EXERCISE 8/9 – Book/Library

The libraries of SmallTownX need a new electronic rental system, and it is up to you to build it. SmallTownX has two libraries. Each library offers many books to rent. Customers can print the list of available books, borrow, and return books.

Problem

We provide four classes, `Book` and `Library` are the core of the program, that provide the functionality for the book database. `LauncherBook` and `LauncherLibrary` are only in charge of running the program: create objects by instantiating the above classes and use them. You must implement the missing methods in `Book` and `Library` to make these classes work properly.

Step One: Implement book

Open the project "Ejercicio 8 – Book".

First we need a class to model books. Start by creating a class called `Book` by modifying the one provided.

This class defines methods to get the title of a book, find out if it is available, borrow the book, and return the book.

However, the skeleton that we provide is missing the implementations of the methods. Fill in the body of the methods with the appropriate code.

The `main` method in the `LauncherBook` class tests the methods. When you run the program, the output should be:

```
Title (should be The Da Vinci Code): The Da Vinci Code
Rented? (should be false): false
Rented? (should be true): true
Rented? (should be false): false
```

Submission Instructions

Once you have finished submit your solution using the Submit button of Codeboard

Step Two: Implement Library

Open the project "Ejercicio 9 – Library".

Copy and paste the code of the `Book` class you have just finished in the `Book.java` file.

Next we need to build the class that will represent each library, and manage a collection of books. All libraries have the same hours: 9 AM to 5 PM daily. However, they have different addresses and book collections (i.e., arrays of `Book` objects).

The `main` method of the `LauncherLibrary` class creates two libraries, then performs some operations on the books. However, all the methods and member variables are missing. You will need to define and implement the missing methods.

To do so, read the `main` method in the `LauncherLibrary` class and look at the compile errors to figure out what methods are missing.

Notes

- Some methods will need to be *static* methods, and some need to be *instance* methods.

- Be careful when comparing Strings objects. Use `string1.equals(string2)` for comparing the contents of `string1` and `string2`.
- You should get a small part working at a time. Start by commenting the entire main method, then uncomment it line by line. Run the program, get the first lines working, then uncomment the next line, get that working, etc.
- You must not modify the main method excepto from commenting/uncommenting lines of code.

The output when you run this program should be similar to the following:

```
Library hours:
Libraries are open daily from 9am to 5pm.

Library addresses:
10 Main St.
228 Liberty St.

Borrowing The Lord of the Rings:
You successfully borrowed The Lord of the Rings
Sorry, this book is already borrowed.
Sorry, this book is not in our catalog.

Books available in the first library:
The Da Vinci Code
Le Petit Prince
A Tale of Two Cities

Books available in the second library:
No book in catalog

Returning The Lord of the Rings:
You successfully returned The Lord of the Rings

Books available in the first library:
The Da Vinci Code
Le Petit Prince
A Tale of Two Cities
The Lord of the Rings
```

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