Use Case Scenario: Online Bookstore with Servlets, JSPs, and JDBC

Scenario:

You are developing an online bookstore application that allows users to browse books, add them to a shopping cart, and proceed to checkout. You need to implement this functionality using Servlets, JSPs, and JDBC for database interactions.

Requirements:

1. **Display Available Books:**

   o Fetch a list of books from the database and display them on the homepage.

   o Each book should have details like title, author, price, and an "Add to Cart" button.

2. **Shopping Cart:**

   o When a user clicks "Add to Cart," the book should be added to their shopping cart.

   o The cart should be stored in the user's session and should persist across multiple page visits within the same session.

3. **Checkout:**

   o Display the contents of the shopping cart with a summary of the total cost.

   o Provide a form for the user to enter their shipping information and complete the purchase.

Database Schema:

- **Books Table:**

  o id (INT, primary key)

  o title (VARCHAR)

  o author (VARCHAR)

  o price (DECIMAL)

- **Orders Table:**

  o order_id (INT, primary key)

  o user_id (INT)

- total (DECIMAL)

- shipping_address (VARCHAR)

- **OrderItems Table:**

  - order_item_id (INT, primary key)

  - order_id (INT, foreign key to Orders)

  - book_id (INT, foreign key to Books)

  - quantity (INT)

Tasks:

1. **Servlet to Fetch and Display Books:**

   - Create a servlet that connects to the database using JDBC to fetch the list of books.

   - Forward the request to a JSP to display the books in a table format.

2. **Servlet to Handle Add to Cart:**

   - Create a servlet that handles adding books to the shopping cart.

   - Use session management to store the cart items.

3. **Servlet to Handle Checkout:**

   - Create a servlet to display the shopping cart and handle the checkout process.

   - Process the shipping information form and store the order details in the database using JDBC.