**JAVA PROJECT :**   
  
**Project Name**: Library Book Management System  
  
**Code :**   
  
**MySQL Database Setup:**

CREATE DATABASE library\_db;

USE library\_db;

CREATE TABLE books (

id INT PRIMARY KEY AUTO\_INCREMENT,

title VARCHAR(100),

author VARCHAR(100),

quantity INT

);

CREATE TABLE users (

id INT PRIMARY KEY AUTO\_INCREMENT,

username VARCHAR(50),

password VARCHAR(50)

);  
  
INSERT INTO users (username, password) VALUES ('admin', 'admin123');  
  
**JAVA :  
With MYSQL :   
CODE:**   
  
  
  
import java.sql.\*;

import java.util.Scanner;

public class LibraryManagementSystem {

static final String DB\_URL = "jdbc:mysql://localhost:3306/library\_db";

static final String USER = "root";

static final String PASS = "";

static Connection conn;

static Scanner sc = new Scanner(System.in);

public static void main(String[] args) {

try {

conn = DriverManager.getConnection(DB\_URL, USER, PASS);

if (login()) {

menu();

} else {

System.out.println("Invalid login.");

}

conn.close();

} catch (Exception e) {

e.printStackTrace();

}

}

static boolean login() {

System.out.print("Enter username: ");

String username = sc.nextLine();

System.out.print("Enter password: ");

String password = sc.nextLine();

try {

PreparedStatement ps = conn.prepareStatement("SELECT \* FROM users WHERE username=? AND password=?");

ps.setString(1, username);

ps.setString(2, password);

ResultSet rs = ps.executeQuery();

return rs.next();

} catch (SQLException e) {

e.printStackTrace();

return false;

}

}

static void menu() {

while (true) {

System.out.println("\n1. Add Book");

System.out.println("2. View Books");

System.out.println("3. Delete Book");

System.out.println("4. Exit");

System.out.print("Choose option: ");

int choice = sc.nextInt();

sc.nextLine();

switch (choice) {

case 1 -> addBook();

case 2 -> viewBooks();

case 3 -> deleteBook();

case 4 -> {

System.out.println("Exiting...");

return;

}

default -> System.out.println("Invalid choice.");

}

}

}

static void addBook() {

try {

System.out.print("Enter book title: ");

String title = sc.nextLine();

System.out.print("Enter author name: ");

String author = sc.nextLine();

System.out.print("Enter quantity: ");

int quantity = sc.nextInt();

sc.nextLine();

PreparedStatement ps = conn.prepareStatement("INSERT INTO books (title, author, quantity) VALUES (?, ?, ?)");

ps.setString(1, title);

ps.setString(2, author);

ps.setInt(3, quantity);

ps.executeUpdate();

System.out.println("Book added successfully.");

} catch (SQLException e) {

e.printStackTrace();

}

}

static void viewBooks() {

try {

Statement stmt = conn.createStatement();

ResultSet rs = stmt.executeQuery("SELECT \* FROM books");

System.out.println("\nBooks in Library:");

while (rs.next()) {

System.out.println(rs.getInt("id") + ". " + rs.getString("title") + " by " + rs.getString("author") + " (Qty: " + rs.getInt("quantity") + ")");

}

} catch (SQLException e) {

e.printStackTrace();

}

}

static void deleteBook() {

try {

System.out.print("Enter Book ID to delete: ");

int id = sc.nextInt();

sc.nextLine();

PreparedStatement ps = conn.prepareStatement("DELETE FROM books WHERE id=?");

ps.setInt(1, id);

int rows = ps.executeUpdate();

if (rows > 0) {

System.out.println("Book deleted.");

} else {

System.out.println("Book not found.");

}

} catch (SQLException e) {

e.printStackTrace();

}

}

}  
  
**Without MYSQL :**  
import java.util.\*;

public class LibraryManagementSystem {

static Scanner sc = new Scanner(System.in);

static Map<Integer, String> books = new HashMap<>();

static int bookId = 1;

public static void main(String[] args) {

while (true) {

menu();

}

}

static void menu() {

System.out.println("\n1. Add Book");

System.out.println("2. View Books");

System.out.println("3. Exit");

System.out.print("Choose option: ");

int choice = sc.nextInt();

sc.nextLine();

switch (choice) {

case 1 -> addBook();

case 2 -> viewBooks();

case 3 -> {

System.out.println("Exiting...");

System.exit(0);

}

default -> System.out.println("Invalid choice.");

}

}

static void addBook() {

System.out.print("Enter book title: ");

String title = sc.nextLine();

books.put(bookId++, title);

System.out.println("Book added successfully.");

}

static void viewBooks() {

if (books.isEmpty()) {

System.out.println("No books available.");

} else {

System.out.println("\nBooks in Library:");

books.forEach((id, title) -> System.out.println(id + ". " + title));

}

}

}  
  
**Sample Output :**  
Enter username: admin

Enter password: admin123

1. Add Book

2. View Books

3. Delete Book

4. Exit

Choose option: 1

Enter book title: Java Programming

Enter author name: John Doe

Enter quantity: 5

Book added successfully.

1. Add Book

2. View Books

3. Delete Book

4. Exit

Choose option: 2

Books in Library:

1. Java Programming by John Doe (Qty: 5)

1. Add Book

2. View Books

3. Delete Book

4. Exit

Choose option: 3

Enter Book ID to delete: 1

Book deleted.