Objective:

Create a full-stack web application for managing an online bookstore. The application should allow users to browse books, view book details, add books to their cart, and manage their purchases. Administrators should be able to manage the inventory, add new books, update book details, and view orders.

Requirements:

1. **Frontend (Angular):**

User Interface:

Home Page: Display a list of books with a search bar to filter books by title or author.

Book Details Page: Show detailed information about a selected book, including title, author, description, price, and availability.

Cart Page: Allow users to view and manage their cart items, update quantities, and proceed to checkout.

Admin Dashboard: Accessible only to administrators for managing books and viewing orders.

Add/Update Book Page: Form to add a new book or update existing book details (admin only).

Order Management Page: Display a list of orders with order details (admin only).

Components:

Book List Component

Book Details Component

Cart Component

Admin Dashboard Component

Add/Update Book Component

Order Management Component

Services:

Book Service: To handle API calls related to books.

Cart Service: To manage cart operations.

Order Service: To handle API calls related to orders.

Auth Service: To handle authentication and authorization.

Routing:

Set up routing for navigating between different pages (home, book details, cart, admin dashboard, etc.).

2. Backend (Spring Boot):

Entities:

Book: Represents a book with attributes like id, title, author, description, price, and availability.

User: Represents a user with attributes like id, username, password, role (user/admin).

Order: Represents an order with attributes like id, userId, list of ordered books, total price, and order status.

Repositories:

BookRepository: For CRUD operations on books.

UserRepository: For CRUD operations on users.

OrderRepository: For CRUD operations on orders.

Services:

BookService: Business logic for managing books.

UserService: Business logic for managing users.

OrderService: Business logic for managing orders.

Controllers:

BookController: REST endpoints for book-related operations.

UserController: REST endpoints for user-related operations (registration, login).

OrderController: REST endpoints for order-related operations.