**~~Source Code~~**

For the **‘**LIBRARY MANAGEMENT SYSTEM’ to execute properly the following coding is adopted:

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THE START

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Header files

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#include<fstream.h>

#include<iomanip.h>

#include<string.h>

#include<conio.h>

#include<stdio.h>

#include<math.h>

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Class

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class LIBRARY

{

public:

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Strucutres

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//Structure for 'Book Details'

struct Book

{

int slno;

int bookNo;

char bookName[50];

float price;

char publisher[50];

char status[10];

}book;

//Structure for 'Issue Details'

struct Issue

{

int slno;

char name[50];

char phNo[50];

int bookNo;

int noMonth;

int noWeek;

int noDay;

float charge;

char status[10];

}issue;

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Member Functions

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//Member Functions for 'Book Details'

void Save(Book &, int &); //MFBD 1

void Check(Book &, int, int &); //MFBD 2

void Input(Book &, int &); //MFBD 3

void Show(Book &); //MFBD 4

void Showall(Book &); //MFBD 5

void Search(Book &, int); //MFBD 6

void Update(Book &, int); //MFBD 7

//Member Functions for 'Issue Details'

int CalChargeI(int, int, int, float);//MFID 1

void SaveI(Issue &, int, int &); //MFID 2

void CheckI(Issue &, int, int &); //MFID 3

void IssueI(Issue &, int &); //MFID 4

void ShowI(Issue &); //MFID 5

void ShowallI(Issue &); //MFID 6

void SearchI(Issue &, int); //MFID 7

void ReturnI(Issue &, int); //MFID 8

};

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Individual Display Functions

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void GrandDisplay() //IDF 1

{

clrscr();

cout<<"\t\t\t\t WELCOME TO\n";

for(int k=0; k<80; k++)

cout<<"\*";

int r=8;

for(int i=0,j; i<=r; i++)

{

cout<<endl;

cout<<"\t D";

for(int a1=r; a1>=r,a1<=2\*r; a1++)

{

float d=sqrt((i-r)\*(i-r)+(a1-r)\*(a1-r));

if(d>r-0.5 && d<r+0.5)

{

cout<<"D";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a2=0; a2<=2\*(r-1); a2++)

{

float d=sqrt((i-(r-1))\*(i-(r-1))+(a2-(r-1))\*(a2-(r-1)));

if(d>(r-1)-0.5 && d<(r-1)+0.5)

{

cout<<"A";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a3=0; a3<=r\*0.7; a3++)

{

float d=sqrt((i-r\*0.5)\*(i-r\*0.5)+(a3-r\*0.5)\*(a3-r\*0.5));

if(d>r\*0.5-0.5 && d<r\*0.5+0.5)

{

cout<<"S";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(a3=0; a3<=r\*0.7; a3++)

{

cout<<" ";

}

for(int a4=0; a4<=r\*0.7; a4++)

{

float d=sqrt((i-r\*0.5)\*(i-r\*0.5)+(a4-r\*0.5)\*(a4-r\*0.5));

if(d>r\*0.5-0.5 && d<r\*0.5+0.5)

{

cout<<"S";

}

else

{

cout<<" ";

}

}

}

for(i=0,j=r; i<=r,j>=r,j<=2\*r; i++,j++)

{

cout<<endl;

cout<<"\t D";

for(int a1=r; a1>=r,a1<=2\*r; a1++)

{

float d=sqrt((j-r)\*(j-r)+(a1-r)\*(a1-r));

if(d>r-0.5 && d<r+0.5)

{

cout<<"D";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a2=0; a2<=2\*(r-1); a2++)

{

if(i==0||a2==0||a2==2\*(r-1))

{

cout<<"A";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a3=0; a3<=r\*0.7; a3++)

{

cout<<" ";

}

for(a3=r\*0.4; a3>=r\*0.4,a3<=2\*r\*0.5; a3++)

{

float d=sqrt((i-r\*0.5)\*(i-r\*0.5)+(a3-r\*0.5)\*(a3-r\*0.5));

if(d>r\*0.5-0.5 && d<r\*0.5+0.5)

{

cout<<"S";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a4=0; a4<=r\*0.7; a4++)

{

cout<<" ";

}

for(a4=r\*0.4; a4>=r\*0.4,a4<=2\*r\*0.5; a4++)

{

float d=sqrt((i-r\*0.5)\*(i-r\*0.5)+(a4-r\*0.5)\*(a4-r\*0.5));

if(d>r\*0.5-0.5 && d<r\*0.5+0.5)

{

cout<<"S";

}

else

{

cout<<" ";

}

}

}

cout<<"\n\n\t\t\t\t BOOK WORLD !!!\n";

for(k=0; k<80; k++)

cout<<"\*";

cout<<setw(79)<<"Press any Key to Begin...";

getch();

}

void SubGrandDisplay() //IDF 2

{

clrscr();

cout<<" \t\t\t\tA Note from the Programmer\n";

for(int i=0; i<80; i++)

cout<<"\*";

cout<<"\t\tDASS BOOK WORLD:A Smart Library Management System!\n";

cout<<" A Library Management System is a collection of different entities - books,\n";

cout<<" librarian, accountant, customer, student or reader, etc. It is a centralized\n";

cout<<" place where the informations related to different types of books can be found.\n";

cout<<" The project undertaken does the automation of the 'LIBRARY MANAGEMENT SYSTEM'\n";

cout<<" in the organization. It's built on the performance, reliability, quality and\n";

cout<<" ease of use. It also include a number of features that further eshtablish it\n";

cout<<" as a better GUI application. 'LIBRARY MANAGEMENT SYSTEM' is a system having\n";

cout<<" Menu Derived User Interface. It consists of three menus: Main Menu, Books'\n";

cout<<" Menu and Issue Menu. It contains the vital data and informations reguarding\n";

cout<<" book, issue and customer details. Administrator of the project can enter new\n";

cout<<" book and issue details, display all/specific book and issue details and modify\n";

cout<<" \t\t\t\tbook and issue details.\n";

cout<<" The main reason of developing this software is to reduce the workload and to\n";

cout<<" provide the ease of use to accomplish the desired task along with better\n";

cout<<" \t\t\tservice to the customers and society.\n";

cout<<" Any suggestions toward the further improvement of the system shall be\n";

cout<<"\t\t\tgreatefully received and acknowledged.\n";

for(i=0; i<80; i++)

cout<<"\*";

cout<<" \t\t\t\tANIKET DAS\n";

cout<<" \t\t\tStudent Programmer (Class: XII)\n";

cout<<"\t\t\tKendriya Vidyalaya, Chittaranjan\n";

cout<<setw(79)<<"Press any Key to Continue...";

getch();

}

void Display() //IDF 3

{

clrscr();

cout<<"\t\t\tDASS BOOK WORLD\n";

cout<<"\tThe National Library of India; New Town, Kolkata: 700028\n";

cout<<"\t\t Software: Library Management System\n";

for(int i=0; i<80; i++)

cout<<"\_";

cout<<"\n";

}

void SubDisplayB() //IDF 4

{

cout<<"--------|----------|--------------------|----------|-------------------|--------";

cout<<" Sl.No. | Number | Name | Price | Publisher | Issued\n";

cout<<" | | | (Rs.) | | (Y/N)\n";

cout<<"========|==========|====================|==========|===================|========";

}

void SubDisplayI() //IDF 5

{

cout<<"-----|---------------------------------|----------|-----------------------------";

cout<<" Sl. | Customer Details | Book | Issue Details \n";

cout<<" No. |------------------|--------------| Number |---------|--------|----------";

cout<<" | Name | Phone Number | | M- W- D | Charge | Returned\n";

cout<<" | | | | | (Rs.) | (Y/N)\n";

cout<<"=====|==================|==============|==========|=========|========|==========";

}

void GrandEnding() //IDF 6

{

clrscr();

int r=6;

for(int i=0,j=r,k; i<=r,j>=r,j<=2\*r; i++,j++)

{

cout<<endl;

cout<<" ";

for(int a1=0; a1<=2\*r; a1++)

{

if(i==0||a1==r)

{

cout<<"T";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a2=0; a2<=2\*r; a2++)

{

if(a2==0)

{

cout<<"h";

}

else

{

cout<<" ";

}

}

for(int a3=0; a3<=2\*(r-1); a3++)

{

float d=sqrt((i-(r-1))\*(i-(r-1))+(a3-(r-1))\*(a3-(r-1)));

if(d>(r-1)-0.5 && d<(r-1)+0.5)

{

cout<<"A";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a4=0; a4<=2\*(r-1); a4++)

{

cout<<" ";

}

cout<<" ";

cout<<"K";

for(int a5=r; a5>=r,a5<=2\*r; a5++)

{

float d=sqrt((j-r)\*(j-r)+(a5-r)\*(a5-r));

if(d>r-0.5 && d<r+0.5)

{

cout<<"K";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a6=0; a6<=2\*(r-1); a6++)

{

if(a6==0||a6==2\*(r-1))

{

cout<<"U";

}

else

{

cout<<" ";

}

}

cout<<" ";

}

for(i=0,j=r,k=r-2; i<=r,j<=2\*r; i++,j++,k++)

{

cout<<endl;

cout<<" ";

for(int a1=0; a1<=2\*r; a1++)

{

if(a1==r)

{

cout<<"T";

}

else

{

cout<<" ";

}

}

cout<<" ";

cout<<"h";

for(int a2=0; a2<=2\*(r-1); a2++)

{

float d=sqrt((i-(r-1))\*(i-(r-1))+(a2-(r-1))\*(a2-(r-1)));

if(d>(r-1)-0.5 && d<(r-1)+0.5)

{

cout<<"h";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a3=0; a3<=2\*(r-1); a3++)

{

if(i==0||a3==0||a3==2\*(r-1))

{

cout<<"A";

}

else

{

cout<<" ";

}

}

cout<<" ";

cout<<"n";

for(int a4=0; a4<=2\*(r-1); a4++)

{

float d=sqrt((i-(r-1))\*(i-(r-1))+(a4-(r-1))\*(a4-(r-1)));

if(d>(r-1)-0.5 && d<(r-1)+0.5)

{

cout<<"n";

}

else

{

cout<<" ";

}

}

cout<<" ";

cout<<"K";

for(int a5=r; a5>=r,a5<=2\*r; a5++)

{

float d=sqrt((i-r)\*(i-r)+(a5-r)\*(a5-r));

if(d>r-0.5 && d<r+0.5)

{

cout<<"K";

}

else

{

cout<<" ";

}

}

cout<<" ";

for(int a6=0; a6<=2\*(r-1); a6++)

{

float d=sqrt((k-(r-1))\*(k-(r-1))+(a6-(r-1))\*(a6-(r-1)));

if(d>(r-1)-0.5 && d<(r-1)+0.5)

{

cout<<"U";

}

else

{

cout<<" ";

}

}

}

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

cout<<"\t\tThAnK U... For visiting DASS BOOK WORLD !!!\n";

cout<<"\t\t\t Please, visit again.\n\n";

for(int l=0; l<80; l++)

cout<<"\*";

cout<<"\n";

cout<<"\t\t\t Contact No.: 0341 2526089\n";

cout<<"\t\t\tE-mail id: dassbw@gmail.com\n";

cout<<"\t\t\t Website: www.dassbw.org\n";

cout<<setw(79)<<"Press any Key to Terminate...";

getch();

}

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Member Functions for 'Book Details'

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

void LIBRARY::Save(Book &book, int &slno) //MFBD 1

{

fstream file("BOOK.TXT", ios::nocreate|ios::app|ios::binary);

file.write((char \*)&book, sizeof(Book));

if(file)

{

cout<<"\nDetails of the book are saved in file.";

}

else

{

cout<<"\nDetails can't be saved since file is not created.";

slno--;

}

}

void LIBRARY::Check(Book &book1, int bNo, int &slno) //MFBD 2

{

int flag=0;

Book book;

fstream file("BOOK.TXT", ios::in|ios::binary);

while(file.read((char \*)&book, sizeof(Book)))

{

if(book.bookNo==bNo)

{

cout<<"\nInvalid book number, it already exists in library.";

slno--;

flag=1;

}

}

if(flag==0)

{

Save(book1, slno);

}

}

void LIBRARY::Input(Book &book, int &slno) //MFBD 3

{

Display();

Book book1;

fstream file("BOOK.TXT", ios::in|ios::binary);

if(file)

{

while(file.read((char \*)&book1, sizeof(Book)))

{

if(book1.slno>0)

{

slno=book1.slno;

}

}

}

slno++;

book.slno=slno;

strcpy(book.status, "No");

cout<<"Fill up the given details of book:\n\n";

cout<<"Serial Number: "<<book.slno<<"\n\n";

cout<<"Book Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n";

cout<<"Book Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n";

cout<<"Book Price: Rs.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_only\n";

cout<<"Book Publisher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n";

gotoxy(17,10);

cin>>book.bookNo;

gotoxy(17,11);

gets(book.bookName);

gotoxy(17,12);

cin>>book.price;

gotoxy(17,13);

gets(book.publisher);

Check(book, book.bookNo, slno);

getch();

}

void LIBRARY::Show(Book &book) //MFBD 4

{

int i,l1,l2;

l1=strlen(book.bookName);

l2=strlen(book.publisher);

cout<<setw(6)<<book.slno<<". |";

cout<<setw(9)<<book.bookNo<<" |";

if(l1>18)

{

cout<<setw(2);

for(i=0; i<16; i++)

{

cout<<book.bookName[i];

}

cout<<".. |";

}

else

{

cout<<setw(19)<<book.bookName<<" |";

}

cout<<setw(9)<<setprecision(7)<<book.price<<" |";

if(l2>17)

{

cout<<setw(2);

for(i=0; i<15; i++)

{

cout<<book.publisher[i];

}

cout<<".. |";

}

else

{

cout<<setw(18)<<book.publisher<<" |";

}

cout<<setw(7)<<book.status<<"\n";

cout<<"--------|----------|--------------------|----------|-------------------|--------";

}

void LIBRARY::Showall(Book &book) //MFBD 5

{

Display();

fstream file("BOOK.TXT", ios::in|ios::binary);

if(file)

{

cout<<"Details of the books in library are as follows:\n\n";

SubDisplayB();

while(file.read((char \*)&book, sizeof(Book)))

{

Show(book);

}

}

else

{

cout<<"Details can't be shown since file is not created.";

}

getch();

}

void LIBRARY::Search(Book &book, int bNo) //MFBD 6

{

int flag=0;

fstream file("BOOK.TXT", ios::in|ios::binary);

if(file)

{

while(file.read((char \*)&book, sizeof(Book)))

{

if(book.bookNo==bNo)

{

cout<<"\nDetails of the required book are as follows:\n\n";

SubDisplayB();

Show(book);

flag=1;

}

}

if(flag==0)

{

cout<<"\nRequired book is not found in file.";

}

}

else

{

cout<<"\nDetails can't be searched since file is not created.";

}

getch();

}

void LIBRARY::Update(Book &book, int bNo) //MFBD 7

{

int pos=0,flag=0;

fstream file("BOOK.TXT", ios::in|ios::out|ios::binary);

if(file)

{

while(file.read((char \*)&book, sizeof(Book)))

{

if(book.bookNo==bNo)

{

if(book.status[0]=='N')

{

cout<<"\nSaved details of the required book are as follows:\n\n";

SubDisplayB();

Show(book);

cout<<"\nUpdate new details of the required book:\n";

cout<<"Fill up the given details of book:\n\n";

cout<<"Serial Number: "<<book.slno<<"\n\n";

cout<<"Book Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n";

cout<<"Book Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n";

cout<<"Book Price: Rs.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_only\n";

cout<<"Book Publisher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n";

gotoxy(17,21);

cin>>book.bookNo;

gotoxy(17,22);

gets(book.bookName);

gotoxy(17,23);

cin>>book.price;

gotoxy(17,24);

gets(book.publisher);

file.seekp(pos\*sizeof(Book));

file.write((char \*)&book, sizeof(Book));

cout<<"\nUpdated details of the book are saved in file.";

flag=1;

}

else

{

cout<<"\nDetails can't be updated since the book is issued.";

flag=1;

}

}

pos++;

}

if(flag==0)

{

cout<<"\nRequired book is not found in file.";

}

}

else

{

cout<<"\nDetails can't be updated since file is not created.";

}

getch();

}

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

Member Functions for 'Issue Details'

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

int LIBRARY::CalChargeI(int noM, int noW, int noD, float price) //MFID 1

{

float charge;

charge=((noM\*30+noW\*7+noD)\*(price/500));

return (charge);

}

void LIBRARY::SaveI(Issue &issue, int bNo, int &slnoi) //MFID 2

{

int pos=0;

Book book;

fstream file("ISSUE.TXT", ios::nocreate|ios::app|ios::binary);

fstream file1("BOOK.TXT", ios::in|ios::out|ios::binary);

if(file1)

{

while(file1.read((char \*)&book, sizeof(Book)))

{

if(book.bookNo==bNo)

{

strcpy(book.status, "Yes");

issue.charge=CalChargeI(issue.noMonth, issue.noWeek, issue.noDay, book.price);

file.write((char \*)&issue, sizeof(Issue));

file1.seekp(pos\*sizeof(Book));

file1.write((char \*)&book, sizeof(Book));

}

pos++;

}

}

else

{

cout<<"\nBook can't be issued since file is not created.";

slnoi--;

}

if(file)

{

cout<<"\nDetails of the issue are saved in file.";

cout<<"\nTotal money charged for the issue is Rs. "<<issue.charge<<" only.";

}

else

{

cout<<"\nBook can't be issued since file is not created.";

slnoi--;

}

}

void LIBRARY::CheckI(Issue &issue1, int bNo, int &slnoi) //MFID 3

{

int flag=0;

Issue issue;

fstream file("ISSUE.TXT", ios::in|ios::binary);

while(file.read((char \*)&issue, sizeof(Issue)))

{

if(issue.bookNo==bNo && issue.status[0]=='N')

{

cout<<"\nInvalid book number, it is already issued.";

slnoi--;

flag=1;

}

}

if(flag==0)

{

SaveI(issue1, bNo, slnoi);

}

}

void LIBRARY::IssueI(Issue &issue, int &slnoi) //MFID 4

{

IssueI:

Display();

int flag=0;

char choice;

Issue issue1;

Book book;

fstream file("ISSUE.TXT", ios::in|ios::binary);

fstream file1("BOOK.TXT", ios::in|ios::binary);

if(file)

{

while(file.read((char \*)&issue1, sizeof(Issue)))

{

if(issue1.slno>0)

{

slnoi=issue1.slno;

}

}

}

slnoi++;

issue.slno=slnoi;

strcpy(issue.status, "No");

cout<<"Fill up the given details of issue:\n\n";

cout<<"Serial Number: "<<issue.slno<<"\n\n";

cout<<"Custimer Details:\n";

cout<<"Customer Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n";

cout<<"Phone Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n\n";

cout<<"Book Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n\n";

cout<<"Issue Details:\n";

cout<<"No. of Months: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_month(s)\n";

cout<<"No. of Weeks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_week(s)\n";

cout<<"No. of Days: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_day(s)\n";

gotoxy(16,11);

gets(issue.name);

gotoxy(16,12);

gets(issue.phNo);

gotoxy(16,14);

cin>>issue.bookNo;

gotoxy(16,17);

cin>>issue.noMonth;

gotoxy(16,18);

cin>>issue.noWeek;

gotoxy(16,19);

cin>>issue.noDay;

if(file1)

{

while(file1.read((char \*)&book, sizeof(Book)))

{

if(book.bookNo==issue.bookNo)

{

cout<<"\nHave a final verification of the book to be issued.";

cout<<"\nIf satisfied press 'Y' else press 'N'.";

cout<<"\n\nDetails of the required book are as follows:\n\n";

SubDisplayB();

Show(book);

cout<<"\nEnter choice: ";

cin>>choice;

if(choice=='Y'||choice=='y')

{

CheckI(issue, issue.bookNo, slnoi);

flag=1;

}

else

{

slnoi--;

goto IssueI;

}

}

}

if(flag==0)

{

cout<<"\nInvalid book number, book does not exist in library.";

slnoi--;

}

}

else

{

cout<<"\nBook can't be issued since file is not created.";

slnoi--;

}

getch();

}

void LIBRARY::ShowI(Issue &issue) //MFID 5

{

int i,l;

l=strlen(issue.name);

cout<<setw(3)<<issue.slno<<". |";

if(l>16)

{

cout<<setw(2);

for(i=0; i<14; i++)

{

cout<<issue.name[i];

}

cout<<".. |";

}

else

{

cout<<setw(17)<<issue.name<<" |";

}

cout<<setw(13)<<issue.phNo<<" |";

cout<<setw(9)<<issue.bookNo<<" |";

cout<<setw(2)<<issue.noMonth<<"-"<<setw(2)<<issue.noWeek<<"-"<<setw(2)<<issue.noDay<<" |";

cout<<setw(7)<<setprecision(5)<<issue.charge<<" |";

cout<<setw(9)<<issue.status<<"\n";

cout<<"-----|------------------|--------------|----------|---------|--------|----------";

}

void LIBRARY::ShowallI(Issue &issue) //MFID 6

{

Display();

fstream file("ISSUE.TXT", ios::in|ios::binary);

if(file)

{

cout<<"Details of the issues in library are as follows:\n\n";

SubDisplayI();

while(file.read((char \*)&issue, sizeof(Issue)))

{

ShowI(issue);

}

}

else

{

cout<<"Details can't be shown since file is not created.";

}

getch();

}

void LIBRARY::SearchI(Issue &issue, int bNo) //MFID 7

{

int flag=0;

fstream file("ISSUE.TXT", ios::in|ios::binary);

if(file)

{

while(file.read((char \*)&issue, sizeof(Issue)))

{

if(issue.bookNo==bNo)

{

cout<<"\nDetails of the required book are as follows:\n\n";

SubDisplayI();

ShowI(issue);

flag=1;

}

}

if(flag==0)

{

cout<<"\nRequired book is not found in file.";

}

}

else

{

cout<<"\nDetails can't be searched since file is not created.";

}

getch();

}

void LIBRARY::ReturnI(Issue &issue, int bNo) //MFID 8

{

int pos=0,pos1=0,flag=0,flag1=0;

Book book;

fstream file("ISSUE.TXT", ios::in|ios::out|ios::binary);

fstream file1("BOOK.TXT", ios::in|ios::out|ios::binary);

if(file && file1)

{

while(file1.read((char \*)&book, sizeof(Book)))

{

if(book.bookNo==bNo)

{

strcpy(book.status, "No");

file1.seekp(pos1\*sizeof(Book));

file1.write((char \*)&book, sizeof(Book));

flag1=1;

}

pos1++;

}

while(file.read((char \*)&issue, sizeof(Issue)))

{

if(issue.bookNo==bNo)

{

strcpy(issue.status, "Yes");

file.seekp(pos\*sizeof(Issue));

file.write((char \*)&issue, sizeof(Issue));

flag=1;

}

pos++;

}

if(flag==0 && flag1==0)

{

cout<<"\nRequired book is not found in file.";

}

else

{

cout<<"\nThe book is returned.";

}

}

else

{

cout<<"\nDetails can't be updated since file is not created.";

}

getch();

}

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

Individual Menu Functions

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

//Menu Functions for 'Main Menu'

int menuM() //IMF M

{

Display();

int choice;

cout<<"Main Menu:\n\n";

cout<<" 1. Goto Books' Menu\n";

cout<<" 2. Goto Issue Menu\n";

cout<<" 3. Exit\n\n";

cout<<"Enter choice: ";

cin>>choice;

return(choice);

}

//Menu Functions for 'Books' Menu'

int menuB() //IMF B

{

Display();

int choice;

cout<<"Books' Menu:\n\n";

cout<<" 1. Create files\n";

cout<<" 2. Input a book's details\n";

cout<<" 3. Show all books' details\n";

cout<<" 4. Search a book's details\n";

cout<<" 5. Update a book's details\n";

cout<<" 6. Delete files\n";

cout<<" 7. Goto Main Menu\n";

cout<<" 8. Exit\n\n";

cout<<"Enter choice: ";

cin>>choice;

return(choice);

}

//Menu Functions for 'Issue Menu'

int menuI() //IMF I

{

Display();

int choice;

cout<<"Issue Menu:\n\n";

cout<<" 1. Issue a book\n";

cout<<" 2. Show all books' details\n";

cout<<" 3. Search a book's details\n";

cout<<" 4. Show all issues' details\n";

cout<<" 5. Search an issue's details\n";

cout<<" 6. Return a book\n";

cout<<" 7. Goto Main Menu\n";

cout<<" 8. Exit\n\n";

cout<<"Enter choice: ";

cin>>choice;

return(choice);

}

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

Main Function

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void main()

{

int bNo,slno,slnoi;

char choice;

LIBRARY B;

GrandDisplay();

SubGrandDisplay();

menuM:

while(1)

{

switch(menuM()) //Calling IMF M

{

case 1:

while(1)

{

switch(menuB()) //Calling IMF B

{

case 1:

Display();

cout<<"The informations in the existing files will be lost!\n";

cout<<"Do you really want to create new files?(Y/N)\n\n";

cout<<"Enter Choice: ";

cin>>choice;

if(choice=='Y'||choice=='y')

{

cout<<"\nFiles named \"BOOK.TXT\" and \"ISSUE.TXT\" are created.";

ofstream ("BOOK.TXT");

ofstream ("ISSUE.TXT");

slno=0,slnoi=0;

getch();

}

break;

case 2:

B.Input(B.book,slno); //Calling MFBD 3

break;

case 3:

B.Showall(B.book); //Calling MFBD 5

break;

case 4:

Display();

cout<<"Enter the book number to be searched: ";

cin>>bNo;

B.Search(B.book,bNo); //Calling MFBD 6

break;

case 5:

Display();

cout<<"Enter the book number to be updated: ";

cin>>bNo;

B.Update(B.book,bNo); //Calling MFBD 7

break;

case 6:

Display();

cout<<"The informations in the existing files will be lost!\n";

cout<<"Do you really want to delete these files?(Y/N)\n\n";

cout<<"Enter Choice: ";

cin>>choice;

if(choice=='Y'||choice=='y')

{

cout<<"Files named \"BOOK.TXT\" and \"ISSUE.TXT\" are deleted.";

remove ("BOOK.TXT");

remove ("ISSUE.TXT");

getch();

}

break;

case 7:

goto menuM;

case 8:

Display();

cout<<"Thank You, for using Library Management System!";

getch();

GrandEnding();

return;

default:

cout<<"\nEntered choice is invalid.";

getch();

}

}

case 2:

while(1)

{

switch(menuI()) //Calling IMF I

{

case 1:

B.IssueI(B.issue,slnoi); //Calling MFID 4

break;

case 2:

B.Showall(B.book); //Calling MFBD 5

break;

case 3:

Display();

cout<<"Enter the book number to be searched: ";

cin>>bNo;

B.Search(B.book,bNo); //Calling MFBD 6

break;

case 4:

B.ShowallI(B.issue); //Calling MFID 6

break;

case 5:

Display();

cout<<"Enter the book number to be searched: ";

cin>>bNo;

B.SearchI(B.issue,bNo); //Calling MFID 7

break;

case 6:

Display();

cout<<"Enter the book number to be returned: ";

cin>>bNo;

B.ReturnI(B.issue,bNo); //Calling MFID 8

break;

case 7:

goto menuM;

case 8:

Display();

cout<<"Thank You, for using Library Management System!";

getch();

GrandEnding();

return;

default:

cout<<"\nEntered choice is invalid.";

getch();

}

}

case 3:

Display();

cout<<"Thank You, for using Library Management System!";

getch();

GrandEnding();

return;

default:

cout<<"\nEntered choice is invalid.";

getch();

}

}

}

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

THE END

THANK YOU

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