```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define MAX_BOOKS 100
#define MAX_USERS 50
#define MAX_CART_ITEMS 10
#define MAX_ORDERS 50

// Structure to represent a book
typedef struct {
    int id;
    char title[100];
    char author[100];
    float price;
    int quantity;
} Book;

// Structure to represent a user
typedef struct {
    char username[100];
    char password[100];
} User;

// Structure to represent an item in the shopping cart
typedef struct {
    int bookId;
    int quantity;
} CartItem;
```

```
// Structure to represent an order
typedef struct {
    int orderId;
    char username[100];
    CartItem items[MAX_CART_ITEMS];
    int numItems;
    float totalAmount;
} Order;

// Global arrays to store books, users, shopping carts, and orders
Book books[MAX_BOOKS];
User users[MAX_USERS];
CartItem cart[MAX_CART_ITEMS];
Order orders[MAX_ORDERS];
int numBooks = 0;
int numUsers = 0;
int numCartItems = 0;
int numOrders = 0;

// Function prototypes
void createUser();
void displayUsers();
int loginUser();
void addBook();
void displayBooks();
void addToCart();
void viewCart();
void deleteCartItem();
void editBook();
void deleteBook();
void deleteUser();
void placeOrder();
void viewOrders();

int main() {
    int choice;
    char username[100];
    char password[100];

    do {
        printf("\n=== Online Bookstore Management System ===\n");
        printf("1. Create User\n");
        printf("2. Display Users\n");
        printf("3. Login User\n");
        printf("4. Add Book\n");
        printf("5. Display Books\n");
        printf("6. Add to Cart\n");
        printf("7. View Cart\n");
        printf("8. Delete Cart Item\n");
        printf("9. Edit Book\n");
        printf("10. Delete Book\n");
        printf("11. Delete User\n");
        printf("12. Place Order\n");
        printf("13. View Orders\n");
        printf("14. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);

        switch(choice) {
            case 1:
```

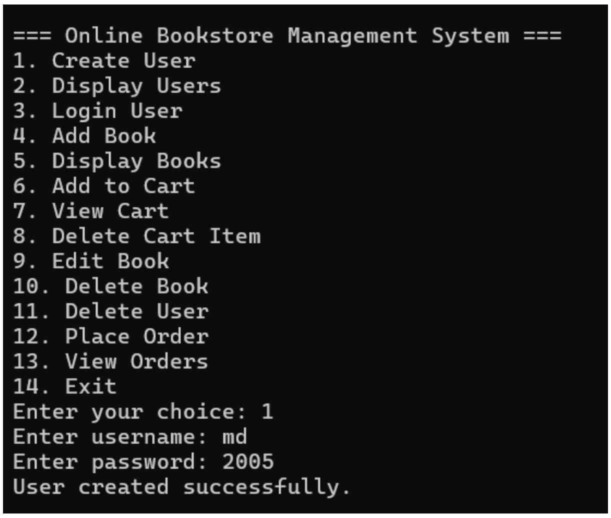
```
    createUser();
    break;
case 2:
    displayUsers();
    break;
case 3:
    if (loginUser()) {
        printf("Login successful.\n");
    } else {
        printf("Login failed. Invalid username or password.\n");
    }
    break;
case 4:
    addBook();
    break;
case 5:
    displayBooks();
    break;
case 6:
    addToCart();
    break;
case 7:
    viewCart();
    break;
case 8:
    deleteCartItem();
    break;
case 9:
    editBook();
    break;
```

```
            case 10:
                deleteBook();
                break;
            case 11:
                deleteUser();
                break;
            case 12:
                placeOrder();
                break;
            case 13:
                viewOrders();
                break;
            case 14:
                printf("Exiting...\n");
                exit(0);
            default:
                printf("Invalid choice. Please try again.\n");
        }
    } while (1);

    return 0;
}

// Function to create a new user
void createUser() {
    if (numUsers >= MAX_USERS) {
        printf("Error: Maximum number of users reached.\n");
        return;
    }
    User newUser;
    printf("Enter username: ");
    scanf("%s", newUser.username);
    printf("Enter password: ");
    scanf("%s", newUser.password);

    users[numUsers++] = newUser;

    printf("User created successfully.\n");
}

// Function to display all users
void displayUsers() {
    if (numUsers == 0) {
        printf("No users available.\n");
        return;
    }

    printf("Users:\n");
    for (int i = 0; i < numUsers; i++) {
        printf("%d. Username: %s\n", i+1, users[i].username);
    }
}

// Function to authenticate a user
int loginUser() {
    char username[100];
    char password[100];

    printf("Enter username: ");
    scanf("%s", username);
    printf("Enter password: ");
    scanf("%s", password);

    for (int i = 0; i < numUsers; i++) {
        if (strcmp(users[i].username, username) == 0 && strcmp(users[i].password, password) == 0) {
            return 1; // User authenticated successfully
        }
    }
    return 0; // Authentication failed
}

// Function to add a new book to the inventory
void addBook() {
    if (numBooks >= MAX_BOOKS) {
        printf("Error: Maximum number of books reached.\n");
        return;
    }

    Book newBook;
    printf("Enter book title: ");
    scanf("%s", newBook.title);
    printf("Enter author: ");
    scanf("%s", newBook.author);
    printf("Enter price: ");
    scanf("%f", &newBook.price);
    printf("Enter quantity: ");
    scanf("%d", &newBook.quantity);

    newBook.id = numBooks + 1;
    books[numBooks++] = newBook;

    printf("Book added successfully.\n");
}

// Function to display all books in the inventory
void displayBooks() {
    if (numBooks == 0) {
        printf("No books available.\n");
        return;
    }

    printf("ID\tTitle\tAuthor\tPrice\tQuantity\n");
    for (int i = 0; i < numBooks; i++) {
        printf("%d\t%s\t%s\t%.2f\t%d\n", books[i].id, books[i].title, books[i].author,
books[i].price, books[i].quantity);
    }
}

// Function to add an item to the shopping cart
void addToCart() {
    if (numUsers == 0) {
        printf("Error: No users registered. Please register first.\n");
        return;
    }

    int bookId, quantity;
    printf("Enter book ID: ");
    scanf("%d", &bookId);
    printf("Enter quantity: ");
    scanf("%d", &quantity);
    if (bookId < 1 || bookId > numBooks) {
        printf("Error: Invalid book ID.\n");
        return;
    }

    if (quantity <= 0) {
        printf("Error: Invalid quantity.\n");
        return;
    }

    if (quantity > books[bookId - 1].quantity) {
        printf("Error: Insufficient quantity in stock.\n");
        return;
    }

    if (numCartItems >= MAX_CART_ITEMS) {
        printf("Error: Maximum number of items in the cart reached.\n");
        return;
    }

    CartItem newItem;
    newItem.bookId = bookId;
    newItem.quantity = quantity;

    cart[numCartItems++] = newItem;

    printf("Item added to cart successfully.\n");
}
```

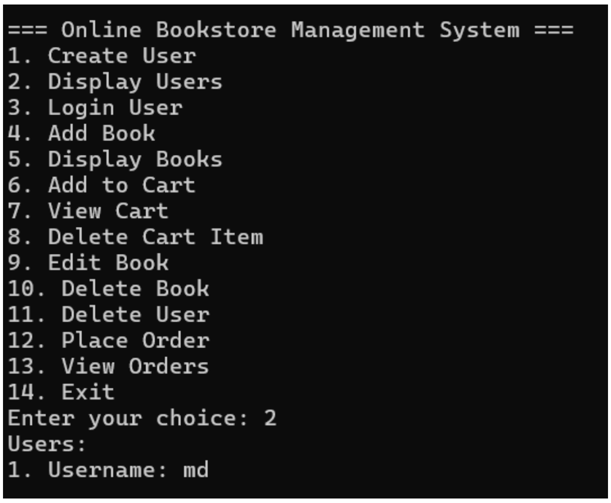
```
// Function to display items in the shopping cart
void viewCart() {
    if (numCartItems == 0) {
        printf("Shopping cart is empty.\n");
        return;
    }

    printf("Book\tQuantity\n");
    for (int i = 0; i < numCartItems; i++) {
        printf("%s\t%d\n", books[cart[i].bookId - 1].title, cart[i].quantity);
    }
}

// Function to delete a cart item
void deleteCartItem() {
    if (numCartItems == 0) {
        printf("Shopping cart is empty.\n");
        return;
    }

    int index;
    printf("Enter index of item to delete: ");
    scanf("%d", &index);

    if (index < 1 || index > numCartItems) {
        printf("Error: Invalid index.\n");
        return;
    }

    // Shift items to fill the gap
    for (int i = index - 1; i < numCartItems - 1; i++) {
        cart[i] = cart[i + 1];
    }

    numCartItems--;

    printf("Item deleted from cart successfully.\n");
}

// Function to edit book details
void editBook() {
    if (numBooks == 0) {
        printf("No books available.\n");
        return;
    }

    int bookId;
    printf("Enter ID of book to edit: ");
    scanf("%d", &bookId);

    if (bookId < 1 || bookId > numBooks) {
        printf("Error: Invalid book ID.\n");
        return;
    }

    printf("Enter new title: ");
    scanf("%s", books[bookId - 1].title);
    printf("Enter new author: ");
    scanf("%s", books[bookId - 1].author);
    printf("Enter new price: ");
    scanf("%f", &books[bookId - 1].price);
    printf("Enter new quantity: ");
    scanf("%d", &books[bookId - 1].quantity);

    printf("Book details updated successfully.\n");
}

// Function to delete a book
void deleteBook() {
    if (numBooks == 0) {
        printf("No books available.\n");
        return;
    }

    int bookId;
    printf("Enter ID of book to delete: ");
    scanf("%d", &bookId);

    if (bookId < 1 || bookId > numBooks) {
        printf("Error: Invalid book ID.\n");
        return;
    }

    // Shift books to fill the gap
    for (int i = bookId - 1; i < numBooks - 1; i++) {
        books[i] = books[i + 1];
    }

    numBooks--;
    printf("Book deleted successfully.\n");
}

// Function to delete a user
void deleteUser() {
    if (numUsers == 0) {
        printf("No users available.\n");
        return;
    }

    int userId;
    printf("Enter ID of user to delete: ");
    scanf("%d", &userId);

    if (userId < 1 || userId > numUsers) {
        printf("Error: Invalid user ID.\n");
        return;
    }

    // Shift users to fill the gap
    for (int i = userId - 1; i < numUsers - 1; i++) {
        users[i] = users[i + 1];
    }

    numUsers--;

    printf("User deleted successfully.\n");
}

// Function to place an order
```

```
void placeOrder() {
    if (numUsers == 0) {
        printf("Error: No users registered. Please register first.\n");
        return;
    }

    if (numCartItems == 0) {
        printf("Error: Shopping cart is empty. Please add items to cart first.\n");
        return;
    }

    Order newOrder;
    newOrder.orderId = numOrders + 1;
    strcpy(newOrder.username, users[numUsers - 1].username); // Place order for the last logged-in user
    newOrder.numItems = numCartItems;
    newOrder.totalAmount = 0;

    for (int i = 0; i < numCartItems; i++) {
        int bookId = cart[i].bookId;
        int quantity = cart[i].quantity;

        newOrder.items[i].bookId = bookId;
        newOrder.items[i].quantity = quantity;

        // Update total amount
        newOrder.totalAmount += books[bookId - 1].price * quantity;

        // Update book quantity
        books[bookId - 1].quantity -= quantity;
    }
    orders[numOrders++] = newOrder;

    // Clear the cart
    numCartItems = 0;

    printf("Order placed successfully. Total amount: %.2f\n", newOrder.totalAmount);
}

// Function to view all orders
void viewOrders() {
    if (numOrders == 0) {
        printf("No orders available.\n");
        return;
    }

    printf("Orders:\n");
    printf("OrderID\tUsername\tTotalAmount\n");
    for (int i = 0; i < numOrders; i++) {
        printf("%d\t%s\t%.2f\n", orders[i].orderId, orders[i].username, orders[i].totalAmount);
    }
}
```

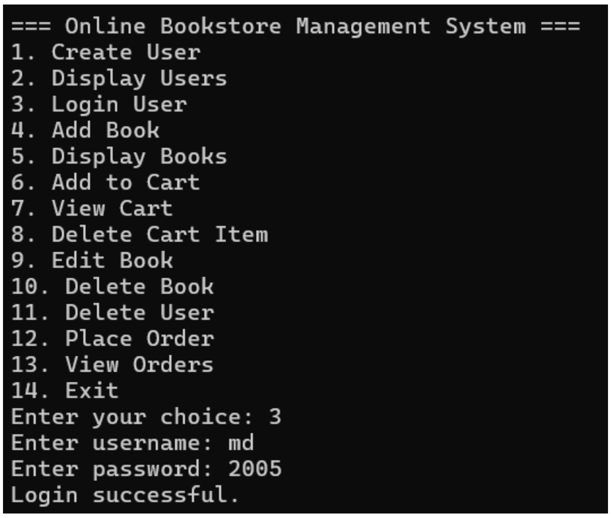
OUTPUT



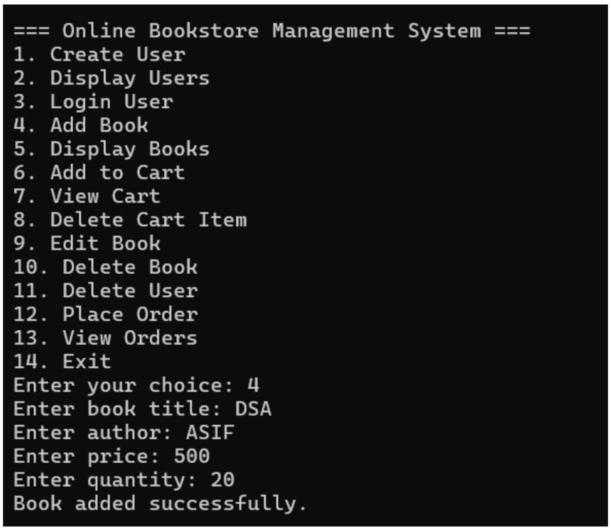
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 1
Enter username: md
Enter password: 2005
User created successfully.
```



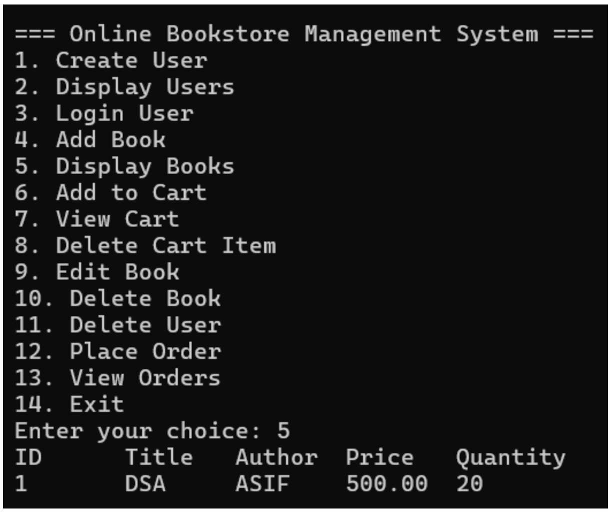
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 2
Users:
1. Username: md
```



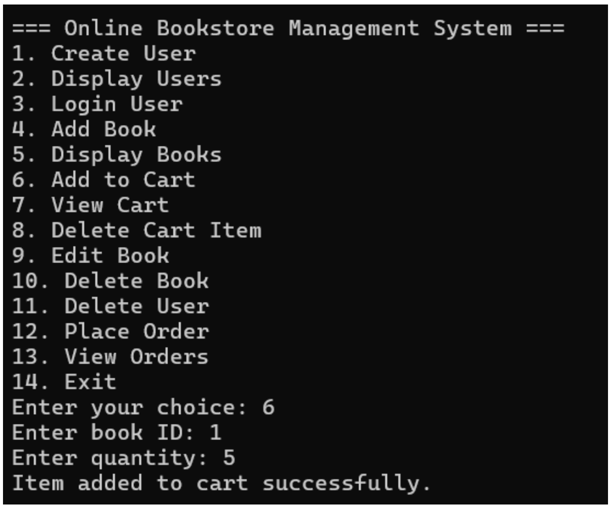
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 3
Enter username: md
Enter password: 2005
Login successful.
```



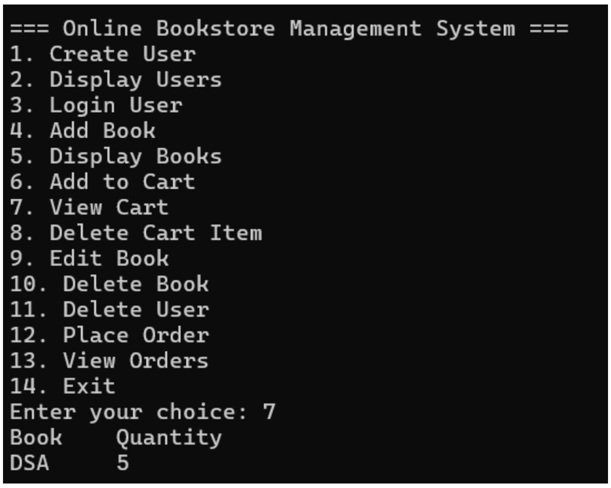
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 4
Enter book title: DSA
Enter author: ASIF
Enter price: 500
Enter quantity: 20
Book added successfully.
```



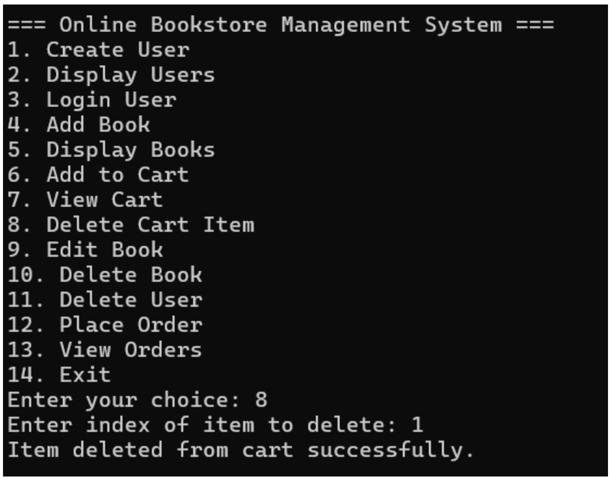
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 5
ID      Title   Author  Price   Quantity
1       DSA     ASIF    500.00  20
```



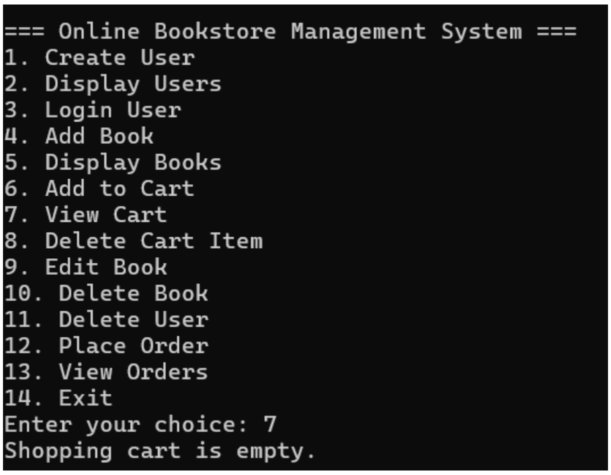
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 6
Enter book ID: 1
Enter quantity: 5
Item added to cart successfully.
```



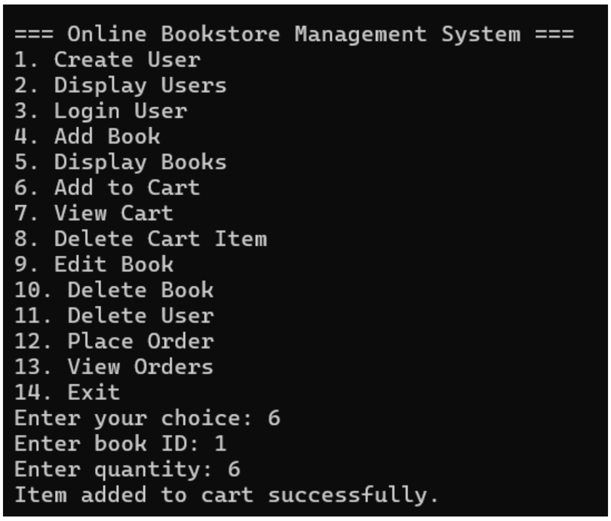
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 7
Book    Quantity
DSA     5
```



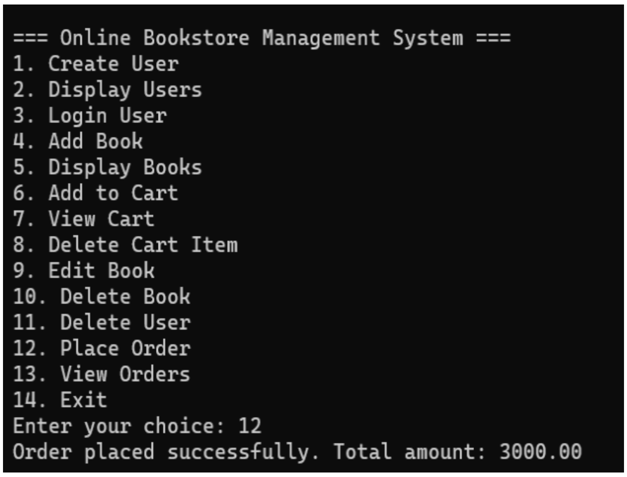
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 8
Enter index of item to delete: 1
Item deleted from cart successfully.
```



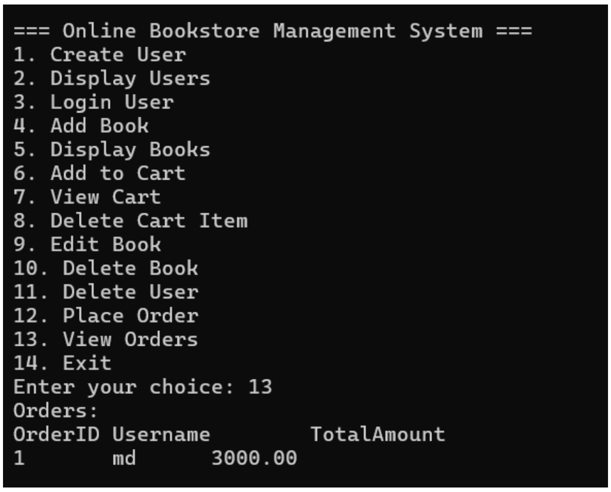
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 7
Shopping cart is empty.
```



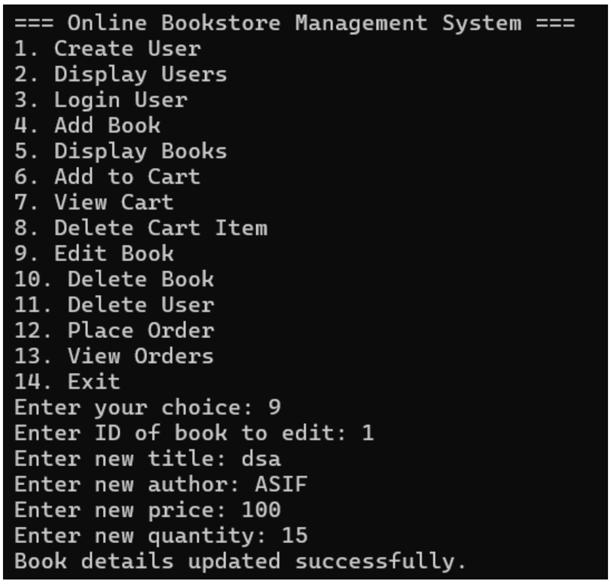
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 6
Enter book ID: 1
Enter quantity: 6
Item added to cart successfully.
```



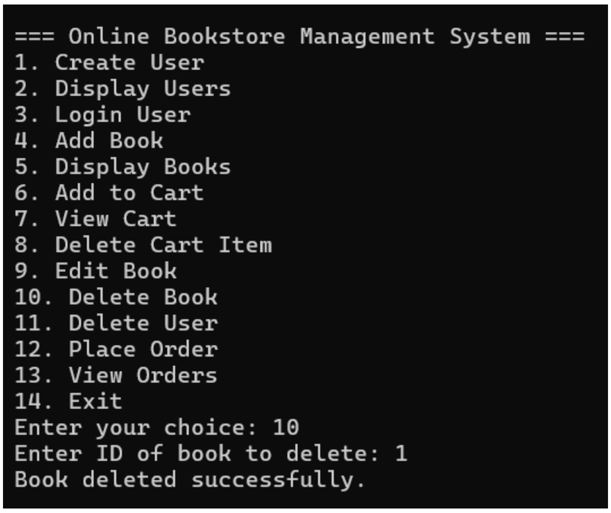
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 12
Order placed successfully. Total amount: 3000.00
```



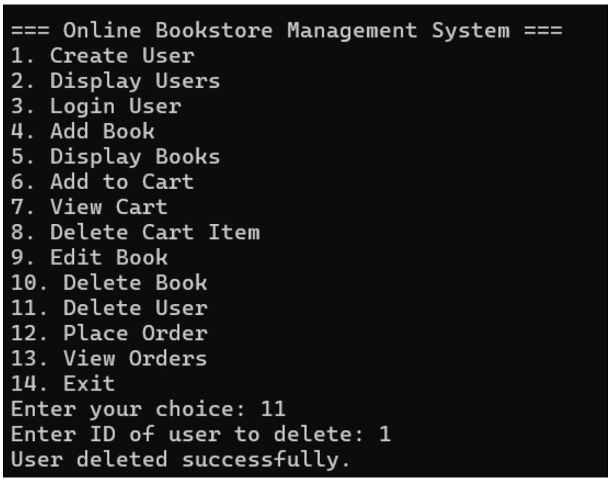
```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 13
Orders:
OrderID Username        TotalAmount
1       md      3000.00
```



```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 9
Enter ID of book to edit: 1
Enter new title: dsa
Enter new author: ASIF
Enter new price: 100
Enter new quantity: 15
Book details updated successfully.
```



```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 10
Enter ID of book to delete: 1
Book deleted successfully.
```



```
=== Online Bookstore Management System ===
1. Create User
2. Display Users
3. Login User
4. Add Book
5. Display Books
6. Add to Cart
7. View Cart
8. Delete Cart Item
9. Edit Book
10. Delete Book
11. Delete User
12. Place Order
13. View Orders
14. Exit
Enter your choice: 11
Enter ID of user to delete: 1
User deleted successfully.
```