Online Bookstore SQL Project

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-- Create Database
CREATE DATABASE OnlineBookstore;

-- Switch to the database
\c OnlineBookstore;

-- Create Tables
DROP TABLE IF EXISTS Books;
CREATE TABLE Books (
Book_ID SERIAL PRIMARY KEY,
Title VARCHAR(100),
Author VARCHAR(100),
Genre VARCHAR(50),
Published_Year INT,
Price NUMERIC(10, 2),
Stock INT
);
DROP TABLE IF EXISTS customers;
CREATE TABLE Customers (
Customer_ID SERIAL PRIMARY KEY,
Name VARCHAR(100),
Email VARCHAR(100),
Phone VARCHAR(15),
City VARCHAR(50),
Country VARCHAR(150)
);
DROP TABLE IF EXISTS orders;
CREATE TABLE Orders (
Order_ID SERIAL PRIMARY KEY,
Customer_ID INT REFERENCES Customers(Customer_ID),
Book_ID INT REFERENCES Books(Book_ID),
Order_Date DATE,
Quantity INT,
Total_Amount NUMERIC(10, 2)
);

SELECT * FROM Books;
SELECT * FROM Customers;
SELECT * FROM Orders;


-- Import Data into Books Table
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COPY Books(Book_ID, Title, Author, Genre, Published_Year, Price, Stock)
FROM 'D:\Course Updates\30 Day Series\SQL\CSV\Books.csv'
CSV HEADER;

-- Import Data into Customers Table
COPY Customers(Customer_ID, Name, Email, Phone, City, Country)
FROM 'D:\Course Updates\30 Day Series\SQL\CSV\Customers.csv'
CSV HEADER;

-- Import Data into Orders Table
COPY Orders(Order_ID, Customer_ID, Book_ID, Order_Date, Quantity, Total_Amount)
FROM 'D:\Course Updates\30 Day Series\SQL\CSV\Orders.csv'
CSV HEADER;


-- 1) Retrieve all books in the "Fiction" genre:

SELECT * FROM Books
WHERE Genre='Fiction';

-- 2) Find books published after the year 1950:
SELECT * FROM Books
WHERE Published_year>1950;

-- 3) List all customers from the Canada:
SELECT * FROM Customers
WHERE country='Canada';


-- 4) Show orders placed in November 2023:

SELECT * FROM Orders
WHERE order_date BETWEEN '2023-11-01' AND '2023-11-30';

-- 5) Retrieve the total stock of books available:
SELECT SUM(stock) AS Total_Stock
From Books;

-- 6) Find the details of the most expensive book:
SELECT * FROM Books
ORDER BY Price DESC
LIMIT 1;


-- 7) Show all customers who ordered more than 1 quantity of a book:
SELECT * FROM Orders
WHERE quantity>1;
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-- 8) Retrieve all orders where the total amount exceeds $20:
SELECT * FROM Orders
WHERE total_amount>20;


-- 9) List all genres available in the Books table:
SELECT DISTINCT genre FROM Books;


-- 10) Find the book with the lowest stock:
SELECT * FROM Books
ORDER BY stock
LIMIT 1;


-- 11) Calculate the total revenue generated from all orders:
SELECT SUM(total_amount) As Revenue
FROM Orders;
```

-- Advance Questions :

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-- 1) Retrieve the total number of books sold for each genre:

SELECT * FROM ORDERS;

SELECT b.Genre, SUM(o.Quantity) AS Total_Books_sold
FROM Orders o
JOIN Books b ON o.book_id = b.book_id
GROUP BY b.Genre;

-- 2) Find the average price of books in the "Fantasy" genre:
SELECT AVG(price) AS Average_Price
FROM Books
WHERE Genre = 'Fantasy';

-- 3) List customers who have placed at least 2 orders:
SELECT o.customer_id, c.name, COUNT(o.Order_id) AS ORDER_COUNT
FROM orders o
JOIN customers c ON o.customer_id=c.customer_id
GROUP BY o.customer_id, c.name
HAVING COUNT(Order_id) >=2;


-- 4) Find the most frequently ordered book:
SELECT o.Book_id, b.title, COUNT(o.order_id) AS ORDER_COUNT
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FROM orders o
JOIN books b ON o.book_id=b.book_id
GROUP BY o.book_id, b.title
ORDER BY ORDER_COUNT DESC LIMIT 1;

-- 5) Show the top 3 most expensive books of 'Fantasy' Genre :
SELECT * FROM books
WHERE genre ='Fantasy'
ORDER BY price DESC LIMIT 3;

-- 6) Retrieve the total quantity of books sold by each author:
SELECT b.author, SUM(o.quantity) AS Total_Books_Sold
FROM orders o
JOIN books b ON o.book_id=b.book_id
GROUP BY b.Author;

-- 7) List the cities where customers who spent over $30 are located:
SELECT DISTINCT c.city, total_amount
FROM orders o
JOIN customers c ON o.customer_id=c.customer_id
WHERE o.total_amount > 30;


-- 8) Find the customer who spent the most on orders:
SELECT c.customer_id, c.name, SUM(o.total_amount) AS Total_Spent
FROM orders o
JOIN customers c ON o.customer_id=c.customer_id
GROUP BY c.customer_id, c.name
ORDER BY Total_spent Desc LIMIT 1;


--9) Calculate the stock remaining after fulfilling all orders:
SELECT b.book_id, b.title, b.stock, COALESCE(SUM(o.quantity),0) AS Order_quantity,
b.stock- COALESCE(SUM(o.quantity),0) AS Remaining_Quantity
FROM books b
LEFT JOIN orders o ON b.book_id=o.book_id
GROUP BY b.book_id ORDER BY b.book_id;
```