Group library catalog.

Members

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EXPLANATION OF THE CODE

This code defines a simple virtual library system with three main classes: Book, Catalog, LibraryMember, and a derived class VirtualLibrary. Let's break down each class and its functionality:

Book Class:

Represents a book with attributes such as title, author, and availability.

The __str__ method is defined to provide a formatted string representation of the book.

Catalog Class:

Manages a collection of books.

Provides methods to add a book to the catalog, search for books by title or author, and display the entire catalog.

LibraryMember Class:

Represents a library member with a name and a list of borrowed books.

Provides methods to borrow a book and return a book.

VirtualLibrary Class (Derived from Catalog):

Extends the Catalog class to include library members.

Adds methods to add a member, display members, display borrowed books for a specific member, and simulate the virtual library system.

Main Block:

Creates an instance of the VirtualLibrary class named library.

Invokes the simulate_library method to start the interactive simulation of the virtual library system.

In the simulation:

Users can add books to the catalog, search for books by title or author, display the catalog, borrow books, return books, display members, and display borrowed books.

The simulation runs in a loop until the user chooses to exit (option 0).