



LIBRARY MANAGEMENT SYSTEM

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Problem Statement

In libraries, managing the availability and loan status of books is a crucial task. Manual tracking of books can lead to inefficiencies, errors, and difficulties in handling large volumes of data. Our goal is to create a Library Management System that automates this process, providing functionalities to:

- Check the availability of books.
- Borrow books and update their status.
- Return books and update their status.
- View a list of all books with their current status.

The system should be user-friendly, efficient, and capable of handling basic library operations through a command-line interface.

Features:

- Check Availability: View the list of all books and their current status (available or not).
- Search and Borrow Books: Search for a book by name and, if available, mark it as borrowed.
- Return Books: Mark a borrowed book as returned.
- Automatic Due Date Calculation: When borrowing a book, the system calculates and displays the due date based on a standard loan period of 14 days

Class Structure:

The Library class encapsulates all the functionalities, including checking availability, searching, borrowing, and returning books.

File Handling:

The system uses file I/O to read

and update book data from data.txt. Each line in the file represents a book with its name, author, ISBN, and availability status.

Date Handling: The `ctime_s` function is used to calculate and format the due date for borrowed books.