

Library Management System - Java Project

Abstract

This project is a simple console-based Library Management System developed in Java. It allows users to manage a small library by adding, viewing, searching, issuing, and returning books. This system is suitable for small-scale educational institutions or personal libraries.

Project Description

The system provides a menu-driven interface through which an admin can perform various operations such as adding new books, deleting books, issuing and returning books, and viewing or searching the collection. Each book is identified using a unique ID, and the system keeps track of issued books.

Features

- Add new books with unique ID, title, and author
- View all books
- Search for books by title or author
- Delete books from the system
- Issue and return books
- Menu-driven user interface

Technologies Used

- Java (JDK 17 or later)
- Java Util Package
- Console-based (No GUI)

Project Structure

- `Book.java`: Book class with attributes and constructor
- `LibraryManager.java`: Logic for book operations
- `LibraryManagementSystem.java`: Main menu and interface

Sample

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===== Library Management Menu =====

1. Add Book
2. View Books
3. Search Book
4. Delete Book
5. Issue Book
6. Return Book
0. Exit

Enter choice: 1

Enter ID: 101

Enter title: Java Basics

Enter author: John Doe

Book added successfully.

Enter choice: 2

ID: 101, Title: Java Basics, Author: John Doe, Issued: false

Enter choice: 5

Enter book ID to issue: 101

Book issued successfully on 15/06/2025

Enter choice: 6

Enter book ID to return: 101

Book returned successfully.

How to Run

1. Install Java Development Kit (JDK)
2. Copy the source code into a `.java`` file
3. Compile using: ``javac LibraryManagementSystem.java``
4. Run using: ``java LibraryManagementSystem``
5. Follow the on-screen menu to manage books

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Future Enhancement

- Add GUI using Java Swing or JavaFX
- Integrate with database (MySQL or SQLite)
- Add user login and authentication
- Generate reports for issued/returned books

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