**Assignment No 3:**

A Book shop maintains the inventory of books that are being sold at the shop. The list

includes details such as title, author, publisher, price and available stock.

Write a program in C++ which will have a class called books with suitable member functions

for

i. Add

ii. Update

iii. Search a book

iv. Purchase a book (update the stock and display the total cost)

v. Record number of successful/unsuccessful transactions (use static data

members to keep count of transactions)

Use new operator in constructors to allocate memory space required.

#include<bits/stdc++.h>

using namespace std;

class book

{

char \*title,\*author,\*publisher;

float price;

int stock;

public:

static int s\_trans,us\_trans;

book(char a[],char b[],char c[],float p,int s)

{

title=new char(strlen(a)+1);

strcpy(title,a);

author=new char(strlen(b)+1);

strcpy(author,b);

publisher=new char(strlen(c)+1);

strcpy(publisher,c);

price=p;

stock=s;

}

void display()

{

cout<<"\nAuthor Name: "<<author;

cout<<"\nTitle Name: "<<title;

cout<<"\nPublisher Name: "<<publisher;

cout<<"\nPrice: "<<price;

cout<<"\nStock Position: "<<stock;

}

int search(char tbuy[20],char abuy[20])

{

if(strcmp(tbuy,title)==0 && strcmp(abuy,author)==0)

return 1;

else

return 0;

}

void buy\_book()

{

int count;

cout<<"\nEnter Number Of Books to buy: ";

cin>>count;

if(count<=stock)

{

stock=stock-count;

cout<<"\nBooks Bought Sucessfully";

cout<<"\nAmount: Rs. "<<price\*count;

s\_trans++;

}

else

{

cout<<"\nRequired Copies not in Stock";

us\_trans++;

}

}

void update()

{

int ch;

char a[100],b[100],c[100];

int p,s;

cout<<"\nEnter the detail you want to update: \n";

cout<<"1. Title\n";

cout<<"2. Author name\n";

cout<<"3. publisher\n";

cout<<"4. price\n";

cout<<"5. stock\n";

cout<<"\nEnter your choice: ";

cin>>ch;

switch(ch)

{

case 1: delete[] title;

cout<<"enter the new title : ";

cin>>a;

title=new char(strlen(a)+1);

strcpy(title,a);

break;

case 2: delete[] author;

cout<<"enter the new author name : ";

cin>>b;

author=new char(strlen(b)+1);

strcpy(author,b);

break;

case 3: delete[] publisher;

cout<<"enter the new publisher : ";

cin>>c;

publisher=new char(strlen(c)+1);

strcpy(publisher,c);

break;

case 4: cout<<"enter the new price : ";

cin>>p;

price=p;

break;

case 5: cout<<"enter the new stock : ";

cin>>s;

stock=s;

break;

}

}

};

int book:: s\_trans;

int book:: us\_trans;

int main()

{

int n,i=0,s,choice,t;

float p;

char a[100],b[100],c[100],ch;

char titlebuy[20],authorbuy[20];

book \*q[30];

while(1)

{

cout<<"\n\n\t\tMENU";

cout<<"\n1. Entry of New Book";

cout<<"\n2. Buy a book";

cout<<"\n3. Search For Book";

cout<<"\n4. Update Details Of Book";

cout<<"\n5. Record of successfull/unsuccessfull transaction";

cout<<"\n6. Exit";

cout<<"\n\nEnter your Choice: ";

cin>>choice;

switch(choice)

{

case 1:

do

{

cout<<"\nenter title of book: ";

cin>>a;

cout<<"\nenter author of book: ";

cin>>b;

cout<<"\nenter publisher of book: ";

cin>>c;

cout<<"\nenter price of one book: ";

cin>>p;

cout<<"\nenter number of books in stock: ";

cin>>s;

q[i]=new book(a,b,c,p,s);

i++;

cout<<"\nDo you want to enter new record for books(y/n): ";

cin>>ch;

}

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

break;

case 2:

cout<<"\nEnter the book you want to buy: ";

cin>>titlebuy;

cout<<"\nEnter the name of author: ";

cin>>authorbuy;

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

{

if(q[t]->search(titlebuy,authorbuy))

{

cout<<"\nBook Found Successfully";

q[t]->buy\_book();

break;

}

}

if(t==i)

cout<<"\nThis Book is Not in Stock";

break;

case 3:

cout<<"\nEnter the book title you want to search for: ";

cin>>titlebuy;

cout<<"\nEnter the name of author: ";

cin>>authorbuy;

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

{

if(q[t]->search(titlebuy,authorbuy))

{

cout<<"\nBook Found Successfully";

q[t]->display();

break;

}

}

if(t==i)

cout<<"\nThis Book is Not in Stock";

break;

case 4:

cout<<"\nEnter the book title you want to search for: ";

cin>>titlebuy;

cout<<"\nEnter the name of author: ";

cin>>authorbuy;

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

{

if(q[t]->search(titlebuy,authorbuy))

{

cout<<"\nBook Found Successfully";

q[t]->update();

break;

}

}

if(t==i)

cout<<"\nThis Book is Not in Stock";

break;

case 5:

cout<<"\nNumber of successfull transaction: ";

cout<<book::s\_trans;

cout<<"\nNumber of unsucessfull transaction: ";

cout<<book::us\_trans;

break;

case 6:

exit(0);

break;

}

}

}