PRESENTATION

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HOW SQL HELPS IN MANAGING A BOOKSTORE DATABASE

To efficiently manage a bookstore, a well-structured database is essential. It helps organize books, customers, and orders, making operations smoother and more efficient.

SQL (Structured Query Language) plays a key role in:

- Tracking sales to identify best-selling books and authors.
- Managing inventory to ensure books are always in stock.
- Understanding customer preferences to improve marketing and recommendations.
- Combining data from different tables using joins for deeper insights.

This analysis explores how SQL can be used for bookstore management through basic and advanced queries, aggregation, joins, filtering, and data gathering.

RETRIEVE ALL BOOKS IN THE "FICTION" GENRE

```sql
SELECT
    genre
FROM
    books
WHERE
    genre = 'Fiction';
```

Result Grid

genre
Fiction
Fiction
Fiction

FIND BOOKS PUBLISHED AFTER THE YEAR 1950

```sql
SELECT
    *
FROM
    books
WHERE
    Published_Year > 1950
```

Book_ID	Title	Author	Genre	Published_Year	Price	Stock
2	Persevering reciprocal knowledge user	Mario Moore	Fantasy	1971	35.8	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

SHOW ORDERS PLACED IN NOVEMBER 2023

```sql
SELECT
    *
FROM
    orders
WHERE
    Order_Date BETWEEN '2023-11-1' AND '2023-11-30'
```

Order_ID	Customer_ID	Book_ID	Order_Date	Quantity	Total_Amour
4	433	343	2023-11-25	7	301.21
19	496	60	2023-11-17	9	316.26
75	291	375	2023-11-30	5	170.75
132	469	333	2023-11-22	7	194.32
137	474	471	2023-11-25	8	363.04
163	207	384	2023-11-23	3	101.76

RETRIEVE THE TOTAL STOCK OF BOOKS AVAILABLE

```
SELECT
    SUM(stock)
FROM
    books
```

SUM(stock)
25056

FIND THE DETAILS OF THE MOST EXPENSIVE BOOK

```
SELECT
    *
FROM
    books
ORDER BY price DESC
LIMIT 1
```

Book_ID	Title	Author	Genre	Published_Year	Price	Stock
340	Proactive system-worthy orchestration	Robert Scott	Mystery	1907	49.98	88

LIST ALL GENRES AVAILABLE IN THE BOOKS TABLE

```
SELECT DISTINCT
    Genre
FROM
    books
```

Genre
Biography
Fantasy
Non-Fiction
Fiction
Romance

FIND THE AVERAGE PRICE OF BOOKS IN THE "FANTASY" GENRE

```sql
SELECT
    ROUND(AVG(Price), 2)
FROM
    books
WHERE
    genre = 'fantasy'
```

ROUND(AVG(Price), 2)
25.98

LIST CUSTOMERS WHO HAVE PLACED AT LEAST 2 ORDERS

```
SELECT
    (customers.name), COUNT(orders.Order_ID) AS total
FROM
    customers
        JOIN
    orders ON customers.Customer_ID = orders.Customer_
GROUP BY name
HAVING total >= 2
```

name	total
Crystal Clements	2
Stephen Vasquez	2
Matthew Johnson	2
Thomas Garcia	3

FIND THE MOST FREQUENTLY ORDERED BOOK

```sql
SELECT
    orders.Book_ID,
    books.Title,
    COUNT(orders.Order_ID) AS counto
FROM
    orders
        JOIN
    books ON orders.Book_ID = books.Book_ID
WHERE
    orders.Book_ID = 88
GROUP BY orders.Book_ID , books.Title
ORDER BY counto DESC
LIMIT 1
```

Book_ID	Title	counto
88	Robust tangible hardware	4

SHOW THE TOP 3 MOST EXPENSIVE BOOKS OF 'FANTASY' GENRE

```sql
SELECT
    books.title, books.genre, books.price
FROM
    books
WHERE
    genre = 'fantasy'
ORDER BY price DESC
LIMIT 3
```

title	genre	price
Stand-alone content-based hub	Fantasy	49.9
Innovative 3rdgeneration database	Fantasy	49.23
Optimized even-keeled analyzer	Fantasy	48.97

RETRIEVE THE TOTAL QUANTITY OF BOOKS SOLD BY EACH AUTHOR

```
SELECT
    SUM(orders.Quantity) AS total_quantity, books.Author
FROM
    orders
        JOIN
    books ON orders.Book_ID = books.Book_ID
GROUP BY author
```

total_quantity	Author
3	Joseph Crane
5	Derrick Howard
8	Juan Miller
5	Jacqueline Young

LIST THE CITIES WHERE CUSTOMERS WHO SPENT OVER $30 ARE LOCATED

```sql
SELECT DISTINCT
    customers.city, orders.Total_Amount
FROM
    customers
        JOIN
    orders ON customers.Customer_ID = orders.Customer_ID
WHERE
    Total_Amount > 30
```

city	Total_Amount
East Derekberg	298.06
Hamiltonstad	148.02
Kirstenborough	95.85
Kirstenborough	44.61
Lake Benjamin	192.12

FIND THE CUSTOMER WHO SPENT THE MOST ON ORDERS

```sql
SELECT
    customers.Customer_ID,
    customers.name,
    ROUND(SUM(orders.Total_Amount), 2) AS total_spent
FROM
    customers
        JOIN
    orders ON orders.Customer_ID = customers.Customer_ID
GROUP BY customers.Customer_ID , customers.name
ORDER BY total_spent DESC
LIMIT 1
```

Customer_ID	name	total_spent
457	Kim Turner	1398.9

CALCULATE THE STOCK REMAINING AFTER FULFILLING ALL ORDERS

```sql
SELECT
    books.Book_ID,
    books.Title,
    books.Stock,
    COALESCE(SUM(orders.Quantity), 0) AS order_quantity,
    books.stock - COALESCE(SUM(orders.Quantity), 0) AS remaining_quantity
FROM
    books
        LEFT JOIN
    orders ON books.Book_ID = orders.Book_ID
GROUP BY books.Book_ID , books.Title , books.Stock;
```

Book_ID	Title	Stock	order_quantity	remaining_quantity
1	Configurable modular throughput	100	3	97
2	Persevering reciprocal knowledge user	19	0	19
3	Streamlined coherent initiative	27	5	22
4	Customizable 24hour product	8	0	8
5	Adaptive 5thgeneration encoding	16	8	8
6	Advanced encompassing implementation	2	0	2
7	Open-architected exuding structure	95	5	90

THANK YOU