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**Division – A, Batch- A1**

**Roll No- 07**

**Subject – Object Oriented Programming.**

**Assignment No – 2**

**Assignment Title -** 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.

**Input –**

**#include<iostream>**

**#include<string.h>**

**using namespace std;**

**class book\_store**

**{**

**public:**

**char \*title;**

**char \*author;**

**char \*publisher;**

**double price;**

**int stock;**

**static int unsucc;**

**static int succ;**

**book\_store()**

**{**

**title = new char[20];**

**author = new char[20];**

**publisher = new char[20];**

**price = 0;**

**stock = 0;**

**}**

**void getdata()**

**{**

**cout<<"\nEnter Book Title :";**

**cin>>title;**

**cout<<"\nEnter Book Author :";**

**cin>>author;**

**cout<<"\nEnter Book Publisher :";**

**cin>>publisher;**

**cout<<"\nEnter Book Price :";**

**cin>>price;**

**cout<<"\nEnter Total No. Copies :";**

**cin>>stock;**

**}**

**void display()**

**{**

**cout<<title<<"\t\t"<<author<<"\t\t"<<publisher<<"\t\t"<<price<<"\t\t"<<stock<<"\n";**

**}**

**static void successfull()**

**{**

**succ++;**

**}**

**static void unsuccessfull()**

**{**

**unsucc++;**

**}**

**};**

**int book\_store::succ;**

**int book\_store::unsucc;**

**int main()**

**{**

**int i=0,n=0,opt,copies,opt2;**

**float new\_val;**

**char ch,book[20],new\_name[20];**

**book\_store b[20];**

**do**

**{**

**cout<<"\n1.Enter Data\n2.Display Data\n3.Search Data\n4.Update Price\n5.Buy Book\n6.Transaction Details\n7.Exit\n";**

**cout<<"\nEnter Your Choice :";**

**cin>>opt;**

**switch(opt)**

**{**

**case 1:**

**do**

**{**

**b[n].getdata();**

**n++;**

**cout<<"\nWant to enter another entry(y/n) :";**

**cin>>ch;**

**}while(ch=='y');**

**break;**

**case 2:**

**cout<<"\nName\t\tAuthor\t\tPublisher\tPrice\t\tStock\n";**

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

**for(i=0;i<n;i++)**

**{**

**b[i].display();**

**}**

**break;**

**case 3:**

**cout<<"Enter Book Name to be Search For :";**

**cin>>book;**

**for(i=0;i<n;i++)**

**{**

**if(strcmp(b[i].title,book)==0)**

**{**

**cout<<"\nBook Found!\n";**

**cout<<"\nName\t\tAuthor\t\tPublisher\tPrice\t\tStock\n";**

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

**cout<<b[i].title<<"\t\t"<<b[i].author<<"\t\t"<<b[i].publisher<<"\t\t"<<b[i].price<<"\t\t"<<b[i].stock<<"\n";**

**break;**

**}**

**}**

**if(i==n)**

**{**

**cout<<"\nBook Not Found!\n";**

**}**

**break;**

**case 4:**

**cout<<"Enter Book Name to be Update :";**

**cin>>book;**

**for(i=0;i<n;i++)**

**{**

**if(strcmp(b[i].title,book)==0)**

**{**

**cout<<"1.Update Book Name\n2.Update Author Name\n3.Update Publisher Name\n4.Update Price\n5.Update Stock";**

**cout<<"\nEnter Your Choice :";**

**cin>>opt2;**

**switch(opt2)**

**{**

**case 1:**

**cout<<"\nEnter New Book Title :";**

**cin>>new\_name;**

**b[i].title = new\_name;**

**cout<<"\nBook Title Updated!\n";**

**break;**

**case 2:**

**cout<<"\nEnter New Author Name :";**

**cin>>new\_name;**

**b[i].author = new\_name;**

**cout<<"\nAuthor Name Updated!\n";**

**break;**

**case 3:**

**cout<<"\nEnter New Publisher Name :";**

**cin>>new\_name;**

**b[i].publisher = new\_name;**

**cout<<"\nPublisher Name Updated!\n";**

**break;**

**case 4:**

**cout<<"\nEnter New Price :";**

**cin>>new\_val;**

**b[i].price = new\_val;**

**cout<<"\nPrice Updated!\n";**

**break;**

**case 5:**

**cout<<"\nEnter New Stock :";**

**cin>>new\_val;**

**b[i].stock = new\_val;**

**cout<<"\nStock Updated Updated!\n";**

**break;**

**default:**

**cout<<"\nEnter Valid Choice";**

**break;**

**}**

**break;**

**}**

**}**

**if(i==n)**

**{**

**cout<<"\nBook Not Found!\n";**

**}**

**break;**

**case 5:**

**cout<<"\nWhich Book You Want to Buy :";**

**cin>>book;**

**for(i=0;i<n;i++)**

**{**

**if(strcmp(b[i].title,book)==0)**

**{**

**cout<<"\nHow Many Copies You Want to Buy :";**

**cin>>copies;**

**if(copies>b[i].stock)**

**{**

**cout<<"\nTransaction Unsuccessfull!\n";**

**book\_store::unsuccessfull();**

**}**

**else{**

**cout<<"Total Price to be paid Rs."<<copies\*b[i].price<<"\n";**

**b[i].stock = b[i].stock - copies;**

**book\_store::successfull();**

**}**

**break;**

**}**

**}**

**break;**

**case 6:**

**cout<<"\nTransaction Details:\n";**

**cout<<"\nTotal Transaction :"<<book\_store::succ+book\_store::unsucc;**

**cout<<"\nSuccessfull Transaction :"<<book\_store::succ;**

**cout<<"\nUnsuccessfull Transaction :"<<book\_store::unsucc<<"\n";**

**break;**

**case 7:**

**exit(0);**

**break;**

**default:**

**cout<<"\nEnter Valid Choice!";**

**break;**

**}**

**}while(opt!=7);**

**return 0;**

**}**

**Output -**





