";
        cin.getline(auname,100);
```

```
cout<<"\n\t\tEnter Student's ID : ";
cin.getline(scl,20);
cout<<"\n\t\tEnter date : ";
cin>>q>>B>>p;
ofstream outf("student.txt",ios::binary|ios::app);
outf.write((char*)this,sizeof(*this));
outf.close();
cout<<"\n\n\t\tIssue Successfully.\n";
}

else if(i==2)
{
ifstream intf("student.txt",ios::binary);
system("cls");
cout<<"\n\t\t-The Details are :-\n";
intf.read((char*)this,sizeof(*this));
i=0;
while(!intf.eof())
{
    i++;
    cout<<"\n\t***** " <<i<<". ***** \n";
    cout<<"\n\t\tStudent Name : "<<auname<<"\n\t\t" <<"Student's ID : "
    <<scl<<"\n\t\t" <<"Book Name : "<<bookname<<"\n\t\t" <<"Book's ID : "
    <<sc<<"\n\t\t" <<"Date : "<<q<<"/<<B<<"/<<p<<"\n";
    intf.read((char*)this,sizeof(*this));
}
intf.close();
}

else if(i==3)
```

```
{  
    system("cls");  
    fflush(stdin);  
    cout<<"\n\t\t->Please Enter Details :-\n";  
    cout<<"\n\n\t\tEnter Student Name : ";  
    cin.getline(st,50);  
    cout<<"\n\n\t\tEnter Student's ID : ";  
    cin.getline(st1,20);  
    system("cls");  
    ifstream intf("student.txt",ios::binary);  
    intf.read((char*)this,sizeof(*this));  
    cont=0;  
    while(!intf.eof())  
    {  
        for(i=0;scl[i]!='0'&&st1[i]!='0'&&st1[i]==scl[i];i++);  
        if(scl[i]=='0'&&st1[i]=='0')  
        {  
            cont++;  
            if(cont==1)  
            {  
                cout<<"\n\t\t->The Details are :-\n";  
                cout<<"\n\t\tStudent Name : "<<auname;  
                cout<<"\n\t\tStudent's ID : "<<scl;  
            }  
            cout<<"\n\n\t***** "<<cont<<. Book details *****\n";  
            cout<<"\n\t\tBook Name : "<<bookname;  
            cout<<"\n\t\tBook's ID : "<<sc;
```

```
cout<<"\n\t\tDate : "<<q<<"/<<B<<"/<<p<<"\n";
}

intf.read((char*)this,sizeof(*this));

}

intf.close();
if(cont==0)
    cout<<"\n\t\tNo record found.";
}

else if(i==4)
{
system("cls");
fflush(stdin);
cout<<"\n\t\tPlease Enter Details :-\n";
cout<<"\n\t\tEnter Student's ID : ";
cin.getline(st,50);
cout<<"\n\t\tEnter Book's ID : ";
cin.getline(stl,20);
fstream intf("student.txt",ios::in|ios::out|ios::ate|ios::binary);
intf.seekg(0);
intf.read((char*)this,sizeof(*this));
while(!intf.eof())
{
    for(i=0;sc[i]!='0'&&stl[i]!='0'&&stl[i]==sc[i];i++);
    for(j=0;scl[j]!='0'&&st[j]!='0'&&st[j]==scl[j];j++);
    if(sc[i]=='0'&&scl[j]=='0'&&st[j]=='0'&&stl[i]=='0')
    {

```

```
d=q;  
m=B;  
y=p;  
cout<<"\n\t\tEnter New Date : ";  
cin>>q>>B>>p;  
fine(d,m,y,q,B,p); //fn1  
intf.seekp(intf.tellp()-sizeof(*this)); //fn3  
intf.write((char*)this,sizeof(*this)); //fn5  
cout<<"\n\n\t\tReissue successfully."; //fn3  
break;  
}  
intf.read((char*)this,sizeof(*this));  
}  
intf.close();  
}  
else if(i==5)  
{  
system("cls");  
b=branch(2);  
system("cls");  
fflush(stdin);  
cout<<"\n\t\tPlease Enter Details :\n";  
cout<<"\n\t\tEnter Book's ID : ";  
cin.getline(stl,20);  
der(stl,b,2);  
cout<<"\n\n\t\tEnter Student's ID : ";  
cin.getline(st,20);
```

```
cout<<"\n\t\tEnter Present date : ";

cin>>d>>m>>y;

ofstream outf("temp.txt",ios::app|ios::binary);

ifstream intf("student.txt",ios::binary);

intf.read((char*)this,sizeof(*this));

while(!intf.eof())

{

    for(i=0;sc[i]!='\0'&&st1[i]!='\0'&&st1[i]==sc[i];i++);

    for(j=0;scl[j]!='\0'&&st[j]!='\0'&&st[j]==scl[j];j++);

    if(sc[i]=='\0'&&scl[j]=='\0'&&st[j]=='\0'&&st1[i]=='\0'&&cont==0)

    {

        cont++;

        intf.read((char*)this,sizeof(*this));

        fine(q,B,p,d,m,y);

        cout<<"\n\t\tReturned successfully.";

    }

    else

    {

        outf.write((char*)this,sizeof(*this));

        intf.read((char*)this,sizeof(*this));

    }

}

intf.close();

outf.close();

getch();

remove("student.txt");
```

```
rename("temp.txt","student.txt");
}

else if(i==6)
{
system("cls");
librarian();
}

else
cout<<"\n\t\tWrong Input.\n";

cout<<"\n\n\t\tPress any key to continue....";
getch();
system("cls");
librarian();
}

void Lib::fine(int d,int m,int y,int dd,int mm,int yy)
{
long int n1,n2;
int years,l,i;
const int monthDays[12] = {31, 28, 31, 30, 31, 30,31, 31, 30, 31, 30, 31};
n1 = y*365 + d;
for (i=0; i<m - 1; i++)
    n1 += monthDays[i]; //fn1353
years = y;
if (m <= 2)
    years--;
l= years / 4 - years / 100 + years / 400;
```

```
n1 += l;  
n2 = yy*365 + dd;  
for (i=0; i<mm - 1; i++)  
    n2 += monthDays[i];  
  
years = yy;  
if (m <= 2)  
    years--;  
l= years / 4 - years / 100 + years / 400;  
n2 += l;  
n1=n2-nl;  
n2=n1-15;  
if(n2>0)  
    cout<<"\n\tThe Total Fine is :"<<n2;  
  
}  
void Lib::der(char st[],int b,int x)  
{  
    int i,cont=0;  
    fstream intf("Booksdata.txt",ios::in|ios::out|ios::ate|ios::binary);  
    intf.seekg(0);  
    intf.read((char*)this,sizeof(*this));  
    while(!intf.eof())  
    {  
        for(i=0;b==B&&sc[i]!='0'&&st[i]!='0'&&st[i]==sc[i];i++)  
        if(sc[i]=='0'&&st[i]=='0')  
        {  
            cont++;
```

```
if(x==1)
{
    q--;
}
else
{
    q++;
}
intf.seekp(intf.tellp()-sizeof(*this));
intf.write((char*)this,sizeof(*this));
break;
}
intf.read((char*)this,sizeof(*this));
}
if(cont==0)
{
    cout<<"\n\t\tBook not found.\n";
    cout<<"\n\n\t\tPress any key to continue....";
    getch();
    system("cls");
    issue();
}
intf.close();
}
void Lib::get()
{
    int i;
```

```
cout<<"\n\t***** LIBRARY MANAGEMENT SYSTEM\n*****\n"<<"\n\t\t\tL M S C++\n";  
cout<<"\n\t>Please Choose Any Option To login \n";  
cout<<"\n\t\t1.Student\n\t\t2.Librarian\n\t\t3.Close Application\n";  
cout<<"\n\tEnter your choice : ";  
cin>>i;  
if(i==1)  
{  
    system("cls");  
    student();  
}  
else if(i==2)  
    pass();  
  
else if(i==3)  
    exit(0);  
else  
{  
    cout<<"\n\tPlease enter correct option :";  
    getch();  
    system("CLS");  
    get();  
}  
}  
void Lib::student()  
{  
    int i;  
    cout<<"\n\t***** WELCOME STUDENT *****\n";
```

```
cout<<"\n\t\t>Please Choose One Option:\n";
cout<<"\n\t\t1.View BookList\n\n\t\t2.Search for a Book\n\n\t\t3.Go to main
menu\n\n\t\t4.Close Application\n";
cout<<"\n\t\tEnter your choice : ";
cin>>i;
if(i==1)
    booklist(1);
else if(i==2)
    see(1);
else if(i==3)
{
    system("cls");
    get();
}
else if(i==4)
    exit(0);
else
{
    cout<<"\n\t\tPlease enter correct option :";
    getch();
    system("cls");
    student();
}
void Lib::pass()
{
    int i=0;
    char ch,st[21],ch1[21]={"pass"};
```

```
cout<<"\n\t\tEnter Password : ";

while(1)

{

ch=getch();

if(ch==13)

{

    st[i]='\0';

    break;

}

else if(ch==8&&i>0)

{

    i--;

    cout<<"\b \b";

}

else

{

    cout<<" ";

    st[i]=ch;

    i++;

}

}

ifstream inf("password.txt");

inf>>chl;

inf.close();

for(i=0;st[i]==chl[i]&&st[i]!='\0'&&chl[i]!='\0';i++);

if(st[i]=='\0'&&chl[i]=='\0')

{
```

```
system("cls");
librarian();
}
else
{
    cout<<"\n\n\t\tWrong Password.\n\n\t\ttry again....\n";
    getch();
    system("cls");
    get();
}
}

void Lib::librarian()
{
    int i;
    cout<<"\n\t***** WELCOME LIBRARIAN *****\n";
    cout<<"\n\t>Please Choose One Option:\n";
    cout<<"\n\t1.View BookList\n\t2.Search for a Book\n\t3.Modify/Add
Book\n\t4.Issue Book\n\t5.Go to main menu\n\t6.Change
Password\n\t7.Close Application\n";
    cout<<"\n\tEnter your choice : ";
    cin>>i;
    switch(i)
    {
        case 1:booklist(2);
            break;
        case 2:see(2);
            break;
        case 3:modify();
```

```
        break;

    case 4:issue();

        break;

    case 5:system("cls");

        get();

        break;

    case 6:password();

        break;

    case 7:exit(0);

    default:cout<<"\n\tPlease enter correct option :";

        getch();

        system("cls");

        librarian();

    }

}

void Lib::password()

{

    int i=0,j=0;

    char ch,st[21],ch1[21]={"pass"};

    system("cls");

    cout<<"\n\n\tEnter Old Password :";

    while(1)

    {

        ch=getch();

        if(ch==13)

    {

        st[i]='\0';


```

```
break;  
}  
  
else if(ch==8 && i>0)  
{  
    i--;  
    cout<<"\b \b";  
}  
  
else  
{  
    cout<<"*";  
    st[i]=ch;  
    i++;  
}  
}  
  
ifstream intf("password.txt");  
intf>>chl;  
intf.close();  
  
for(i=0;st[i]==chl[i]&&st[i]!='0'&&chl[i]!='0';i++);  
  
if(st[i]=='0'&&chl[i]=='0')  
{  
    system("cls");  
    cout<<"\n\t**The Password Should be less than 20 characters & don't use  
    spaces**\n\n";  
    cout<<"\n\tEnter New Password : ";  
    fflush(stdin);  
    i=0;  
    while(1)  
    {
```

```
j++;

ch=getch();

if(ch==13)

{

    for(i=0;st[i]!='&&st[i]!='\0';i++);

    if(j>20 || st[i]==' ')

    {

        cout<<"\n\n\tYou did't follow the instruction \n\n\tPress any key for try again....";

        getch();

        system("cls");

        password();

        librarian();

    }

    st[i]='\0';

    break;

}

else if(ch==8&&i>0)

{

    i--;

    cout<<"\b \b";

}

else

{

    cout<<"*";

    st[i]=ch;

    i++;

}
```

```
}

ofstream outf("password.txt");
outf<<st;
outf.close();
cout<<"\n\n\tYour Password has been changed Successfully.";
cout<<"\n\tPress any key to continue.....";
getch();
system("cls");
librarian();

}

else
{
    cout<<"\n\n\tPassword is incorrect....\n";
    cout<<"\n\tEnter 1 for retry or 2 for menu";
    cin>>i;
    if(i==1)
    {
        system("cls");
        password();
    }
    else
    {
        system("cls");
        librarian();
    }
}
```

```
int main()
{
    Lib obj;
    obj.get();
    getch();
    return 0;
}
```

Output:

Main Screen:

When you run the project from any compiler or directly click on the executable .exe file you'll see the following screen shown in the picture.

```
***** LIBRARY MANAGEMENT SYSTEM *****

Learnprogramo <<LMS>> C++

>>Please Choose Any Option To login

1.Student

2.Librarian

3.Close Application

Enter your choice :
```

1. Student

The student will not require additional sign in, he or she will be able to access the software directly.

When the student enter the choice as 1 then following screen will be appeared:

```
***** WELCOME STUDENT *****

>>Please Choose One Option:

1.View BookList

2.Search for a Book

3.Go to main menu

4.Close Application

Enter your choice :
```

1. View Booklist:

In this menu option all the students according to their branches will be able to view the books present in the database along with their details.

2. Search For a Book:

We have given access to the students to search for a particular book. The student can search book either by book name or by book id. Both the options are available in the project.

3. Go to Main Menu:

When the user has done the required operations and if he want to again move to the main menu, then pressing 3 as choice he'll moved to the main menu.

4. Close Application:

By pressing the choice as 4 the application will be closed.

2. Librarian:

To access the features of the librarian menu, He will require to sign in using the password which is “learnprogramo”. We’ve also given the facility to change the password in the Librarian menu. Only Librarian has rights to change the password.

When the user press the choice as 2. then the software will ask you to enter the correct password as shown in the following image:

```
***** LIBRARY MANAGEMENT SYSTEM *****

Learnprogramo <<LMS>> C++

>>Please Choose Any Option To login

1.Student

2.Librarian

3.Close Application

Enter your choice : 2

Enter Password : *****
```

If the password is incorrect the application will show the error of wrong password. And if the password is correct then the librarian menu will be visible to the user where he or she can do the operations displayed in the menu.

The following menu will be visible to the Librarian:

```
***** WELCOME LIBRARIAN *****

>>Please Choose One Option:

1.View BookList

2.Search for a Book

3.Modify/Add Book

4.Issue Book

5.Go to main menu

6.Change Password

7.Close Application

Enter your choice :
```

1. View Booklist:

Same as students view booklist, librarians will also able to see the books available in the library database.

2. Search For a Book:

The Librarian can search book either by book name or by book id. Both the options are available in the project.

3. Modify/Add Book:

In this menu option Librarian can do three main operations i.e. Adding a Book, Deleting a Book and Modifying the existing Book.

As we are using the file handling methods in this project, Every time new file is generated to store the details of the books. i.e. Booksdata.txt.

4. Issue Book:

Due to this option The 70% of the work is been reduced. In this option Librarian can do the following operations:

- Issue a Book.
- View Issued Books.
- He can also search the students who issued the books.
- Librarian can also reissue the book to the same student.
- Return the Book.
-

```
->Please Choose one option :-
1.Issue Book
2.View Issued Book
3.Search student who isuued books
4.Reissue Book
5.Return Book
6.Go back to menu
Enter Your Choice :
```

To store the student details the separate filename Student.txt has been created.