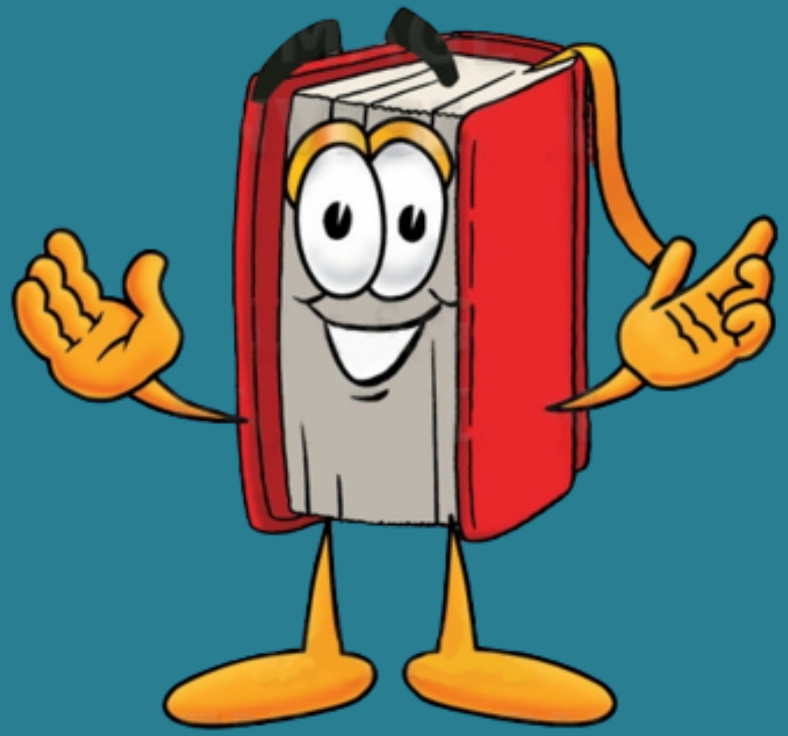

Online Bookstore Database Setup Script - MYSQL Challenge

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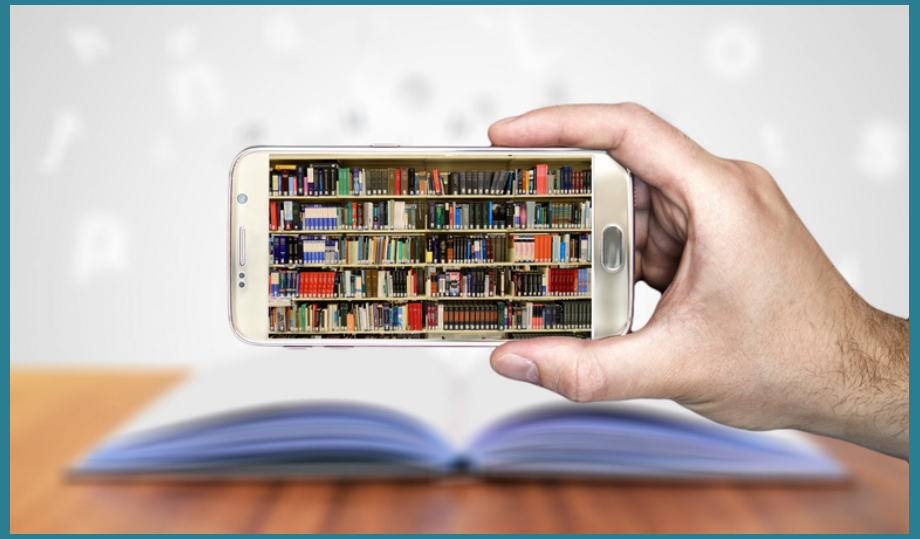
INTRODUCTION

"Explore the 'Online Bookstore Database Setup Script' to efficiently create and populate a database for managing book titles, customer information, orders, and more. This script simplifies the process of setting up an online bookstore's backend data structure."



1. Create Database

```sql
-- Create the Bookstore database
CREATE DATABASE Bookstore;
USE Bookstore;
```

2. Create Table

```sql
-- Create the 'books' table to store book information
CREATE TABLE books (
    book_id INT PRIMARY KEY AUTO_INCREMENT,
    title VARCHAR(255) NOT NULL,
    author VARCHAR(255),
    genre VARCHAR(50),
    publication_year INT,
    price DECIMAL(10, 2),
    copies_sold INT
);
```

3. Insert Data into Books Table

```sql
-- Insert sample data into the 'books' table
INSERT INTO books (title, author, genre, publication_year, price, copies_sold)
VALUES
    ('The Great Gatsby', 'F. Scott Fitzgerald', 'Fiction', 1925, 9.99, 500),
    ('To Kill a Mockingbird', 'Harper Lee', 'Fiction', 1960, 10.99, 600),
    ('1984', 'George Orwell', 'Science Fiction', 1949, 8.99, 750),
    ('Pride and Prejudice', 'Jane Austen', 'Romance', 1813, 7.99, 900),
    ('The Hobbit', 'J.R.R. Tolkien', 'Fantasy', 1937, 12.99, 450),
    ('The Catcher in the Rye', 'J.D. Salinger', 'Fiction', 1951, 9.99, 550),
    ('The Hunger Games', 'Suzanne Collins', 'Science Fiction', 2008, 11.99, 700),
    ('Harry Potter and the Sorcerer''s Stone', 'J.K. Rowling', 'Fantasy', 1997, 14.99, 800),
    ('The Da Vinci Code', 'Dan Brown', 'Mystery', 2003, 10.99, 600),
    ('The Alchemist', 'Paulo Coelho', 'Fiction', 1988, 8.99, 950);
```

4. Create Customers Table

```sql
-- Create the 'customers' table to store customer information
CREATE TABLE customers (
    customer_id INT PRIMARY KEY AUTO_INCREMENT,
    first_name VARCHAR(50) NOT NULL,
    last_name VARCHAR(50) NOT NULL,
    email VARCHAR(100) UNIQUE NOT NULL,
    phone_number VARCHAR(20),
    address VARCHAR(255)
);
```

5. INSERT Data into Customers Table

```sql
-- Insert sample data into the 'customers' table
INSERT INTO customers (first_name, last_name, email, phone_number, address)
VALUES
    ('John', 'Doe', 'johndoe@example.com', '+1234567890', '123 Main St, Anytown, USA'),
    ('Jane', 'Smith', 'janesmith@example.com', '+9876543210', '456 Elm St, Othercity, USA')
    ('Alice', 'Johnson', 'alice@example.com', NULL, '789 Oak St, Anothercity, USA');
```

6. Create Order Table

```sql
-- Create the 'orders' table to store order information
CREATE TABLE orders (
    order_id INT PRIMARY KEY AUTO_INCREMENT,
    customer_id INT,
    order_date DATE,
    total_amount DECIMAL(10, 2),
    FOREIGN KEY (customer_id) REFERENCES customers(customer_id)
);
```

7. INSERT Data into Orders Table

```sql
-- Insert sample data into the 'orders' table
INSERT INTO orders (customer_id, order_date, total_amount)
VALUES
    (1, '2022-08-15', 45.97),
    (2, '2022-08-16', 33.98),
    (3, '2022-08-17', 28.99);
```

8. Create Order_Items Table

```sql
-- Create the 'order_items' table to store items within each order
CREATE TABLE order_items (
    order_item_id INT PRIMARY KEY AUTO_INCREMENT,
    order_id INT,
    book_id INT,
    quantity INT,
    item_price DECIMAL(10, 2),
    FOREIGN KEY (order_id) REFERENCES orders(order_id),
    FOREIGN KEY (book_id) REFERENCES books(book_id)
);
```

9. INSERT Data into Order_Items

```sql
-- Insert sample data into the 'order_items' table
INSERT INTO order_items (order_id, book_id, quantity, item_price)
VALUES
    (1, 1, 2, 19.98),
    (1, 3, 1, 8.99),
    (2, 2, 3, 32.97),
    (3, 5, 2, 25.98);
```

10. Books Table:

```
select * from books;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

book_id	title	author	genre	publication_year	price	copies_sold
1	The Great Gatsby	F. Scott Fitzgerald	Fiction	1925	9.99	500
2	To Kill a Mockingbird	Harper Lee	Fiction	1960	10.99	600
3	1984	George Orwell	Science Fiction	1949	8.99	750
4	Pride and Prejudice	Jane Austen	Romance	1813	7.99	900
5	The Hobbit	J.R.R. Tolkien	Fantasy	1937	12.99	450

11. Customers Table:

```
35·  select * from customers;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

customer_id	first_name	last_name	email	phone_number	address
1	John	Doe	johndoe@example.com	+1234567890	123 Main St, Anytown, USA
2	Jane	Smith	janesmith@example.com	+9876543210	456 Elm St, Othercity, USA
3	Alice	Johnson	alice@example.com	NULL	789 Oak St, Anothercity, USA
NULL	NULL	NULL	NULL	NULL	NULL

12. Orders Table:

```
select * from orders;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

order_id	customer_id	order_date	total_amount
1	1	2022-08-15	45.97
2	2	2022-08-16	33.98
3	3	2022-08-17	28.99
NULL	NULL	NULL	NULL

13. Order_Items Table:

```
39· select * from order_items;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

order_item_id	order_id	book_id	quantity	item_price
1	1	1	2	19.98
2	1	3	1	8.99
3	2	2	3	32.97
4	3	5	2	25.98
NULL	NULL	NULL	NULL	NULL

Questions - Challenge

1. What are the details of all books purchased in the year 2022?

```
--> SELECT o.order_id, COUNT(oi.book_id) AS total_number_of_books,
       b.title, b.author, b.genre, b.price, SUM(b.price) AS total_cost
FROM orders o
JOIN order_items oi ON o.order_id = oi.order_id
JOIN books b ON oi.book_id = b.book_id
WHERE YEAR(o.order_date) = 2022
GROUP BY oi.book_id;
```

2. What is the total number of books sold by each customer?

```
--> SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
       COUNT(oi.book_id) AS number_of_books_purchased
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON o.order_id = oi.order_id
GROUP BY c.customer_id;
```

3. What is the total revenue generated by each customer?

```
--> SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
       SUM(b.price) AS total_revenue
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON o.order_id = oi.order_id
JOIN books b ON oi.book_id = b.book_id
GROUP BY c.customer_id;
```

4. What are the details of the books purchased by each customer?

```
--> SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
       oi.book_id, b.title, b.author, b.genre, b.price
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON o.order_id = oi.order_id
JOIN books b ON oi.book_id = b.book_id;
```

5. What is the total revenue generated by each book genre?

```
--> SELECT b.genre, SUM(b.price) AS total_revenue
FROM books b
JOIN order_items oi ON b.book_id = oi.book_id
JOIN orders o ON oi.order_id = o.order_id
WHERE YEAR(o.order_date) = 2022
GROUP BY b.genre;
```

6. What are the details of the books purchased in the year 2021 by customer 'Jane Smith'?

```
--> SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
       oi.book_id, b.title, b.author, b.genre, b.price
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON o.order_id = oi.order_id
JOIN books b ON oi.book_id = b.book_id
WHERE c.first_name = 'Jane' AND c.last_name = 'Smith' AND YEAR(o.order_date) = 2021;
```

7. What is the total revenue generated by the sales of books in the 'Fiction' genre?

```
--> SELECT b.genre, SUM(b.price) AS total_revenue
FROM books b
JOIN order_items oi ON b.book_id = oi.book_id
JOIN orders o ON oi.order_id = o.order_id
WHERE b.genre = 'Fiction'
GROUP BY b.genre;
```

8. What is the total revenue generated by the sales of books in the 'Mystery' genre in the year 2022?

```
--> SELECT b.genre, SUM(b.price) AS total_revenue
FROM books b
JOIN order_items oi ON b.book_id = oi.book_id
JOIN orders o ON oi.order_id = o.order_id
WHERE b.genre = 'Mystery' AND YEAR(o.order_date) = 2022
GROUP BY b.genre;
```

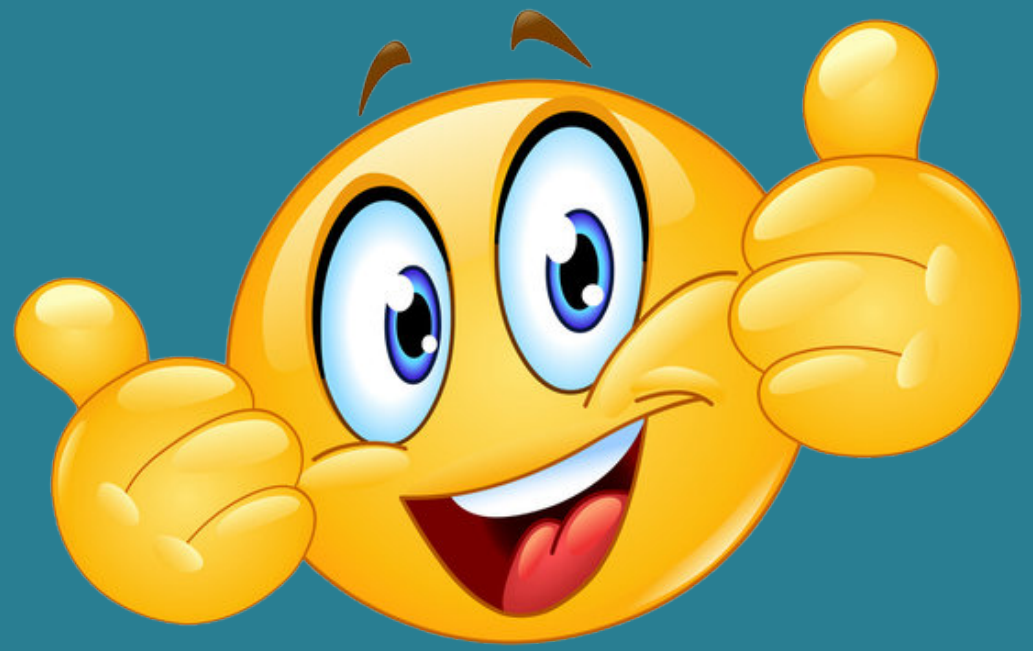
9. Who is the customer who purchased the most number of books in the year 2023?

```
--> SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
       COUNT(oi.book_id) AS number_of_books_purchased
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON o.order_id = oi.order_id
WHERE YEAR(o.order_date) = 2023
GROUP BY c.customer_id
ORDER BY COUNT(oi.book_id) DESC
LIMIT 1;
```

10. Who is the customer with the highest total spending in the year 2022?

```
--> SELECT c.customer_id, CONCAT(c.first_name, ' ', c.last_name) AS customer_name,
       SUM(b.price) AS total_spending
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
JOIN order_items oi ON o.order_id = oi.order_id
JOIN books b ON oi.book_id = b.book_id
WHERE YEAR(o.order_date) = 2022
GROUP BY c.customer_id
ORDER BY SUM(b.price) DESC
LIMIT 1;
```

Thank You!



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