

<https://www.careercup.com/question?id=5741421824835584>

package com.lms;

import java.text.ParseException;

import java.text.SimpleDateFormat;

import java.util.ArrayList;

import java.util.Date;

import java.util.HashMap;

import java.util.List;

import java.util.Map;

import java.util.Scanner;

public class LMSImpl {

static List<BookDetails> books = new ArrayList<BookDetails>();

static Map<Integer, ArrayList<BookIssueDetails>> hm = new HashMap<Integer, ArrayList<BookIssueDetails>>();

public static void main(String[] args) {

addIssueDetails();

System.out.println("Library Management System");

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

System.out.println("Press 2 to issue a book");

System.out.println("Press 3 to return a book");

System.out.println("Press 4 to print the book details");

System.out.println("Press 5 to print complete issue detais");

System.out.println("Press 6 to exit");

Scanner c = new Scanner(System.in);

int choice = c.nextInt();

do {

switch (choice) {

case 1:

addBook();

break;

case 2:

issueBook();

break;

case 3:

returnBook();

break;

case 4:

printBookDetails();

break;

case 5:

printCompleteIssueDetails();

break;

case 6:

System.exit(0);

default:

System.out.println("Invalid input");

break;

}

c = new Scanner(System.in);

choice = c.nextInt();

} while (choice > 0 && choice < 6);

}

private static void printCompleteIssueDetails() {

for (Map.Entry<Integer, ArrayList<BookIssueDetails>> entry : hm

.entrySet()) {

for (BookIssueDetails b : entry.getValue()) {

System.out.println(entry.getKey() + " " + b.getBookNumber()

+ " " + b.getName() + " " + b.getNoOfBookIssued()

+ " " + b.getIssueDate() + " " + b.getReturnDate());

}

}

}

private static void printBookDetails() {

for (BookDetails b : books) {

System.out.print(b.getBookNumber() + " " + b.getBookName() + " "

+ b.getCount() + " " + b.getPrice());

}

}

private static void returnBook() {

System.out.println("Enter studentId & bookId");

Scanner c = new Scanner(System.in);

int id = c.nextInt();

int bookId = c.nextInt();

List<BookIssueDetails> bd = hm.get(id);

for (BookIssueDetails b : bd) {

if (b.getBookNumber() == bookId) {

Date issueDate = b.getIssueDate();

Date todayDate = new Date();

long diff = todayDate.getTime() - issueDate.getTime();

long diffDays = diff / (24 \* 60 \* 60 \* 1000);

if (diffDays > 10) {

int fine = (int) (diffDays - 10);

fine = fine \* 10;

System.out.println("Total Fine " + fine + " Rs.");

}

}

}

}

private static void addIssueDetails() {

BookIssueDetails bd1 = new BookIssueDetails(1,"abc",1,new Date("04/04/2015"));

BookIssueDetails bd2 = new BookIssueDetails(2,"xyz",1,new Date());

BookIssueDetails bd3 = new BookIssueDetails(3,"mn",1,new Date());

BookIssueDetails bd4 = new BookIssueDetails(4,"u",1,new Date());

ArrayList<BookIssueDetails> list1 = new ArrayList<BookIssueDetails>();

ArrayList<BookIssueDetails> list2 = new ArrayList<BookIssueDetails>();

ArrayList<BookIssueDetails> list3 = new ArrayList<BookIssueDetails>();

ArrayList<BookIssueDetails> list4 = new ArrayList<BookIssueDetails>();

list1.add(bd1);

list2.add(bd2);

list3.add(bd3);

list4.add(bd4);

hm.put(100, list1);

hm.put(101, list2);

hm.put(103, list3);

hm.put(104, list4);

}

private static void issueBook() {

System.out.println("Enter Student Id,Booknumber, name and price");

Scanner c = new Scanner(System.in);

int studentId = c.nextInt();

Scanner c1 = new Scanner(System.in);

int bookNumber = c1.nextInt();

Scanner c2 = new Scanner(System.in);

String name = c2.nextLine();

Scanner c3 = new Scanner(System.in);

String issueDate = c3.nextLine();

BookIssueDetails newIssuedBook = new BookIssueDetails();

newIssuedBook.setName(name);

newIssuedBook.setBookNumer(bookNumber);

ArrayList<BookIssueDetails> l=new ArrayList<BookIssueDetails>();

SimpleDateFormat formatter = new SimpleDateFormat("dd-MMM-yyyy");

try {

Date date = formatter.parse(issueDate);

newIssuedBook.setIssueDate(date);

} catch (ParseException e) {

e.printStackTrace();

}

List<BookIssueDetails> list = hm.get(studentId);

for (BookIssueDetails b : list) {

int value = b.getNoOfBookIssued();

newIssuedBook.setNoOfBookIssued(++value);

l.add(newIssuedBook);

if (value > 2)

System.out.println("You already issued max(2) books");

else

hm.put(studentId, l);

}

}

private static void addBook() {

System.out.println("Enter Booknumber, name and price");

Scanner c = new Scanner(System.in);

int bookNumber = c.nextInt();

String name = c.nextLine();

Double price = c.nextDouble();

BookDetails book = new BookDetails(bookNumber, name, price);

books.add(book);

}

}

package com.lms;

import java.util.Date;

public class BookIssueDetails {

private int bookNumber;

private String name;

private int totalBookAllowed = 2;

private int noOfBookIssued=0;

private Date issueDate;

private Date returnDate;

public BookIssueDetails(int bookNumber,String name,int n,Date issueDate)

{

this.bookNumber=bookNumber;

this.name=name;

this.noOfBookIssued=n;

this.issueDate=issueDate;

}

public BookIssueDetails() {

}

public int getBookNumber() {

return bookNumber;

}

public void setBookNumer(int bookNumber) {

this.bookNumber = bookNumber;

}

public int getNoOfBookIssued() {

return noOfBookIssued;

}

public void setNoOfBookIssued(int noOfBookIssued) {

this.noOfBookIssued = noOfBookIssued;

}

public Date getIssueDate() {

return issueDate;

}

public void setIssueDate(Date issueDate) {

this.issueDate = issueDate;

}

public Date getReturnDate() {

return returnDate;

}

public void setReturnDate(Date returnDate) {

this.returnDate = returnDate;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public int getTotalBookAllowed() {

return totalBookAllowed;

}

public void setTotalBookAllowed(int totalBookAllowed) {

this.totalBookAllowed = totalBookAllowed;

}

}

package com.lms;

public class BookDetails {

private int bookNumber;

private String bookName;

private Double price;

private int count;

public BookDetails(int bookNumber,String name,Double price)

{

this.bookNumber=bookNumber;

this.bookName=name;

this.price=price;

}

public int getCount() {

return count;

}

public void setCount(int count) {

this.count = count;

}

public int getBookNumber() {

return bookNumber;

}

public void setBookNumber(int bookNumber) {

this.bookNumber = bookNumber;

}

public String getBookName() {

return bookName;

}

public void setBookName(String bookName) {

this.bookName = bookName;

}

public Double getPrice() {

return price;

}

public void setPrice(Double price) {

this.price = price;

}

}

package com.lms;

public class StudentDetails {

private int studentId;

private String studentName;

private String className;

public int getStudentId() {

return studentId;

}

public void setStudentId(int studentId) {

this.studentId = studentId;

}

public String getStudentName() {

return studentName;

}

public void setStudentName(String studentName) {

this.studentName = studentName;

}

public String getClassName() {

return className;

}

public void setClassName(String className) {

this.className = className;

}

}