Lab Assignment 3

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Project Overview

The **Library Manager** is a lightweight, command-line application designed to help campus libraries manage their book catalog efficiently. It uses **Object-Oriented Programming (OOP)** principles and **JSON file persistence** to keep records structured, reliable, and easy to maintain.

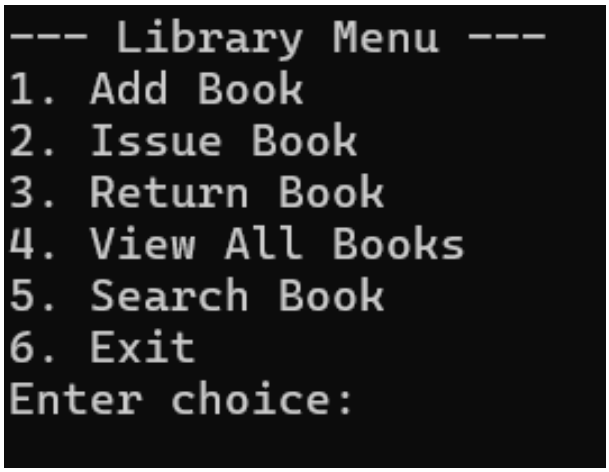
The system allows staff to add books, issue or return them, search by title or ISBN, and view the entire catalog — all through a simple interactive menu.

Usage

1.Run the cli

python -m cli.main

2.Choose an option from the menu



3.Data Storage

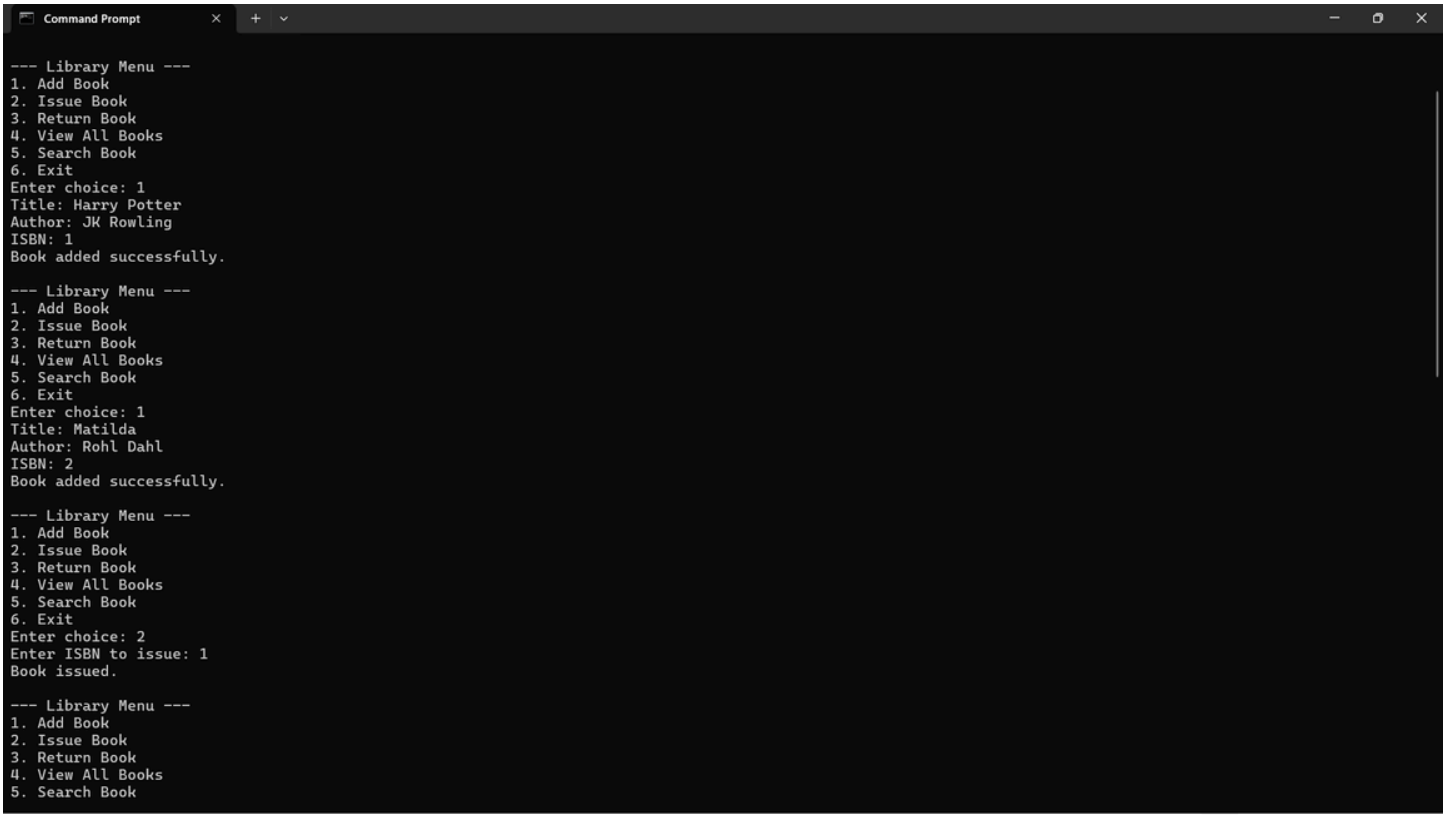
- All records are saved in data/catalog.json.
- If the file is missing or corrupted, the system automatically resets and creates a new one.

Features

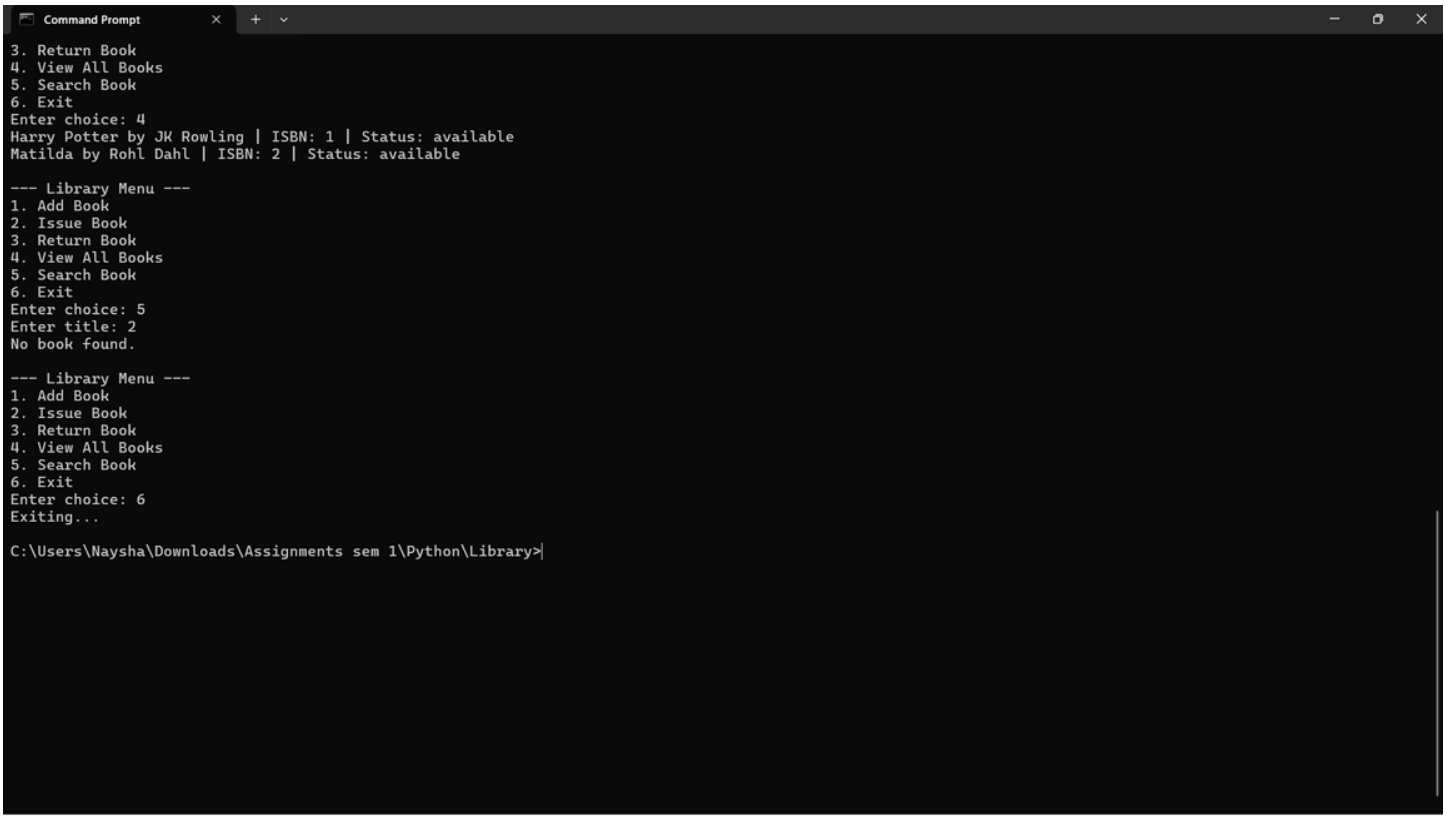
- **Book Management**
  - Add new books with title, author, and ISBN.

    - Track status: *available* or *issued*.
- **Search Functions**
    - Search by title (partial matches supported).
    - Search by ISBN (exact match).
- **File Persistence**
    - Catalog stored in JSON format.
    - Handles missing or corrupted files gracefully.
- **Menu-Driven CLI**
    - Clear, user-friendly prompts.
    - Input validation for reliability.
- **Exception Handling & Logging**
    - Robust error handling with try–except.
    - Integrated logging with INFO and ERROR levels.
- **Project Packaging**
- Modular folder structure (library_manager/, cli/).
- Includes README, requirements, and optional tests.

Output screeshot




Command Prompt
Book issued.
--- Library Menu ---
1. Add Book
2. Issue Book
3. Return Book
4. View All Books
5. Search Book
6. Exit
Enter choice: 2
Enter ISBN to issue: 1
Book not available.
--- Library Menu ---
1. Add Book
2. Issue Book
3. Return Book
4. View All Books
5. Search Book
6. Exit
Enter choice: 3
Enter ISBN to return: 1
Book returned.
--- Library Menu ---
1. Add Book
2. Issue Book
3. Return Book
4. View All Books
5. Search Book
6. Exit
Enter choice: 4
Harry Potter by JK Rowling | ISBN: 1 | Status: available
Matilda by Rohl Dahl | ISBN: 2 | Status: available
--- Library Menu ---
1. Add Book
2. Issue Book
3. Return Book
4. View All Books
5. Search Book
6. Exit
Enter choice: 5
Enter title: 2


Command Prompt
3. Return Book
4. View All Books
5. Search Book
6. Exit
Enter choice: 4
Harry Potter by JK Rowling | ISBN: 1 | Status: available
Matilda by Rohl Dahl | ISBN: 2 | Status: available
--- Library Menu ---
1. Add Book
2. Issue Book
3. Return Book
4. View All Books
5. Search Book
6. Exit
Enter choice: 5
Enter title: 2
No book found.
--- Library Menu ---
1. Add Book
2. Issue Book
3. Return Book
4. View All Books
5. Search Book
6. Exit
Enter choice: 6
Exiting...
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