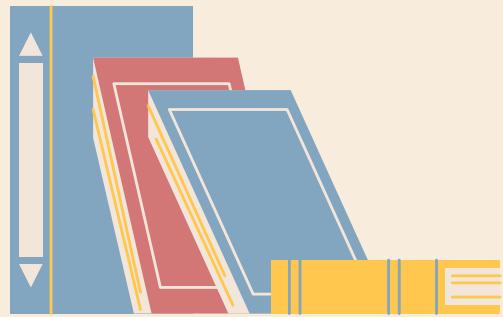


Data driven insights for an Online Book Store

By Himanshu.K

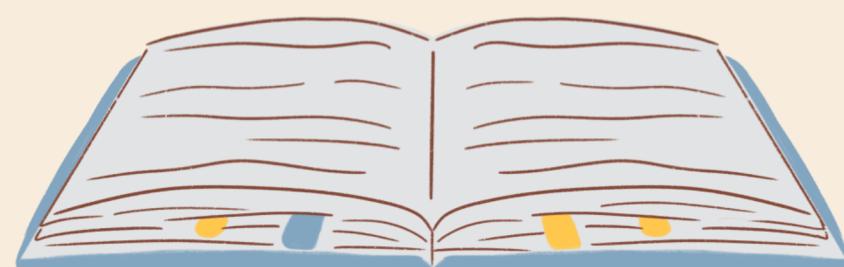


OVERVIEW

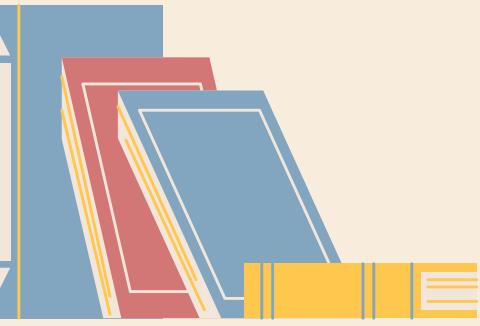
This SQL Project is prepared to design and query a relational database that manages inventory, customer data, and sales transactions for an online bookstore—enabling insightful analytics and operational efficiency.

Database Structure Highlights:

- Books Table: Stores metadata such as title, author, genre, published year, price, and stock.
- Customers Table: Holds customer details including name, contact, and location.
- Orders Table: Captures transactional details such as order date, quantity, and total amount.

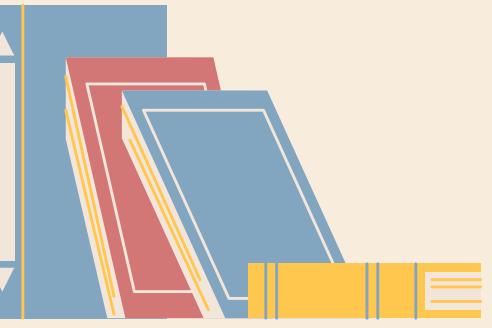


QUERIES



- 1) Retrieve all books in the "Fiction" genre:
- 2) Find books published after the year 1950:
- 3) List all customers from the Canada:
- 4) Show orders placed in November 2023:
- 5) Retrieve the total stock of books available:
- 6) Find the details of the most expensive book:
- 7) Show all customers who ordered more than 1 quantity of a book:
- 8) Retrieve all orders where the total amount exceeds \$20:
- 9) List all genres available in the Books table:
- 10) Find the book with the lowest stock:
- 11) Calculate the total revenue generated from all orders:





QUERIES

Advance Questions :

- 1) Retrieve the total number of books sold for each genre:
- 2) Find the average price of books in the "Fantasy" genre:
- 3) List customers who have placed at least 2 orders:
- 4) List the customers name , customer id who have placed at least 2 orders:
- 5) Find the most frequently ordered book:
- 6) Find the most frequently ordered book along with book id:
- 7) Show the top 3 most expensive books of 'Fantasy' Genre :
- 8) Retrieve the total quantity of books sold by each author:
- 9) List the cities where customers who spent over \$300 are located:
- 10) Find the customer who spent the most on orders:
- 11) Calculate the stock remaining after fulfilling all orders:

CREATED A DATABASE ALONG WITH TABLES

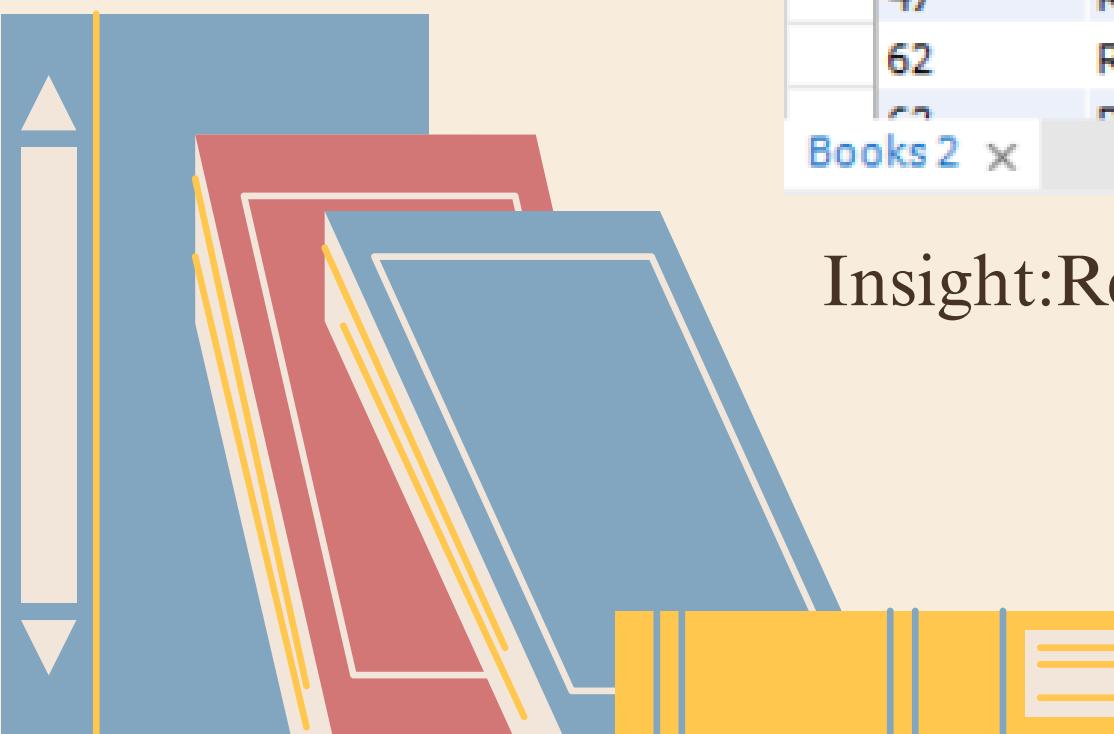
```
1 -- Create database
2 • CREATE DATABASE OnlineBookstore;
3
4 • USE OnlineBookstore;
5
6 • Ⓜ CREATE TABLE Books(
7     Book_ID int not null primary key,
8     Title Varchar(100),
9     Author Varchar(50),
10    Genre Varchar(50),
11    Published_Year int,
12    Price numeric(10,2),
13    Stock int
14 );
```



```
17 • Ⓜ CREATE TABLE Customers (
18     Customer_ID INT NOT NULL PRIMARY KEY,
19     Name VARCHAR(100),
20     Email VARCHAR(50),
21     Phone VARCHAR(50),
22     City VARCHAR(30),
23     Country VARCHAR(30)
24 );
25
26 • Ⓜ CREATE TABLE Orders (
27     Order_ID INT NOT NULL PRIMARY KEY,
28     Customer_ID INT REFERENCES Customers (Customer_ID),
29     Book_ID INT REFERENCES Books (Book_ID),
30     Order_Date DATETIME,
31     Quantity INT,
32     Total_Amount NUMERIC(10 , 2 )
33 );
```



```
36    -- 1)Retrive all books in the "Fiction" genre:  
37 •   SELECT * FROM Books  
38      WHERE GENRE = "Fiction";
```



	Book_ID	Title	Author	Genre	Published_Year	Price	Stock
▶	4	Customizable 24hour product	Christopher Andrews	Fiction	2020	43.52	8
	22	Multi-layered optimizing migration	Wesley Escobar	Fiction	1908	39.23	78
	28	Expanded analyzing portal	Lisa Coffey	Fiction	1941	37.51	79
	29	Quality-focused multi-tasking challenge	Katrina Underwood	Fiction	1905	31.12	100
	31	Implemented encompassing conglomeration	Melissa Taylor	Fiction	2010	21.23	44
	39	Optimized national process improvement	Megan Goodwin	Fiction	1978	10.99	42
	40	Adaptive didactic interface	Natalie Gonzalez	Fiction	1923	25.97	94
	47	Reverse-engineered directional conglomeration	John Christian	Fiction	2006	20.37	90
	62	Re-contextualized real-time strategy	Nicole Lynch	Fiction	1953	26.34	23
	63	Recontextualized real-time strategy	Pauline Moore	Fiction	1999	22.20	55

Insight:Retrieved all the “Fictional ” books to know the title and availability of the Fiction books.

40 -- 2)Find books published after the year 1950:

41 • SELECT * FROM Books

42 WHERE Published_Year > 1950;

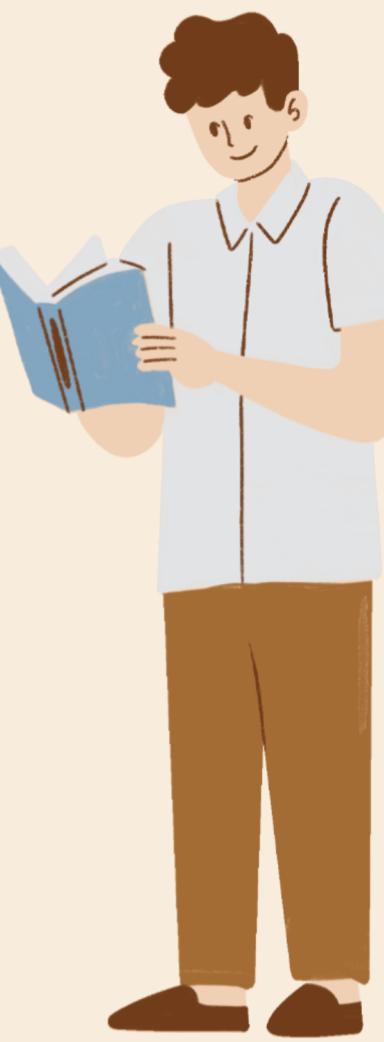
	Book_ID	Title	Author	Genre	Published_Year	Price	Stock
▶	2	Persevering reciprocal knowledge user	Mario Moore	Fantasy	1971	35.80	19
4	Customizable 24hour product	Christopher Andrews	Fiction	2020	43.52	8	
5	Adaptive 5thgeneration encoding	Juan Miller	Fantasy	1956	10.95	16	
6	Advanced encompassing implementation	Bryan Morgan	Biography	1985	6.56	2	
8	Persistent local encoding	Troy Cox	Science Fiction	2019	48.99	84	
9	Optimized interactive challenge	Colin Buckley	Fantasy	1987	14.33	70	
10	Ergonomic national hub	Samantha Ruiz	Mystery	2015	24.63	25	
11	Secured zero tolerance time-frame	Denise Barnes	Fantasy	1998	35.95	10	
12	Revised standard	Patricia Clark	Non Fiction	2000	22.47	60	

Insight: Books published after 1950 , Reveals the range and recency of the available book collection also shows trends over the period.

```
14      -- 3)List all the customers from Canada:
```

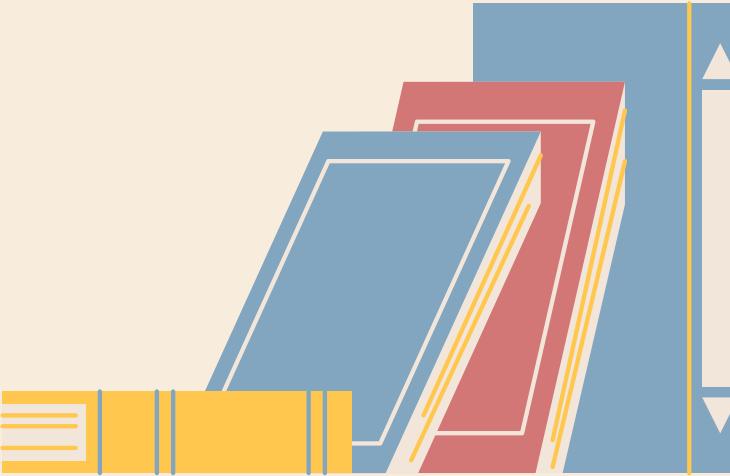
```
15 •    SELECT* FROM Customers
```

```
16      where country= "Canada";
```



A screenshot of a database query results window. The title bar says 'Result Grid'. The table has columns: Customer_ID, Name, Email, Phone, City, and Country. There are three rows of data, each with a 'Edit' button. The last row has 'NULL' in all columns.

	Customer_ID	Name	Email	Phone	City	Country
▶	38	Nicholas Harris	christine93@perkins.com	1234567928	Davistown	Canada
▶	415	James Ramirez	robert54@hall.com	1234568305	Maxwelltown	Canada
▶	468	David Hart	stokesrebecca@gmail.com	1234568358	Thompsonfurt	Canada
◀	HULL	HULL	HULL	HULL	HULL	HULL



Insight: Customers from Canada, Identifies the international customer base for regional analysis i.e popularity of the books .

```
48    -- 4)Show orders placed in November 2023:  
49 •   SELECT * FROM Orders  
50     WHERE Order_Date LIKE "2023-11%";
```

Result Grid | Filter Rows: | Edit: | Export/Import:

	Order_ID	Customer_ID	Book_ID	Order_Date	Quantity	Total_Amount
▶	4	433	343	2023-11-25 00:00:00	7	301.21
	19	496	60	2023-11-17 00:00:00	9	316.26
	75	291	375	2023-11-30 00:00:00	5	170.75
	132	469	333	2023-11-22 00:00:00	7	194.32
	137	474	471	2023-11-25 00:00:00	8	363.04
	163	207	384	2023-11-23 00:00:00	3	101.76
	182	129	293	2023-11-01 00:00:00	7	125.51
	200	313	303	2023-11-23 00:00:00	1	6.57
	213	325	447	2023-11-17 00:00:00	7	253.75
...

Orders 5 ×



- Insight: Orders placed in November 2023; Tracks sales volume during a specific time and analyze the effectiveness of the marketing campaign .



```
52      -- 5)Retrive the total stock of books available:  
53 •   SELECT sum(Stock) AS total_stock  
54     FROM Books;
```

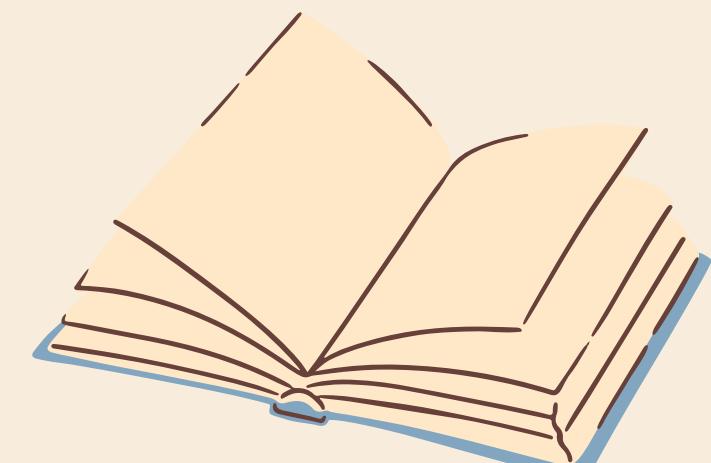
Result Grid	
	total_stock
	25056

Insight: Total stock of books; Provides an overview of current inventory levels

```
56      -- 6) Find the details of the most expensive books:  
57 •   SELECT  
58       *  
59     FROM  
60       Books  
61     ORDER BY Price DESC  
62     LIMIT 1;
```

Result Grid							
	Book_ID	Title	Author	Genre	Published_Year	Price	Stock
▶	340	Proactive system-worthy orchestration	Robert Scott	Mystery	1907	49.98	88
●	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Insight: Most expensive book details: Highlights premium offerings in the catalog.





```
64      -- 7) Show all customers who ordered more than 1 quantity of a book:  
65 •   SELECT * FROM Orders  
66     WHERE Quantity >1;
```

	Order_ID	Customer_ID	Book_ID	Order_Date	Quantity	Total_Amount
▶	1	84	169	2023-05-26 00:00:00	8	188.56
	2	137	301	2023-01-23 00:00:00	10	216.60
	3	216	261	2024-05-27 00:00:00	6	85.50
	4	433	343	2023-11-25 00:00:00	7	301.21
	5	14	431	2023-07-26 00:00:00	7	136.36
	6	439	119	2024-10-11 00:00:00	5	249.40
	7	195	467	2023-10-23 00:00:00	6	82.92
	8	32	159	2024-05-07 00:00:00	4	144.84
	9	109	407	2024-01-04 00:00:00	9	379.71
	10	84	169	2024-07-20 00:00:00	4	172.00

- Insight: Customers who ordered more than 1 item; Shows customer engagement and satisfaction.



```

78
79      -- 8) Retrieve all orders where the total amount exceeds $20:
80 • SELECT * FROM Orders
81 WHERE Total_Amount > "20$";
82
83

```

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

	Order_ID	Customer_ID	Book_ID	Order_Date	Quantity	Total_Amount
▶	1	84	169	2023-05-26 00:00:00	8	188.56
	2	137	301	2023-01-23 00:00:00	10	216.60
	3	216	261	2024-05-27 00:00:00	6	85.50
	4	433	343	2023-11-25 00:00:00	7	301.21
	5	14	431	2023-07-26 00:00:00	7	136.36
	6	439	119	2024-10-11 00:00:00	5	249.40
	7	195	467	2023-10-23 00:00:00	6	82.92
	8	32	159	2024-05-07 00:00:00	4	144.84
	9	109	407	2024-01-04 00:00:00	9	379.71
	10	94	122	2024-07-09 00:00:00	4	123.00
	11	131	206	2023-10-16 00:00:00	1	38.01

Orders 3 ×

- Insight: Orders with total amount > \$20; Shows more valuable customers & satisfaction.



73 -- 9) List all genre available in the Books table:

74 • SELECT DISTINCT Genre FROM Books;



Result Grid | Filter Rows:

Genre
Biography
Fantasy
Non-Fiction
Fiction
Romance
Science Fiction
Mystery

Insight: Genres in the Books table; Shows diversity of books available.

77 -- 10) Find the books with lowest stock:
78 • SELECT
79 *
80 FROM
81 Books
82 ORDER BY Stock
83 LIMIT 1;

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

	Book_ID	Title	Author	Genre	Published_Year	Price	Stock
▶	44	Networked systemic implementation	Ryan Frank	Science Fiction	1965	13.55	0
■	HULL	HULL	HULL	HULL	HULL	HULL	HULL

Insight: Book with the lowest stock: Shows the high demand of the book and the stock out.

```
86      -- 11)Calculate the total revenue generated from all orders;  
87 •      SELECT  
88          SUM(Total_Amount) AS Total_Revenue  
89      FROM  
90          Orders;
```



A screenshot of a database query results window. At the top, there are buttons for "Result Grid" (selected), "Filter Rows:", and "Export:". The result grid shows a single row with one column labeled "Total_Revenue" containing the value "75628.66".

Total_Revenue
75628.66

Insight:Total revenue from all orders; Presents the financial status of the bookstore.

```

92      -- Advance Questions:
93      -- 1)Retrive the total number of books sold for each genre:
94 •  SELECT
95      b.Genre, SUM(o.Quantity) AS Total_Book_Sold
96  FROM
97      Books as b
98  JOIN
99      Orders as o ON b.book_id = o.book_id
00  GROUP BY b.Genre;

```



Result Grid | Filter Rows: _____

	Genre	Total_Book_Sold
▶	Biography	285
	Fantasy	446
	Science Fiction	447
	Mystery	504
	Romance	439
	Non-Fiction	351
	Fiction	225

Insight:Shows the popularity and demand of the genre to analyze the inventory.



```

102
103    -- 2)Find the average price of books in the "fantasy" genre:
104 • SELECT
105      AVG(Price) AS Average_Price
106    FROM
107      Books
108   WHERE
109     Genre = 'Fantasy';

```

Result Grid	
	Average_Price
▶	25.981690

Insight:Average price in Fantasy genre; Shows pricing expectations in the Fantasy category

```

110
111    -- 3) List the customers who have placed at least 2 orders:
112 • SELECT
113      Customer_ID, COUNT(Order_ID) AS Order_Count
114    FROM
115      Orders
116    GROUP BY Customer_ID
117    HAVING COUNT(Order_ID) >= 2;

```

Result Grid		
	Customer_ID	Order_Count
▶	84	2
	137	2
	216	2
	14	2
	195	3
	109	2
	94	3
	131	2
	454	2
	120	2

Result 24 ×

Insight:Customers with ≥ 2 orders: Identifies loyal buyers for targeted marketing and promotes Word of Mouth Marketing .



-- 4)-- List the customers name, customer id who have placed at least 2 orders:

```
SELECT
    c.Name, o.customer_id, COUNT(o.Order_Id) AS Order_Count
FROM
    Customers AS c
        JOIN
    Orders AS o ON c.Customer_ID = o.Customer_ID
GROUP BY o.customer_id , c.Name
HAVING COUNT(o.Order_id) >= 2
ORDER BY Order_Count DESC;
```



Result Grid | Filter Rows: _____ | Export: | Wrap

	Name	customer_id	Order_Count
▶	Carrie Perez	364	6
	Anthony Young	474	5
	Julie Smith	405	4
	Kim Turner	457	4
	Jonathon Strickland	174	4
	Amy Hunt	107	4
	Emily Vargas	325	4
	Cynthia Cooper	437	4
	Andrew Figueroa	485	4
	Dominique Tuck	105	3

Result 26 ×

Insight: Customers with ≥ 2 orders: Identifies loyal buyers name with their id for targeted marketing and promotes Word of Mouth Marketing .

```
-- 5) Find the most frequently ordered book:
SELECT
    Book_Id, COUNT(Order_id) AS Order_Count
FROM
    Orders
GROUP BY Book_Id
ORDER BY Order_Count DESC
LIMIT 1
;
```

Result Grid		
	Book_Id	Order_Count
▶	88	4

```
41   -- 6) Find the most frequently ordered book name along with Book id:
42 • SELECT
43     b.Title, o.Book_Id, COUNT(o.Order_id) AS Order_Count
44   FROM
45     Books AS b
46     JOIN
47     Orders AS o ON b.Book_Id = o.Book_Id
48   GROUP BY b.Title , o.Book_Id
49   ORDER BY Order_Count DESC ;
```

	Title	Book_Id	Order_Count
▶	Robust tangible hardware	88	4
	Pre-emptive intangible adapter	491	4
	Advanced responsive extranet	333	4
	Implemented encompassing conglomeration	31	4
	Integrated secondary access	120	4
	Devolved zero administration process improvem...	273	4
	Realigned multi-tasking installation	73	4
	Switchable modular moratorium	119	3
	Mandatory executive groupware	407	3
	... - - - - -	100	2

Result 30 ×

Insight: Most frequently ordered book; Reveals the top-performing book i.e demand of the book in the market.



```

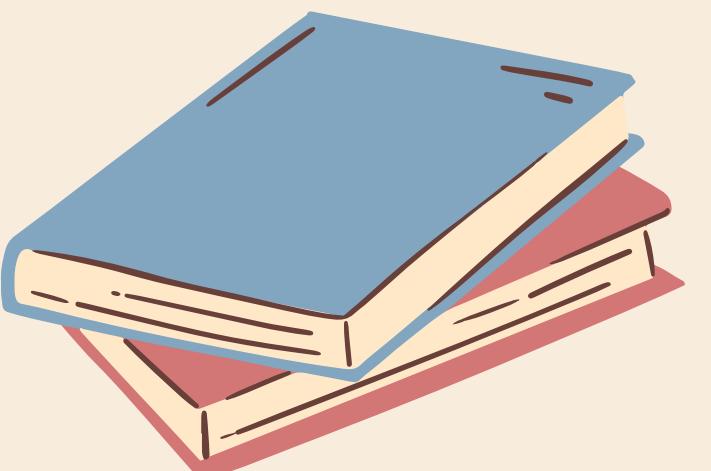
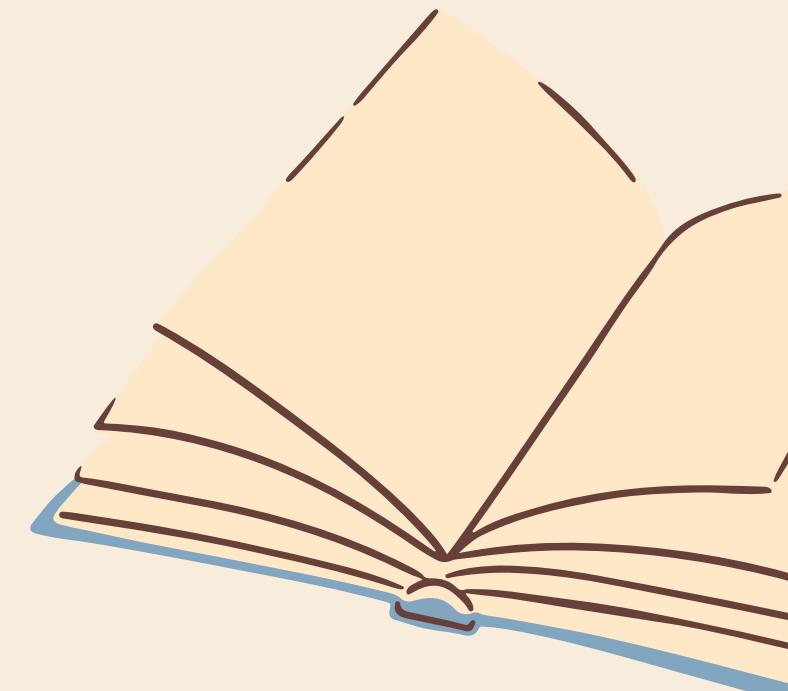
150
151      -- 7) Show the top 3 most expensive books "Fantasy"
152 •  SELECT
153      *
154  FROM
155      Books
156  WHERE
157      Genre = 'Fantasy'
158  ORDER BY Price DESC
159  LIMIT 3;

```

	Book_ID	Title	Author	Genre	Published_Year	Price	Stock
▶	240	Stand-alone content-based hub	Lisa Ellis	Fantasy	1957	49.90	41
	462	Innovative 3rdgeneration database	Allison Contreras	Fantasy	1988	49.23	62
	238	Optimized even-keeled analyzer	Sherri Griffith	Fantasy	1975	48.97	72
●	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Books 31 x

Insight: Top 3 expensive Fantasy books; Displays most expensive Fantasy Books which attract premium customers.



```
.61      -- 8)Retrive the total quantity of books sold by each author:  
.62 •   SELECT  
.63       b.Author, SUM(o.Quantity) AS Total_Quantity  
.64     FROM  
.65       Books AS b  
.66     JOIN  
.67       Orders AS o ON b.Book_Id = o.Book_Id  
.68   GROUP BY b.Author  
.69   ORDER BY Total_Quantity DESC ;  
.70
```

Result Grid | Filter Rows:

	Author	Total_Quantity
▶	Patrick Contreras	28
	Melissa Taylor	27
	Emily James	24
	Thomas Trujillo	24
	Erica Parker	23
	Sheena Harris	23
	Valerie Moore	23
	Ellen Doyle	23
	Rachel Gibbs	22
	Anna Smith	22

Result 36 ×

Insight:Books sold by author; Measures author-wise sales success and reader demand.



```

81
82      -- 9) List the cities where customers who spent over $300 located:
83 •   SELECT
84     DISTINCT c.City, o.Total_Amount
85   FROM
86     Customers AS c
87     JOIN
88     Orders AS o ON c.Customer_Id = o.Customer_Id
89   WHERE
90     o.Total_Amount > '300';
91

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

City	Total_Amount
East David	301.21
Ravenberg	379.71
Davidview	316.26
Erikaberg	446.31
Brandomouth	361.60
Lake Tyler	445.50
Gentryfort	344.80
West Maria	366.66
Angelastad	426.10
Lake Melissa	371.70
South Rach...	378.32
Thomasche...	489.60
Bakerton	320.25
Lake Saman...	307.50

Result 1



- Insight: High-spend customer cities; Highlights cities with most valuable customers .

```
81      --      10)Find the customer who spent the most on orders:  
82 • SELECT  
83     c.Name, c.Customer_Id, SUM(o.Total_Amount) AS Total_spend  
84   FROM  
85     Customers AS c  
86       JOIN  
87     Orders AS o ON c.Customer_Id = o.Customer_Id  
88   GROUP BY c.Name , c.Customer_Id  
89   ORDER BY Total_spend DESC  
90   LIMIT 1;
```

Result Grid | Filter Rows: _____ | Export: | Wrap Cell Content: | Fetch rows:

Name	Customer_Id	Total_spend
Kim Turner	457	1398.90

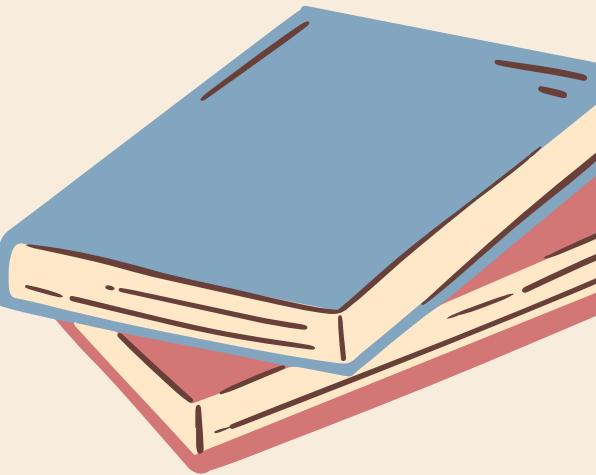


Insight : Top-spending customer: Identifies the biggest revenue contributor.

```

192 -- 11)Calculate the stock remaining after fulfilling all orders;
193 • SELECT
194     b.book_id,
195     b.title,
196     b.stock,
197     COALESCE(SUM(o.quantity), 0) AS Order_quantity,
198     b.stock - COALESCE(SUM(o.quantity),0) AS Stock_Left
199 FROM
200     books AS b
201     LEFT JOIN
202         Orders AS o ON b.book_id = o.book_id
203     GROUP BY b.book_id
204     Order by b.stock desc;

```



Result Grid | Filter Rows: _____ | Export: | Wrap Cell Content: |

	book_id	title	stock	Order_quantity	Stock_Left
▶	1	Configurable modular throughput	100	3	97
	29	Quality-focused multi-tasking challenge	100	4	96
	32	Synergistic dedicated concept	100	10	90
	173	Ergonomic foreground Graphic Interface	100	0	100
	193	Customer-focused tertiary methodology	100	0	100
	254	Team-oriented bandwidth-monitored project	100	4	96
	369	Diverse responsive focus group	100	14	86

Result 47 ×

Insight : Stock remaining after sales; Shows the current inventory level before reorder.

Course of Action

Inventory & Product Strategy

1. Restock low-inventory books .
2. Promote best-selling genres and authors through homepage features or discounts.
3. Introduce new books in high-demand genres like Fiction or Fantasy.
4. Phase out underperforming titles or bundle them with popular books.

Customer Engagement & Retention

1. Segment high-spend customers for premium service and early access to launches.
2. Run targeted campaigns for specific regions (e.g., Canada or top-spending cities).
3. Collect feedback from repeat buyers to guide service improvements.

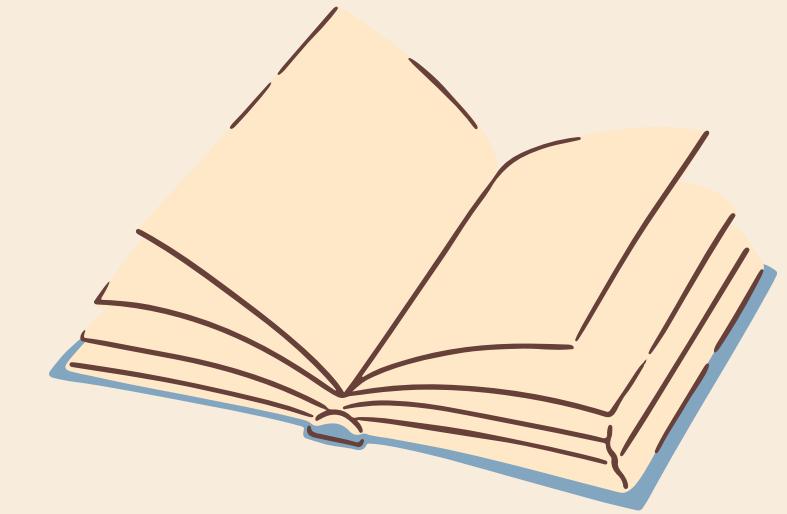
Marketing & Promotions

1. Highlight diverse genre availability in ads to attract a broad audience.
2. Use top-ordered books as lead magnets for social media or referral promotions.
3. Bundle fantasy titles with mid-tier pricing to upsell fantasy enthusiasts.
4. Offer personalized recommendations based on customer order history.

Conclusion

This project successfully leveraged SQL to transform raw bookstore data into actionable business insights. By designing a relational database, executing targeted queries, and interpreting results, we uncovered trends in customer behavior, inventory performance, and revenue generation. These findings lay the foundation for smarter decision-making and a data-driven approach to scaling the online bookstore.

Presentation by
Borcelle Club



THANK YOU



Project By Himanshu.K

