#include<iostream>

#include<stdio.h>

#include<fstream>

#include<iomanip>

#include<string.h>

#include<conio.h>

using namespace std;

int menu();

class Book

{

private:

int bookid;

char title[20];

float price;

protected:

int allotbookid();

void showheader();

public:

void getbook();

void showbook();

void addbook();

void viewbook();

void searchbook();

void deletebook();

void modifybook();

};

int Book::allotbookid()

{

ifstream fin;

Book temp;

int id=0;

fin.open("books.txt",ios::in|ios::binary);

if(!fin)

return(id+1);

else

{

fin.read((char\*)&temp,sizeof(temp));

while(!fin.eof())

{

id=temp.bookid;

fin.read((char\*)&temp,sizeof(temp));

}

id++;

return(id);

}

}

void Book::showheader()

{

cout<<left;

cout<<"\n"<<setw(10)<<"BOOK ID"<<setw(10)<<"Price"<<setw(10)<<"Title\n";

}

void Book::getbook()

{

cout<<"Enter Book Title: ";

fflush(stdin);

gets(title);

cout<<"Price of Book: ";

cin>>price;

bookid=allotbookid();

}

void Book::showbook()

{

cout<<left;

cout<<"\n"<<setw(10)<<bookid<<setw(10)<<price<<setw(10)<<title;

}

void Book::addbook()

{

ofstream fout;

fout.open("books.txt",ios::out|ios::app|ios::binary);

if(!fout)

cout<<"File can not open";

else

fout.write((char\*)this,sizeof(\*this));

//cout<<"Details entered successfully.";

fout.close();

}

void Book::viewbook()

{

ifstream fin;

fin.open("books.txt",ios::in|ios::binary);

if(!fin)

cout<<"File not found";

else

{

showheader();

fin.read((char\*)this,sizeof(\*this));

while(!fin.eof())

{

showbook();

fin.read((char\*)this,sizeof(\*this));

}

cout<<"\n\n\n Press any key to go back to the main menu...";

getch();

}

fin.close();

}

void Book::searchbook()

{

ifstream fin;

char str[20];

fin.open("books.txt",ios::in|ios::binary);

cout<<"Enter the name of book to search:";

fflush(stdin);

gets(str);

if(!fin)

cout<<"File not found";

else

{

fin.read((char\*)this,sizeof(\*this));

while(!fin.eof())

{

if(!strcmp(this->title,str))

{

showheader();

showbook();

break;

}

fin.read((char\*)this,sizeof(\*this));

}

if(fin.eof())

cout<<"\n Record not found";

}

fin.close();

cout<<"\n\n\n Press any key to go back to the main menu...";

getch();

}

void Book:: modifybook()

{

int id,r=0;

fstream file;

file.open("books.txt",ios::in|ios::out|ios::ate|ios::binary);

cout<<"\n Enter record number to modify (bookid): ";

cin>>id;

file.seekg(0);

if(!file)

cout<<"File not found";

else

{

file.read((char\*)this,sizeof(\*this));

while(!file.eof())

{

r++;

if(bookid==id)

{

showheader();

showbook();

cout<<"\n Re-enter book details:\n";

cout<<"Enter book title:";

fflush(stdin);

gets(title);

cout<<"Enter book price";

cin>>price;

file.seekp((r-1)\*sizeof(Book),ios::beg);

file.write((char\*)this,sizeof(\*this));

break;

}

file.read((char\*)this,sizeof(\*this));

}

if(file.eof())

cout<<"Record not found";

}

file.close();

}

void Book:: deletebook()

{

ifstream fin;

ofstream fout;

int id;

char x;

fin.open("books.txt",ios::in|ios::binary);

fout.open("tempbooks.txt",ios::out|ios::app|ios::binary);

cout<<"Enter bookid to delete record"<<"\t";

cin>>id;

if(!fin)

cout<<"File not found";

else

{

fin.read((char\*)this,sizeof(\*this));

while(!fin.eof())

{

if(this->bookid==id)

{

cout<<"Record you want to delete is:\n\n";

showheader();

showbook();

cout<<"\n Are you sure you want to delete this record(y/n): ";

fflush(stdin);

cin>>x;

if(x=='n')

fout.write((char\*)this,sizeof(\*this));

else

cout<<"\n Record is deleted";

}

else

fout.write((char\*)this,sizeof(\*this));

fin.read((char\*)this,sizeof(\*this));

}

fin.close();

fout.close();

system("erase books.txt");

system("rename tempbooks.txt books.txt");

}

cout<<"\n\n\nPress any key to continue...";

getch();

}

int menu()

{

system("cls");

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << " BOOKSHOP MANAGEMENT SYSTEM" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout<<"\n1. Add new book";

cout<<"\n2. View all books";

cout<<"\n3. Search book";

cout<<"\n4. modify book";

cout<<"\n5. delete book";

cout<<"\n6. Exit";

cout<<"\n\n Enter your choice"<<"\t";

int ch;

cin>>ch;

return(ch);

}

int main()

{

Book b;

int ch;

while(1)

{

ch=menu();

switch(ch)

{

case 1:

b.getbook();

b.addbook();

break;

case 2:

b.viewbook();

break;

case 3:

b.searchbook();

break;

case 4:

b.modifybook();

break;

case 5:

b.deletebook();

break;

case 6:

exit(0);

default:

cout<<"Enter Valid choice";

}

}

return 0;

}