

SQL Practice Problems (Beginner to Expert)

Scenario: Online Bookstore

We have a database for an online bookstore with the following tables: **Customers** (customer_id, name, email, city, signup_date) **Books** (book_id, title, author, genre, price, published_year) **Orders** (order_id, customer_id, order_date, total_amount) **OrderDetails** (order_detail_id, order_id, book_id, quantity)

Beginner Level Problems

- 1 Find all customers who live in 'Delhi'.
- 2 List all books that cost more than ₹500.
- 3 Show all orders placed after 1st Jan 2024.
- 4 Display all customers ordered by signup_date (newest first).
- 5 Find books published after 2020.
- 6 Get all customers whose email ends with '@gmail.com'.
- 7 Find the cheapest book in the store.
- 8 Show books written by 'Chetan Bhagat'.
- 9 List all unique genres available in the bookstore.
- 10 Show customers whose name starts with 'A'.

Intermediate Level Problems

- 1 Find total amount spent by each customer.
- 2 List top 5 most expensive books.
- 3 Show each customer and the number of orders they have placed.
- 4 Find the average book price per genre.
- 5 Get all orders and their corresponding customer names.
- 6 Find total sales per month in 2024.
- 7 List all books that have never been ordered.
- 8 Find the number of customers in each city.
- 9 Find the customer with the earliest signup_date.
- 10 Show all authors and how many books they have in the store.

Advanced Level Problems

- 1 Find the customer who spent the maximum money.
- 2 Show each book along with the number of times it has been ordered.
- 3 List the top 3 customers by total spending, per city.
- 4 Find customers who bought books in more than 3 different genres.
- 5 Show each order along with total number of books in it.
- 6 Find books that were ordered by every customer.
- 7 Show all orders where the total_amount > average order total.
- 8 List all books not purchased in 2024.
- 9 Find customers who placed at least 2 orders in the same month.
- 10 Show the bestselling book by quantity.

Expert Level Problems

- 1 Find the running total of sales (month by month).
- 2 Identify customers who have never placed an order.
- 3 Recommend a book: for each customer, suggest a book in the same genre they previously purchased but haven't bought yet.
- 4 Find top 5 books that generated the most revenue.
- 5 Calculate customer retention: number of customers ordering in consecutive years.
- 6 List orders where the total amount was higher than the average order amount for that month.
- 7 Find the most popular genre in each city.
- 8 Using a recursive query, list years from the earliest book published to the current year.
- 9 Find the top author by sales in each year.
- 10 Calculate the percentage contribution of each genre to total revenue.