Library Management System

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Introduction

This Java program is a simple Library Management System that allows users to manage books and members of a library. It provides two user roles: Librarian and Member. The Librarian can add/remove members and books, while the Member can borrow/return books, pay fines, and view available books.

Git Clone:

https://github.com/yashgg22588/Library-Management-System.git

Getting Started

1. Make sure you have Java installed on your computer.

2. Compile the code by running the following command in your terminal:

```
javac Assignment1.java
```

3. Run the program:

```
java Assignment1
```

User Roles

Librarian

- Register a member: Add a new library member with their name, age, and phone number.
- Remove a member: Remove a library member by providing their name.
- Add a book: Add a new book with its title, author, and the number of copies available.
- Remove a book: Remove a book by providing its title.
- View all members along with their books and fines to be paid.
- View all books in the library.

Member

- Enter your name and phone number to access your library account.
- List available books in the library.
- List books you have borrowed.
- Borrow a book by providing its title and book ID.
- Return a book by providing its book ID and pay fines if applicable.
- Pay fines if you have overdue books.

Usage

1. When you run the program, you will be prompted to choose a role:
   - Enter `1` to enter as a librarian.
   - Enter `2` to enter as a member.
   - Enter `3` to exit the program.

2. Depending on your choice, you will be presented with a menu to perform various actions.

3. Follow the on-screen prompts to interact with the system.

Data Structure

- Lists are used to store information about books and members.
- Time tracking is done using `System.currentTimeMillis()` to calculate fines for overdue books.

Notes

- Make sure to provide valid input as per the program's prompts.
- Fines are calculated based on overdue time (10 seconds fine-free, then 10 cents per second).