

Online Java Compiler

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Online Java Compiler

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```
1- import java.util.ArrayList;
2- import java.util.List;
3
4- class Book {
5-     String title;
6-     String author;
7-     String genre;
8-     boolean available;
9
10-    // Constructor and other methods for Book class
11-    public Book(String title, String author, String genre) {
12-        this.title = title;
13-        this.author = author;
14-        this.genre = genre;
15-        this.available = true;
16-    }
17- }
18
19- class Patron {
20-     String name;
21-     String contactInfo;
22-     List<Book> borrowingHistory;
23
24-    // Constructor and other methods for Patron class
25-    public Patron(String name, String contactInfo) {
26-        this.name = name;
27-        this.contactInfo = contactInfo;
28-        this.borrowingHistory = new ArrayList<>();
29-    }
}
```

Terminal

John Doe borrowed The Great Gatsby
John Doe returned The Great Gatsby

Advertisement

```
29     this.borrowingHistory = new ArrayList<>();
30 }
31
32 class Library {
33     List<Book> books;
34     List<Patron> patrons;
35
36     // Other methods for book and patron management
37
38     void borrowBook(Patron patron, Book book) {
39         if (book.available) {
40             book.available = false;
41             patron.borrowingHistory.add(book);
42             System.out.println(patron.name + " borrowed " + book.title);
43         } else {
44             System.out.println("Book not available for borrowing.");
45         }
46     }
47
48     void returnBook(Patron patron, Book book) {
49         if (patron.borrowingHistory.contains(book)) {
50             book.available = true;
51             patron.borrowingHistory.remove(book);
52             System.out.println(patron.name + " returned " + book.title);
53         } else {
54             System.out.println(patron.name + " did not borrow " + book.title);
55         }
56     }
57 }
```

```
John Doe borrowed The Great Gatsby
John Doe returned The Great Gatsby
```

```
55     }  
56 }  
57 }  
58  
59 public class LibraryManagementSystem {  
60     public static void main(String[] args) {  
61         // Example usage of the library management system  
62         Library library = new Library();  
63  
64         Book book1 = new Book("The Great Gatsby", "F. Scott Fitzgerald",  
65                               "Fiction");  
66  
67         Book book2 = new Book("To Kill a Mockingbird", "Harper Lee",  
68                               "Classic");  
69  
70         Patron patron1 = new Patron("John Doe", "john@example.com");  
71  
72         library.books = new ArrayList<>();  
73         library.patrons = new ArrayList<>();  
74  
75         library.books.add(book1);  
76         library.books.add(book2);  
77         library.patrons.add(patron1);  
78  
79         library.borrowBook(patron1, book1);  
80         library.returnBook(patron1, book1);  
81  
82         // Additional functionality can be added based on requirements  
83     }  
84 }
```

```
John Doe borrowed The Great Gatsby  
John Doe returned The Great Gatsby
```