

The code is a Java program that simulates a library system. The program consists of two classes, Book and LibrarySystem, and a main class, Main, which contains the user interface.

The Book class has private data fields for the book's ID, name, category, borrowing status, borrowing period, and borrowing date. It has a constructor that initializes the ID, name, and category of the book, and sets the other fields to default values. The class also has methods to get and set the book's attributes, and to borrow and return the book.

The LibrarySystem class has private data fields for the library's capacity and a list of books. It has a constructor that initializes the capacity and the list of books. The class has methods to add a book to the library, remove a book from the library, borrow a book, return a book, and get the status of the library. The methods check for various conditions, such as whether the library is full, whether the book is already borrowed or not, and whether the book exists or not.

The Main class is the entry point of the program. It creates an instance of the LibrarySystem class and a user interface with a title label, a grid pane with input fields for book name and category, and buttons for adding, removing, borrowing,

and returning a book. The user interface also has a status label that displays the current status of the library. The buttons are connected to the corresponding methods in the LibrarySystem class, and they interact with the user through dialog boxes and alerts. The program also includes a view status button that displays the current status of the library in an alert box.

When the user launches the program, the user interface appears, and the user can interact with the program by entering book details and clicking on the buttons. The program performs the corresponding operations, updates the status of the library, and displays the result to the user through the status label and alert boxes.

In summary, the program simulates a library system that allows users to add, remove, borrow, and return books. It provides a user-friendly interface that interacts with the user through dialog boxes and alerts, and displays the current status of the library in a status label.