# CHAPTER7

## SOURCECODE

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// HEADERFILEUSEDINPROJECT

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//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#include<fstream.h> #include<conio.h> #include<stdio.h> #include<process.h> #include<string.h> #include<iomanip.h>

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// CLASSUSEDINPROJECT

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

classbook

{

char bno[6];charbname[50]; charaname[20];

public:

voidcreate\_book()

{

cout<<"\nNEW BOOK ENTRY\n"; cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\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\nBookCreatedSuccessfully!";

}

voidshow\_book()

{

cout<<"\nBook no. : "<<bno; cout<<"\nBook Name : "; puts(bname);

cout<<"Author Name : "; puts(aname);

}

voidmodify\_book()

{

cout<<"\nBook no. : "<<bno; cout<<"\nModify Book Name : "; gets(bname);

cout<<"\nModify Author's Name of Book : "; gets(aname);

}

char\*retbno()

{

returnbno;

}

voidreport()

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

};

//classendshere class student

{

public:

charadmno[6]; char name[20]; char stbno[6]; int token;

voidcreate\_student()

{

clrscr();

cout<<"\nNEWSTUDENTENTRY\n";

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n"; cout<<"\nEnter the admission no.: "; cin>>admno;

cout<<"\nEnter the name of the student: "; gets(name);

token=0; stbno[0]='/0';

cout<<"\n\nStudentRecordCreatedSuccessfully";

}

voidshow\_student()

{

cout<<"\nAdmission no. : "<<admno; cout<<"\nStudent Name : "; puts(name);

cout<<"\nNo of books issued : "<<token; if(token==1)

cout<<"\nBookNo"<<stbno;

}

voidmodify\_student()

{

cout<<"\nAdmission no. : "<<admno; cout<<"\nModify Student Name : "; gets(name);

}

char\*retadmno()

{

returnadmno;

}

char\*retstbno()

{

returnstbno;

}

intrettoken()

{

returntoken;

}

voidaddtoken()

{token=1;}

voidresettoken()

{token=0;}

voidgetstbno(chart[])

{

strcpy(stbno,t);

}

voidreport()

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

};

//classendshere

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// globaldeclarationforstreamobject,object

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

fstreamfp,fp1; book bk; student st;

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// functiontowriteinfile

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voidwrite\_book()

{

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

}

voidwrite\_student()

{

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

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// functiontoreadspecificrecordfromfile

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voiddisplay\_spb(charn[])

{

cout<<"\nBOOK DETAILS\n"; cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\n";

int flag=0; fp.open("book.dat",ios::in);

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

{

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

{

bk.show\_book(); flag=1;

}

}

fp.close(); if(flag==0)

cout<<"\n\nBook does not exist"; getch();

}

voiddisplay\_sps(charn[])

{

cout<<"\nSTUDENTDETAILS\n";

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\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();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// functiontomodifyrecordoffile

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voidmodify\_book()

{

char n[6];intfound=0; clrscr();

cout<<"\n\nMODIFYBOOKRECORD";

cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"; cout<<"\n\nEnter the book no.: "; 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<<"\n============================="<<endl;

cout<<"Enter the new details of book"<<endl; cout<<"============================="<<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 Successfully"; found=1;

}

}

fp.close(); if(found==0)

cout<<"\n\n Record Not Found "; getch();

}

voidmodify\_student()

{

char n[6];intfound=0; clrscr();

cout<<"\n\tMODIFYSTUDENTRECORD";

cout<<"\n\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"; cout<<"\n\nEnter 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\tRecord Updated Successfully"; found=1;

}

}

fp.close(); if(found==0)

cout<<"\n\nRecord Not Found "; getch();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// functiontodeleterecordoffile

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voiddelete\_student()

{

char n[6]; intflag=0;

clrscr();

cout<<"\nDELETESTUDENT";

cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*";

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\tRecordDeletedSuccessfully";

else

cout<<"\n\nRecordnotfound";

getch();

}

voiddelete\_book()

{

charn[6];

clrscr();

cout<<"\n\tDELETE BOOK"; cout<<"\n\t\*\*\*\*\*\*\*\*\*\*\*";

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 Successfully"; getch();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// functiontodisplayallstudentslist

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voiddisplay\_alls()

{

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

{

cout<<"ERROR!!!FILECOULDNOTBEOPEN";

getch(); return;

}

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();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// functiontodisplayBookslist

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voiddisplay\_allb()

{

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

{

cout<<"ERROR!!!FILECOULDNOTBEOPEN";

getch(); return;

}

cout<<"\n\n\t\t\tBOOK LIST\n\n"; cout<<"=======================================================

==================\n";

cout<<"Book Number"<<setw(15)<<"Book Name"<<setw(30)<<"Author\n"; cout<<"=======================================================

==================\n";

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

{

bk.report();

}

fp.close();

getch();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// functiontoissuebook

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voidbook\_issue()

{

char sn[6],bn[6];intfound=0,flag=0; clrscr();

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

cout<<"\n\nEnter 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.rettoken()==0)

{

cout<<"\n\nEnter 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.addtoken(); 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: Return the book within 15 days.\nFine of Rs. 1 for each day after 15 days period will be charged.";

}

}

}

else

}

}

if(flag==0)

cout<<"Booknodoesnotexist";

cout<<"Youhavenotreturnedthelastbook";

if(found==0)

cout<<"Student record not exist..."; getch();

fp.close();

fp1.close();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// functiontodepositbook

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voidbook\_deposit()

{

charsn[6],bn[6];

int found=0,flag=0,day,fine; clrscr();

cout<<"\nBOOKDEPOSIT";

cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*";

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.rettoken()==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\nFinetobedepositedRs."<<fine;

}

st.resettoken();

intpos=-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<<"Bookno.doesnotexist";

}

else

cout<<"Nobookisissued..pleasecheck!!";

}

}

if(found==0)

cout<<"Student record not exist..."; getch();

fp.close();

fp1.close();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// INTRODUCTIONFUNCTION

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voidintro()

{

clrscr(); gotoxy(26,11);

cout<<"LIBRARYMANAGEMENTSYSTEM";

gotoxy(26,12);

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"; cout<<"\n\n\nMADE BY:\n";cout<<"\tMEENAL SINGH (A40320044)\n"; cout<<"\tBHAVYA JAIN(A40320053)\n"; cout<<"\tPRAGYA GUPTA (A40320009)\n"; cout<<"\tMOHIT YADAV(A40320001/21)\n"; cout<<"\tVINAY KUMAR(A40320049)\n";

cout<<"\n\tB.TECH CSE V SEM"; getch();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// ADMINISTRATORMENUFUNCTION

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voidadmin\_menu()

{

clrscr(); intch2;

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.DELETEBOOK";

cout<<"\n\n\t11.BACK TO MAIN MENU"; cout<<"\n\n\tPlease Enter Your Choice (1-11) "; cin>>ch2;

switch(ch2)

{

case1:clrscr();

write\_student();break;case 2: display\_alls();break;

case3:

charnum[6]; clrscr();

cout<<"\n\n\tPlease enter the Admission No. "; cin>>num;

display\_sps(num); break;

case4:modify\_student();break;

case5:delete\_student();break;

case6:clrscr();

write\_book();break; case7:display\_allb();break;

case8:{

charnum[6]; clrscr();

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

display\_spb(num); break;

}

case9:modify\_book();break;

case10:delete\_book();break;

case 11: return; default:cout<<"\a";

}

admin\_menu();

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// THEMAINFUNCTIONOFPROGRAM

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

voidmain()

{

charch; 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');

}