

# SQL Problems

1. Total sales and profit per customer
2. Calculates total sales, total profit, and the number of orders for each customer.
3. Lists all order details and their associated customer names. Orders that do not have corresponding customer records will still appear in the results.
4. Customer information and their total sales. Customers without sales records will still be included in the results.
5. Total sales and the number of products sold for each product category
6. Calculates the average discount and profit for each product.
7. Calculates total sales and profit for each region.
8. Identifies customers who placed more than one order.
9. Calculates total sales for each customer segment.
10. Finds the top 5 products with the highest total profit.
11. Calculates total sales for each shipping mode.
12. Calculates the lifetime value of each customer by aggregating total sales and profit over their order history.
13. Identifies customers who haven't placed any orders in the past two years, potentially marking them as churned customers.
14. Identifies products that have generated the most profit relative to their sales, highlighting high-profit products.
15. shows the cities that have contributed the most to profit, helping you identify key areas of success.
16. Calculates the average value of orders across different shipping modes to determine which shipping methods are most profitable.
17. Calculates the year-over-year sales growth for each customer segment.
18. Calculates the retention rate of customers by comparing the number of customers placing orders in consecutive years.
19. Breakdown of total sales by product category and subcategory, and it calculates the contribution of each subcategory to its parent category.
20. Calculate the year-over-year (yoy) sales growth for each product category.
21. Calculates the rolling 3-month average sales for each region.
22. Identifies the top n products by profit growth over time using window functions and a ranking system.
23. Calculates the month-over-month sales growth for each customer using a recursive cte and window functions. It tracks the difference in sales between consecutive months.
24. Extracts the first three digits of the postal code to identify which regions (based on postal code prefixes) contribute the most to sales.
25. Total sales by gender and age group
26. Monthly order trends by gender
27. Identifying products shipped to customers
28. Most popular payment method by region
29. Average age of customers by product category
30. Identifying high-value customers

