**Java Program for Book**

// Importing required classes

import java.util.Scanner;

public class books {

book theBooks[] = new book[50];

public static int count;

Scanner input = new Scanner(System.in);

public int compareBookObjects(book b1, book b2)

{

// If book name matches

if (b1.bookName.equalsIgnoreCase(b2.bookName)) {

// Printing book exists

System.out.println(

"Book of this Name Already Exists.");

return 0;

}

if (b1.sNo == b2.sNo) {

// Print book exists

System.out.println(

"Book of this Serial No Already Exists.");

return 0;

}

return 1;

}

public void addBook(book b)

{

for (int i = 0; i < count; i++) {

if (this.compareBookObjects(b, this.theBooks[i])

== 0)

return;

}

if (count < 50) {

theBooks[count] = b;

count++;

}

else {

System.out.println(

"No Space to Add More Books.");

}

}

public void searchBySno()

{

System.out.println(

"\t\t\t\tSEARCH BY SERIAL NUMBER\n");

int sNo;

System.out.println("Enter Serial No of Book:");

sNo = input.nextInt();

int flag = 0;

System.out.println(

"S.No\t\tName\t\tAuthor\t\tAvailable Qty\t\tTotal Qty");

for (int i = 0; i < count; i++) {

if (sNo == theBooks[i].sNo) {

System.out.println(

theBooks[i].sNo + "\t\t"

+ theBooks[i].bookName + "\t\t"

+ theBooks[i].authorName + "\t\t"

+ theBooks[i].bookQtyCopy + "\t\t"

+ theBooks[i].bookQty);

flag++;

return;

}

}

if (flag == 0)

System.out.println("No Book for Serial No "

+ sNo + " Found.");

}

public void searchByAuthorName(){

System.out.println(

"\t\t\t\tSEARCH BY AUTHOR'S NAME");

input.nextLine();

System.out.println("Enter Author Name:");

String authorName = input.nextLine();

int flag = 0;

System.out.println(

"S.No\t\tName\t\tAuthor\t\tAvailable Qty\t\tTotal Qty");

for (int i = 0; i < count; i++) {

if (authorName.equalsIgnoreCase(

theBooks[i].authorName)) {

System.out.println(

theBooks[i].sNo + "\t\t"

+ theBooks[i].bookName + "\t\t"

+ theBooks[i].authorName + "\t\t"

+ theBooks[i].bookQtyCopy + "\t\t"

+ theBooks[i].bookQty);

flag++;

}

}

if (flag == 0)

System.out.println("No Books of " + authorName

+ " Found.");

}

public void showAllBooks()

{

System.out.println("\t\t\t\tSHOWING ALL BOOKS\n");

System.out.println(

"S.No\t\tName\t\tAuthor\t\tAvailable Qty\t\tTotal Qty");

for (int i = 0; i < count; i++) {

System.out.println(

theBooks[i].sNo + "\t\t"

+ theBooks[i].bookName + "\t\t"

+ theBooks[i].authorName + "\t\t"

+ theBooks[i].bookQtyCopy + "\t\t"

+ theBooks[i].bookQty);

}

}

public void upgradeBookQty()

{

System.out.println(

"\t\t\t\tUPGRADE QUANTITY OF A BOOK\n");

System.out.println("Enter Serial No of Book");

int sNo = input.nextInt();

for (int i = 0; i < count; i++) {

if (sNo == theBooks[i].sNo) {

System.out.println(

"Enter No of Books to be Added:");

int addingQty = input.nextInt();

theBooks[i].bookQty += addingQty;

theBooks[i].bookQtyCopy += addingQty;

return;

}

}

}

public void dispMenu()

{

// Displaying menu

System.out.println(

"----------------------------------------------------------------------------------------------------------");

System.out.println("Press 1 to Add new Book.");

System.out.println("Press 0 to Exit Application.");

System.out.println(

"Press 2 to Upgrade Quantity of a Book.");

System.out.println("Press 3 to Search a Book.");

System.out.println("Press 4 to Show All Books.");

System.out.println("Press 5 to Register Student.");

System.out.println(

"Press 6 to Show All Registered Students.");

System.out.println("Press 7 to Check Out Book. ");

System.out.println("Press 8 to Check In Book");

System.out.println(

"-------------------------------------------------------------------------------------------------------");

}

// Method 8

// To search the library

public int isAvailable(int sNo)

{

for (int i = 0; i < count; i++) {

if (sNo == theBooks[i].sNo) {

if (theBooks[i].bookQtyCopy > 0) {

System.out.println(

"Book is Available.");

return i;

}

System.out.println("Book is Unavailable");

return -1;

}

}

System.out.println("No Book of Serial Number "

+ " Available in Library.");

return -1;

}

public book checkOutBook()

{

System.out.println(

"Enter Serial No of Book to be Checked Out.");

int sNo = input.nextInt();

int bookIndex = isAvailable(sNo);

if (bookIndex != -1) {

theBooks[bookIndex].bookQtyCopy--;

return theBooks[bookIndex];

}

return null;

}

public void checkInBook(book b)

{

for (int i = 0; i < count; i++) {

if (b.equals(theBooks[i])) {

theBooks[i].bookQtyCopy++;

return;

}

}

}

}