

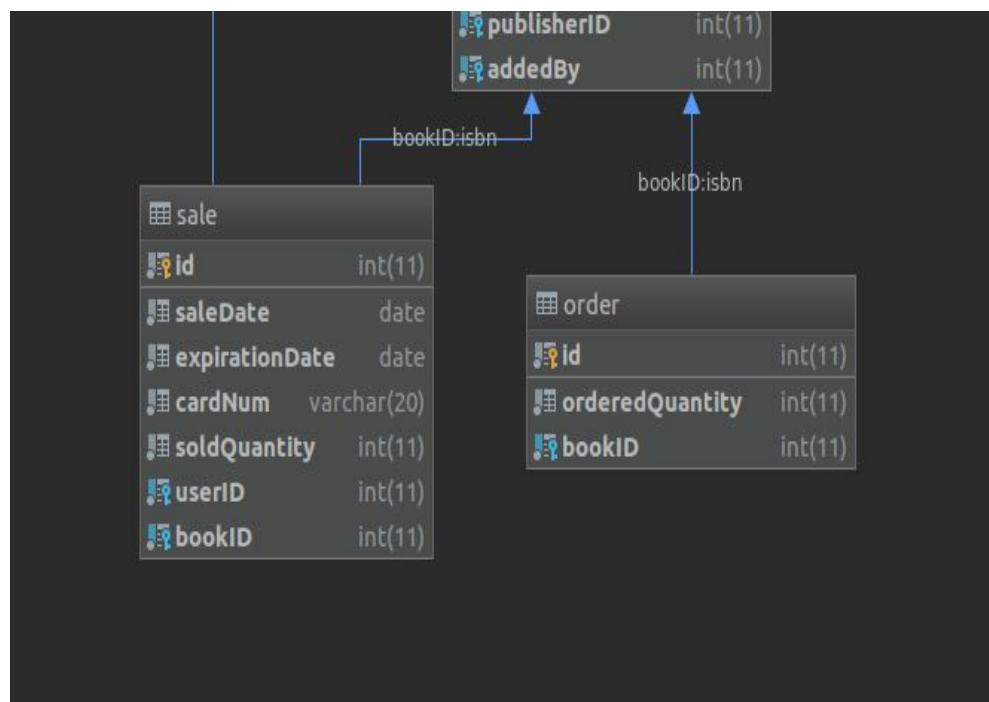
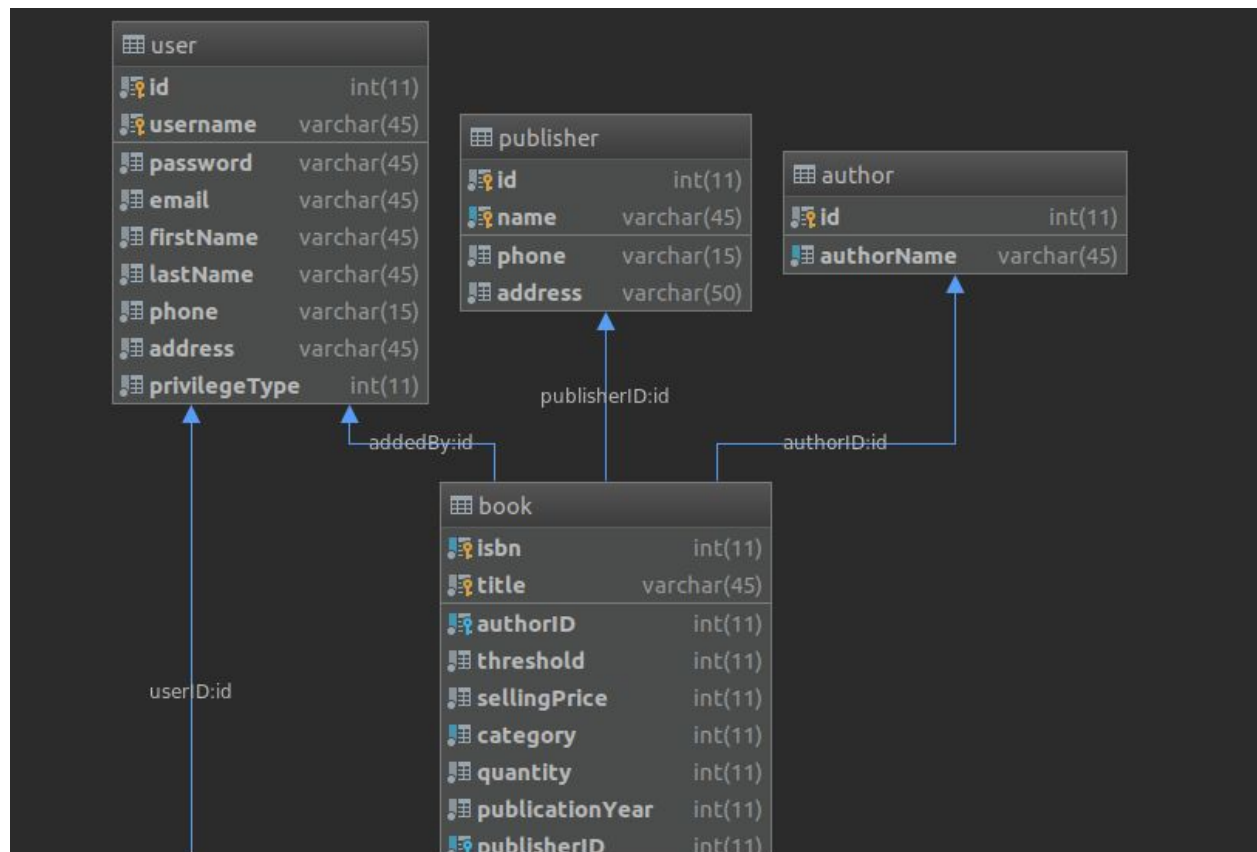
Book store

Ahmed Hussein - 05
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Introduction

It is required to build an application representing a bookstore dealing with a database with multi users with different rules and capabilities.

ERD



ERD description

We have 6 relations each have its own required attributes

1. **Author:** It is made as a separate table so that if any additional data for the author is required it will not be a multivalued attribute in the book table
2. **Publisher:** It contains the publisher data like phone, address and name
3. **User:** It has two types whether a normal user or a manager with different privileges according to the type field. It has other attributes required for each user: email, password, username, first and last names
4. **Book:** each book is defined with a unique ISBN and has its own data like publication year, category, price, quantity .. etc. It has three foreign keys:
 - a. AuthorId: refers to author table
 - b. Added By: refers to which user added that book
 - c. PublisherId: refers to the publisher table.
5. **Order:** The order is created when the quantity of a book becomes smaller than the threshold it is created by a trigger with attributes of ID referring to the ISBN of the orderer book and the ordered quantity.
6. Finally **sale:** created by any user require to borrow a book and has its own attributes whether the sale date or the expiration date, sold quantity and userId who ordered the sale and bookId referring to the ISBN of the book.

Triggers

1. A trigger to prevent the presence of negative quantities if a book ordered for sale from it more than the present quantity. So before any update in the book we must check for the negative quantity.

```
delimiter //
create trigger noNegativeQuantity before update on book for each row
begin
    if new.quantity < 0 then
        signal sqlstate '45000';
    end if;
end //
delimiter ;
```

2. A trigger that creates a new order once the book quantity decrease below than the current threshold

```
delimiter //
create trigger createOrder after update on book for each row
begin
    if new.quantity < new.threshold then
        insert into `order` values (NULL, 20, NEW.isbn);
    end if;
end //
delimiter ;
delimiter //
```

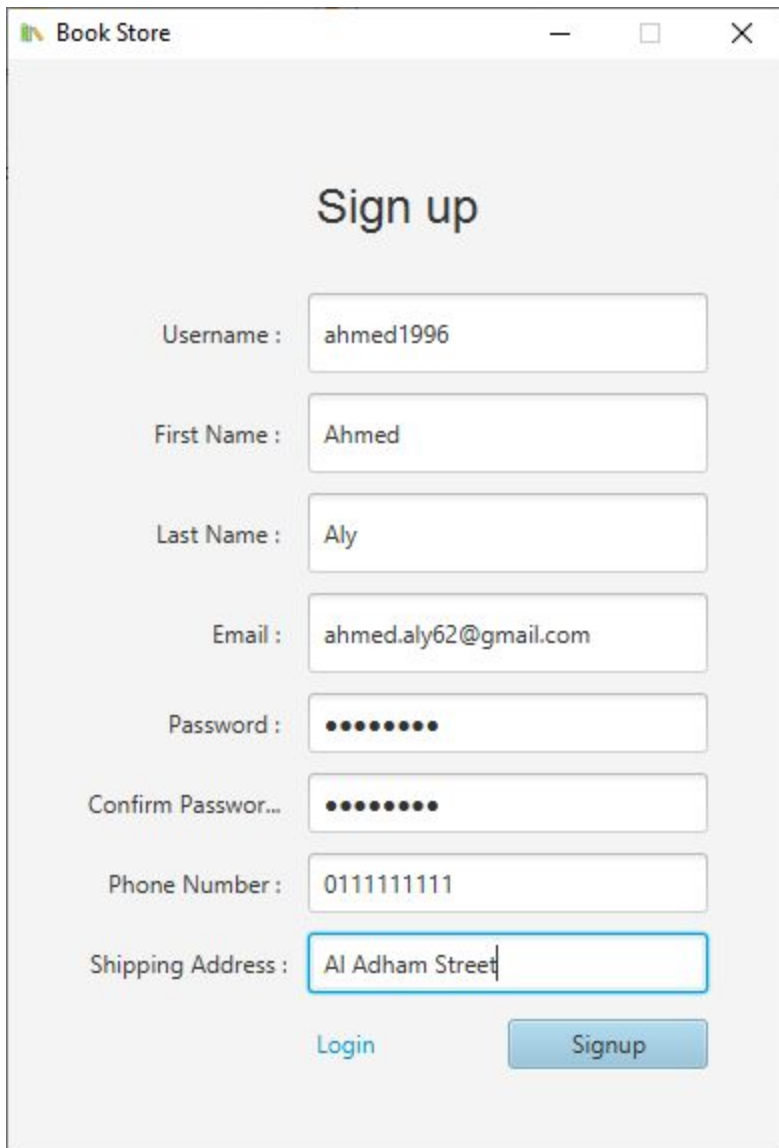
3. If the user confirms an order so it is deleted from the database and the ordered quantity is added to the book quantity.

```
delimiter //
create trigger orderDeletion before delete on `order` for each row
begin
    update book set quantity = quantity + OLD.orderedQuantity where isbn = OLD.bookID;
end //
delimiter ;
delimiter //
```

Indices

1. **Publisher name:** to facilitates the search when required to fetch the books published by a certain publisher by its name.
2. **Category:** We have 5 categories numbered from 1 to 5 and we indexed them so that it is available to get the books of a certain category.
3. Indexing on primary keys is done by default to facilitates search by IDs

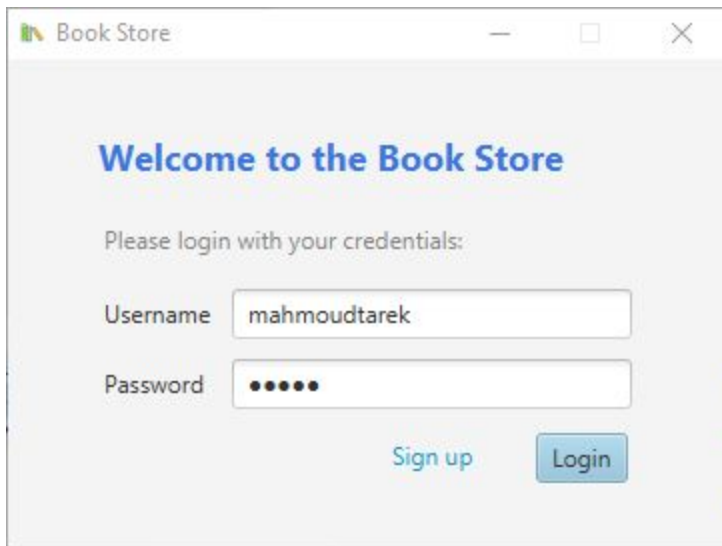
Screenshots



The screenshot shows a web application window titled "Book Store" with standard window controls (minimize, maximize, close). The main content area is titled "Sign up" and contains a registration form with the following fields and values:

- Username : ahmed1996
- First Name : Ahmed
- Last Name : Aly
- Email : ahmed.aly62@gmail.com
- Password : (masked with 8 dots)
- Confirm Passwor... : (masked with 8 dots)
- Phone Number : 0111111111
- Shipping Address : Al Adham Street

At the bottom of the form, there are two buttons: a "Login" link in blue text and a "Signup" button with a blue gradient background.



Book Store

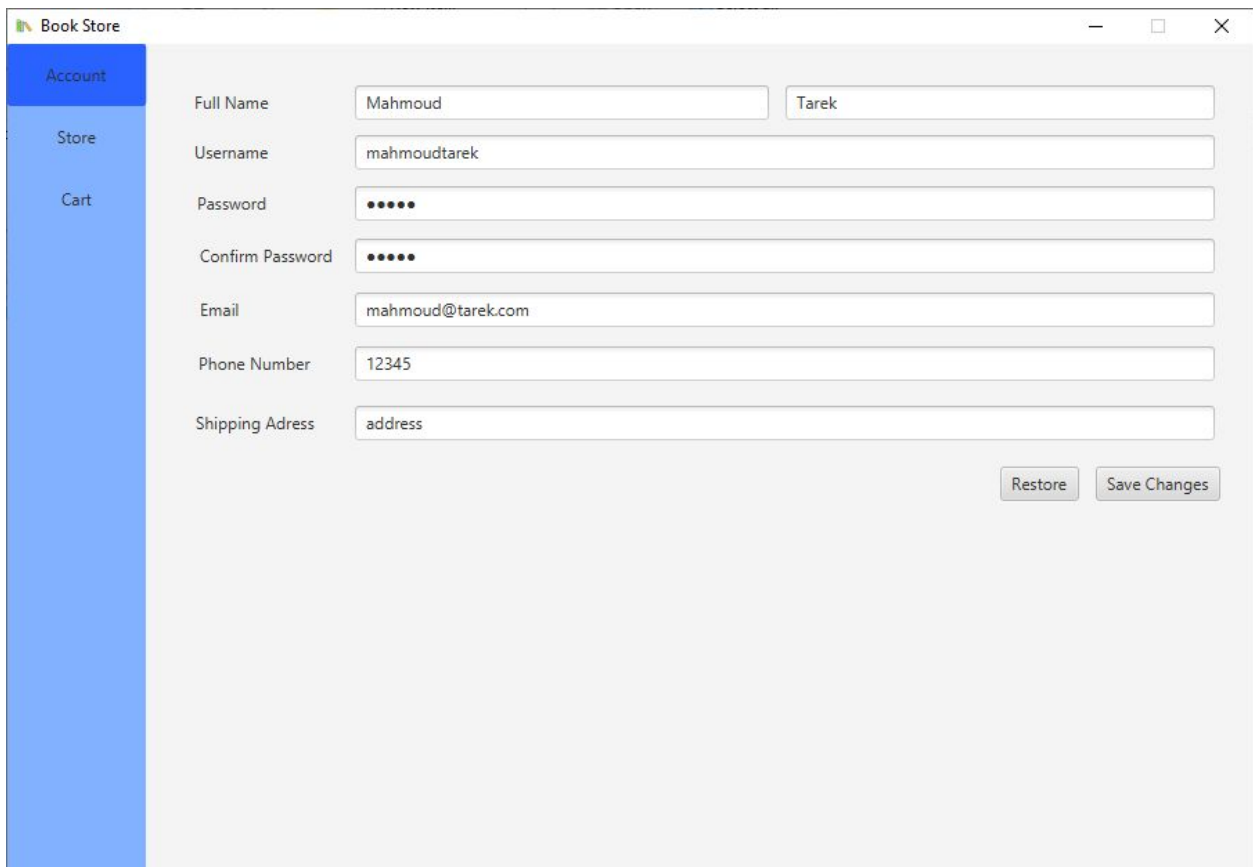
Welcome to the Book Store

Please login with your credentials:

Username

Password

[Sign up](#)



Book Store

- Account
- Store
- Cart

Full Name

Username

Password

Confirm Password

Email

Phone Number

Shipping Address

Book Store

Account

Store

Cart

Category

Art

Search

ISBN	Title	Author	Publisher	Year	Category	Price (\$)	Action
1089443	Practical Wooden Chicken	Randal	Vicenta	1993	Art	643	Add to Cart
1291090	Awesome Frozen Towels	Alvera	Ollie	2001	Art	862	Add to Cart
1461682	Rustic Soft Tuna	Kaia	Mckenna	2013	Art	618	Add to Cart
1464170	Intelligent Granite Salad	Benedict	Alexandra	1991	Art	220	Add to Cart
1624403	Incredible Granite Tuna	Arvilla	Xander	2002	Art	4	Add to Cart
1695224	Refined Rubber Bacon	Garett	Isaias	1977	Art	972	Add to Cart
1808165	Practical Rubber Gloves	Annamarie	Armani	1994	Art	111	Add to Cart
2084208	Tasty Frozen Table	Nash	Giovani	1970	Art	493	Add to Cart
2357477	Incredible Cotton Shirt	Conner	Ford	2003	Art	863	Add to Cart
2417266	Refined Concrete Bacon	Jonathon	Dortha	1976	Art	489	Add to Cart
2418719	Small Concrete Sausages	Eliane	Cleve	1964	Art	609	Add to Cart
2518498	Rustic Cotton Fish	Hilda	Sid	2006	Art	185	Add to Cart
2657424	Licensed Cotton Car	Noe	Alysa	2007	Art	53	Add to Cart
2715819	Gorgeous Metal Towels	Armand	Elinor	1971	Art	135	Add to Cart
2761634	Tasty Steel Chips	Vella	Ocie	1981	Art	94	Add to Cart
2876139	Awesome Frozen Fish	Alvena	Maritza	1975	Art	167	Add to Cart

Book Store

Account

Store

Cart

Category

Art

Search

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Add Book to the cart

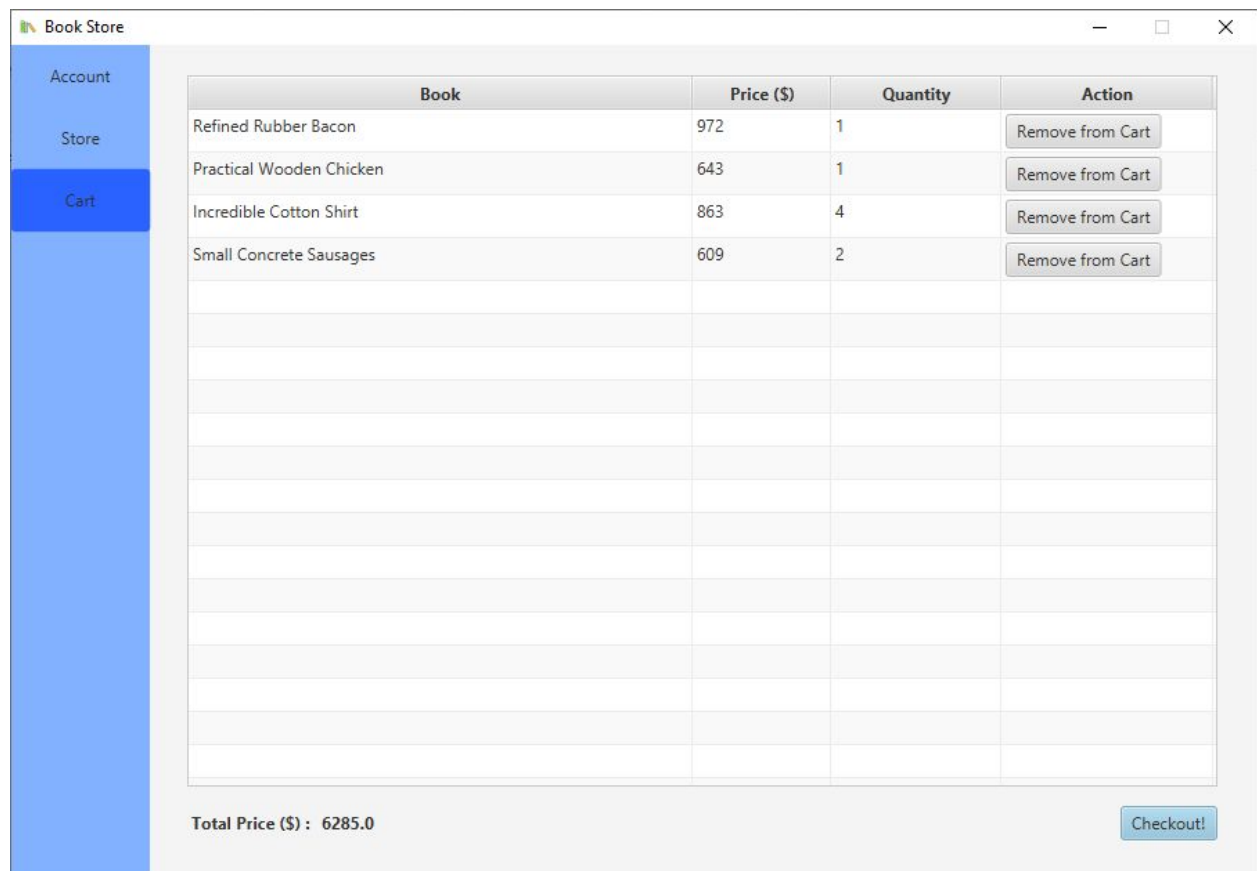
?

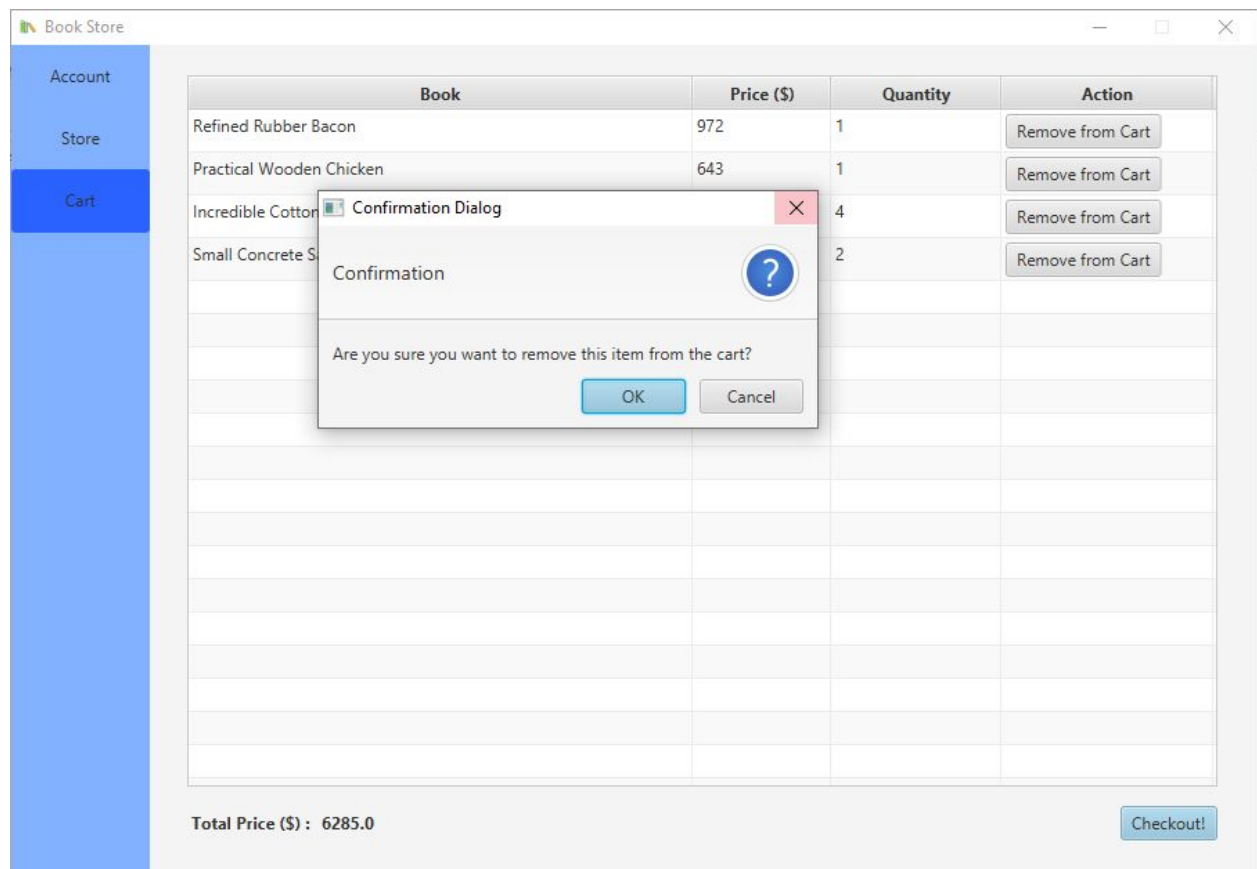
Please enter the required quantity:

1

OK

Cancel





The screenshot shows the 'Book Store' application window. On the left is a blue sidebar with 'Account', 'Store', and 'Cart' (selected). The main area displays a table of items in the cart:

Book	Price (\$)	Quantity	Action
Refined Rubber Bacon	972	1	Remove from Cart
Practical Wooden Chicken	643	1	Remove from Cart
Incredible Co...			Remove from Cart
Small Concret...			Remove from Cart

A 'Checkout' modal is open in the center, containing:

- Card Number:
- Expiry Date:
- Buttons: 'Checkout!' and 'Cancel'

At the bottom of the main area, it says 'Total Price (\$) : 6285.0' and a 'Checkout!' button.

The screenshot shows the 'Book Store' application window with a login form. The title is 'Welcome to the Book Store'. Below it, the text 'Please login with your credentials:' is displayed. The form has two input fields:

- Username:
- Password:

At the bottom, there are two buttons: 'Sign up' (in blue text) and 'Login' (a blue button).

Book Store

Account

Store

Cart

Orders

Add Book

Promote

Statistics

TitleGeneric Frozen Chips26Place Order

Book	Publisher	Ordered Quantity	Action
Generic Frozen Chips	Brad	26	Confirm Order
Small Soft Pizza	Roderick	13	Confirm Order
Incredible Fresh Sausages	Oda	15	Confirm Order
Rustic Cotton Mouse	Leopold	15	Confirm Order
Unbranded Cotton Soap	Bria	15	Confirm Order
Unbranded Plastic Ball	Mckayla	16	Confirm Order
Tasty Metal Mouse	Polly	27	Confirm Order
Tasty Metal Hat	Dalton	26	Confirm Order
Rustic Cotton Fish	Sid	43	Confirm Order
Awesome Concrete Tuna	Eino	37	Confirm Order
Rustic Cotton Tuna	Raegan	16	Confirm Order
Intelligent Cotton Tuna	Genevieve	19	Confirm Order
Licensed Cotton Fish	Joshuah	48	Confirm Order
Awesome Plastic Computer	Jettie	15	Confirm Order
Awesome Fresh Sausages	Euna	42	Confirm Order

Confirm All!

Book Store

Account

Store

Cart

Orders

Add Book

Promote

Statistics

ISBN: 1234567

Title: Science Book

Author: Abbey

Publisher: Donald

Selling Price (\$): 85

Threshold: 20

Available Quantity: 30

Science

2010

Add Book

Information

The book was added successfully!

OK

