**Source Code**

#include<fstream.h>

#include<conio.h>

#include<stdio.h>

#include<process.h>

#include<string.h>

#include<iomanip.h>

class book // for declaring book variable and functions

{

char bno[10];

char bname[50];

char aname[20];

public:

void create\_book() // for creating an entry

{

cout<<"\nNEW BOOK ENTRY...\n";

cout<<"\nEnter The book no.";

cin>>bno;

cout<<"\n\nEnter The Name of The Book ";

gets(bname);

cout<<"\n\nEnter The Author's Name ";

gets(aname);

cout<<"\n\n\nBook Created..";

}

void show\_book() // for displaying the details book

{

cout<<"\nBook no. : "<<bno;

cout<<"\nBook Name : ";

puts(bname);

cout<<"Author Name : ";

puts(aname);

}

void modify\_book() // for modifying the book

{

cout<<"\nBook no. : "<<bno;

cout<<"\nModify Book Name : ";

gets(bname);

cout<<"\nModify Author's Name of Book : ";

gets(aname);

}

char\* retbno() // for returning the book number

{

return bno;

}

void report() // to displaying book details

{

cout<<bno<<setw(30)<<bname<<setw(30)<<aname<<endl;}

};

class student // for declaring STUDENT variables and functions

{

char admno[6];

char name[20];

char stbno[6];

int bki;

public:

void create\_student() // for creating a new record

{

clrscr();

cout<<"\nNEW STUDENT ENTRY...\n";

cout<<"\nEnter The admission no. ";

cin>>admno;

cout<<"\n\nEnter The Name of The Student ";

gets(name);

bki=0;

stbno[0]='/0';

cout<<"\n\nStudent Record Created..";

}

void show\_student() // for displaying the record

{

cout<<"\nAdmission no. : "<<admno;

cout<<"\nStudent Name : ";

puts(name);

cout<<"\nNo of Book issued : "<<bki;

if(bki==1)

cout<<"\nBook No "<<stbno;

}

void modify\_student() // to modify the the record of STUDENT

{

cout<<"\nAdmission no. : "<<admno;

cout<<"\nModify Student Name : ";

gets(name);

}

char\* retadmno() // to return the admission number

{

return admno;

}

char\* retstbno() // to return student book number

{

return stbno;

}

int retbki()// to return the number of book issued

{

return bki;

}

void addbki() // to increment the book variable

{bki=1;}

void resetbki() // to reset the book variable

{bki=0;}

void getstbno(char t[]) // to get student book number

{

strcpy(stbno,t);

}

void report() // to display admission no., name , books issued

{cout<<"\t"<<admno<<setw(20)<<name<<setw(10)<<bki<<endl;}

};

fstream fp,fp1; /\* global declaration of

objects\*/

book bk;

student st;

void write\_book() // to add record of book

{

char ch;

fp.open("book.dat",ios::app);

do

{

clrscr();

bk.create\_book();

fp.write((char\*)&bk,sizeof(book));

cout<<"\n\nDo you want to add more record..(y/n?)";

cin>>ch;

}while(ch=='y'||ch=='Y');

fp.close();

}

void write\_student()//to add record of students

{

char ch;

fp.open("student.dat",ios::app);

do

{

st.create\_student();

fp.write((char\*)&st,sizeof(student));

cout<<"\n\ndo you want to add more record..(y/n?)";

cin>>ch;

}while(ch=='y'||ch=='Y');

fp.close();

}

void display\_spb(char n[])

{

cout<<"\nBOOK DETAILS\n";

int flag=0;

fp.open("book.dat",ios::in);

while(fp.read((char\*)&bk,sizeof(book)))

{

if(strcmpi(bk.retbno(),n)==0)//to match a particular book no.

{

bk.show\_book();

flag=1;

}

}

fp.close();

if(flag==0)

cout<<"\n\nBook does not exist";

getch();

}

void display\_sps(char n[])//to match a particular admission no

{

cout<<"\nSTUDENT DETAILS\n";

int flag=0;

fp.open("student.dat",ios::in);

while(fp.read((char\*)&st,sizeof(student)))

{

if((strcmpi(st.retadmno(),n)==0))

{

st.show\_student();

flag=1;

}

}

fp.close();

if(flag==0)

cout<<"\n\nStudent does not exist";

getch();

}

void modify\_book() //to modify record of BOOKS

{

char n[6];

int found=0;

clrscr();

cout<<"\n\n\tMODIFY BOOK REOCORD.... ";

cout<<"\n\n\tEnter The book no. of The book";

cin>>n;

fp.open("book.dat",ios::in|ios::out);

while(fp.read((char\*)&bk,sizeof(book)) && found==0)

{

if(strcmpi(bk.retbno(),n)==0)

{

bk.show\_book();

cout<<"\nEnter The New Details of book"<<endl;

bk.modify\_book();

int pos=-1\*sizeof(bk);

fp.seekp(pos,ios::cur);

fp.write((char\*)&bk,sizeof(book));

cout<<"\n\n\t Record Updated";

found=1;

}

}

fp.close();

if(found==0)

cout<<"\n\n Record Not Found ";

getch();

}

void modify\_student()// to modify the record of student

{

char n[6];

int found=0;

clrscr();

cout<<"\n\n\tMODIFY STUDENT RECORD... ";

cout<<"\n\n\tEnter The admission no. of The student";

cin>>n;

fp.open("student.dat",ios::in|ios::out);

while(fp.read((char\*)&st,sizeof(student)) && found==0)

{

if(strcmpi(st.retadmno(),n)==0)

{

st.show\_student();

cout<<"\nEnter The New Details of student"<<endl;

st.modify\_student();

int pos=-1\*sizeof(st);

fp.seekp(pos,ios::cur);

fp.write((char\*)&st,sizeof(student));

cout<<"\n\n\t Record Updated";

found=1;

}

}

fp.close();

if(found==0)

cout<<"\n\n Record Not Found ";

getch();

}

void delete\_student() // to delete a record of student

{

char n[6];

int flag=0;

clrscr();

cout<<"\n\n\n\tDELETE STUDENT...";

cout<<"\n\nEnter The admission no. of the Student You Want To Delete : ";

cin>>n;

fp.open("student.dat",ios::in|ios::out);

fstream fp2;

fp2.open("Temp.dat",ios::out);

fp.seekg(0,ios::beg);

while(fp.read((char\*)&st,sizeof(student)))

{

if(strcmpi(st.retadmno(),n)!=0)

fp2.write((char\*)&st,sizeof(student));

else

flag=1;

}

fp2.close();

fp.close();

remove("student.dat");

rename("Temp.dat","student.dat");

if(flag==1)

cout<<"\n\n\tRecord Deleted ..";

else

cout<<"\n\nRecord not found";

getch();

}

void delete\_book()// todelete a record of book

{

char n[6];

clrscr();

cout<<"\n\n\n\tDELETE BOOK ...";

cout<<"\n\nEnter The Book no. of the Book You Want To Delete : ";

cin>>n;

fp.open("book.dat",ios::in|ios::out);

fstream fp2;

fp2.open("Temp.dat",ios::out);

fp.seekg(0,ios::beg);

while(fp.read((char\*)&bk,sizeof(book)))

{

if(strcmpi(bk.retbno(),n)!=0)

{

fp2.write((char\*)&bk,sizeof(book));

}

}

fp2.close();

fp.close();

remove("book.dat");

rename("Temp.dat","book.dat");

cout<<"\n\n\tRecord Deleted ..";

getch();

}

void display\_alls()// to display all records of students

{

clrscr();

fp.open("student.dat",ios::in);

cout<<"\n\n\t\tSTUDENT LIST\n\n";

cout<<"==================================================================\n";

cout<<"\tAdmission No."<<setw(10)<<"Name"<<setw(20)<<"Book Issued\n";

cout<<"==================================================================\n";

while(fp.read((char\*)&st,sizeof(student)))

{

st.report();

}

fp.close();

getch();

}

void display\_allb()// to dispaly all records of books

{

clrscr();

fp.open("book.dat",ios::in);

cout<<"\n\n\t\tBook LIST\n\n";

cout<<"=========================================================================\n";

cout<<"Book Number"<<setw(20)<<"Book Name"<<setw(25)<<"Author\n";

cout<<"=========================================================================\n";

while(fp.read((char\*)&bk,sizeof(book)))

{

bk.report();

}

fp.close();

getch();

}

void book\_issue() // to issue a book

{

char sn[6],bn[6];

int found=0,flag=0;

clrscr();

cout<<"\n\nBOOK ISSUE ...";

cout<<"\n\n\tEnter The student's admission no.";

cin>>sn;

fp.open("student.dat",ios::in|ios::out);

fp1.open("book.dat",ios::in|ios::out);

while(fp.read((char\*)&st,sizeof(student)) && found==0)

{

if(strcmpi(st.retadmno(),sn)==0)

{

found=1;

if(st.retbki()==0)

{

cout<<"\n\n\tEnter the book no. ";

cin>>bn;

while(fp1.read((char\*)&bk,sizeof(book))&& flag==0)

{

if(strcmpi(bk.retbno(),bn)==0)

{

bk.show\_book();

flag=1;

st.addbki();

st.getstbno(bk.retbno());

int pos=-1\*sizeof(st);

fp.seekp(pos,ios::cur);

fp.write((char\*)&st,sizeof(student));

cout<<"\n\n\t Book issued successfully\n\nPlease Note: Write the current date in backside of your book and submit within 15 days fine Rs. 1 for each day after 15 days period";

}

}

if(flag==0)

cout<<"Book no does not exist";

}

else

cout<<"You have not returned the last book ";

}

}

if(found==0)

cout<<"Student record not exist...";

getch();

fp.close();

fp1.close();

}

void book\_deposit()// to deposit the book issued

{

char sn[6],bn[6];

int found=0,flag=0,day,fine;

clrscr();

cout<<"\n\nBOOK DEPOSIT ...";

cout<<"\n\n\tEnter The students admission no.";

cin>>sn;

fp.open("student.dat",ios::in|ios::out);

fp1.open("book.dat",ios::in|ios::out);

while(fp.read((char\*)&st,sizeof(student)) && found==0)

{

if(strcmpi(st.retadmno(),sn)==0)

{

found=1;

if(st.retbki()==1)

{

while(fp1.read((char\*)&bk,sizeof(book))&& flag==0)

{

if(strcmpi(bk.retbno(),st.retstbno())==0)

{

bk.show\_book();

flag=1;

cout<<"\n\nBook deposited in no. of days";

cin>>day;

if(day>15)

{

fine=(day-15)\*1;

cout<<"\n\nFine has to deposited Rs. "<<fine;

}

st.resetbki();

int pos=-1\*sizeof(st);

fp.seekp(pos,ios::cur);

fp.write((char\*)&st,sizeof(student));

cout<<"\n\n\t Book deposited successfully";

}

}

if(flag==0)

cout<<"Book no does not exist";

}

else

cout<<"No book is issued..please check!!";

}

}

if(found==0)

cout<<"Student record not exist...";

getch();

fp.close();

fp1.close();

}

void intro()// to display the introduction

{

clrscr();

gotoxy(35,11);

cout<<"LIBRARY";

gotoxy(35,14);

cout<<"MANAGEMENT";

gotoxy(35,17);

cout<<"SYSTEM";

cout<<"\n\nMADE BY :YASH SINGH";

cout<<"\n\nSCHOOL : RANI LAXMI BAI MEMORIAL SCHOOL";

getch();

}

void admin\_menu() // to display the menu

{

clrscr();

int ch2;

cout<<"\n\n\n\tADMINISTRATOR MENU";

cout<<"\n\n\t1.CREATE STUDENT RECORD";

cout<<"\n\n\t2.DISPLAY ALL STUDENTS RECORD";

cout<<"\n\n\t3.DISPLAY SPECIFIC STUDENT RECORD ";

cout<<"\n\n\t4.MODIFY STUDENT RECORD";

cout<<"\n\n\t5.DELETE STUDENT RECORD";

cout<<"\n\n\t6.CREATE BOOK ";

cout<<"\n\n\t7.DISPLAY ALL BOOKS ";

cout<<"\n\n\t8.DISPLAY SPECIFIC BOOK ";

cout<<"\n\n\t9.MODIFY BOOK ";

cout<<"\n\n\t10.DELETE BOOK ";

cout<<"\n\n\t11.BACK TO MAIN MENU";

cout<<"\n\n\tPlease Enter Your Choice (1-11) ";

cin>>ch2;

switch(ch2)

{

case 1: clrscr();

write\_student();break;

case 2: display\_alls();break;

case 3:

char num[6];

clrscr();

cout<<"\n\n\tPlease Enter The Admission No. ";

cin>>num;

display\_sps(num);

break;

case 4: modify\_student();break;

case 5: delete\_student();break;

case 6: clrscr();

write\_book();break;

case 7: display\_allb();break;

case 8: {

char num[6];

clrscr();

cout<<"\n\n\tPlease Enter The book No. ";

cin>>num;

display\_spb(num);

break;

}

case 9: modify\_book();break;

case 10: delete\_book();break;

case 11: return;

default:cout<<"\a";

}

admin\_menu();

}

void main()// startaring of main

{

char ch;

intro();

do

{

clrscr();

cout<<"\n\n\n\tMAIN MENU"; cout<<"\n\n\t01. BOOK ISSUE";

cout<<"\n\n\t02. BOOK DEPOSIT";

cout<<"\n\n\t03. ADMINISTRATOR MENU";

cout<<"\n\n\t04. EXIT";

cout<<"\n\n\tPlease Select Your Option (1-4) ";

ch=getche();

switch(ch)

{

case '1':clrscr();

book\_issue();

break;

case '2':book\_deposit();

break;

case '3':admin\_menu();

break;

case '4':exit(0);

default :cout<<"\a";

}

}while(ch!='4');

}

**Outputs**





















































