Sales Data Aggregation & Reporting Using SQL Grouping Techniques

Project Title:

Sales Data Aggregation & Reporting Using SQL Grouping Techniques

Overview:

This project demonstrates expert-level SQL proficiency in data aggregation, reporting, and business summary generation. Using a realistic sales dataset, the project solves real-world problems related to sales performance, regional comparisons, trend tracking, and top-seller identification.

It showcases mastery over `GROUP BY`, `ROLLUP`, `CUBE`, and `GROUPING SETS`, as well as modern reporting patterns using window functions, conditional labels, CTEs, and percent-based calculations.

Skills Demonstrated:

- SQL Aggregation: SUM, AVG, MIN, MAX, COUNT
- Grouping Extensions: ROLLUP, CUBE, GROUPING SETS
- Dynamic Subtotals, Grand Totals, and Conditional Labels
- Monthly & Yearly Time Series Reporting
- Regional and Product-wise Performance Analysis
- Top/Bottom N Queries Using Ranking
- CTEs and JOINs for contribution analysis
- Percent-of-total calculations and formatting
- Most diverse seller and salesperson contribution analytics

Key Highlights:

1. Track total, average, and highest/lowest sales with basic aggregations.

2. Compare sales across products, regions, and time (month/year).

3. Use `GROUPING SETS` and `ROLLUP` to generate subtotals and grand totals.

4. Replace `NULL` values in grouped results with meaningful labels like “All Products” and “Grand Total”.

5. Identify top-performing products and salespersons within each region.

6. Calculate % contribution of products and people to regional revenue using both CTEs and window functions.

7. Deliver detailed and high-level summaries ideal for business dashboards.

Ideal For:

Clients needing SQL support for BI dashboards, sales reporting, financial summaries, or data warehouse reporting logic.