SQL - PROJECT

Walmart Sales Data Analysis

- This project explores Walmart's sales dataset using SQL to uncover insights into sales performance, customer behavior, and product trends. The dataset contains transactional details including branch, city, product line, unit price, quantity, gross income, payment methods, and customer ratings.
- And using **SQL** to answer 21 business questions, ranging from basic aggregations to advanced analytics using **CTEs** and **window functions**.

Business Questions Solved

1. View the first 10 rows of the dataset.
2. Calculate total sales for the whole dataset.
3. Find total quantity sold per product line.
4. Compute average customer rating per branch.
5. Show sales per city.
6. Identify the most popular payment method.
7. Find the highest gross income by product line.
8. Analyze daily sales trends.
9. Calculate the average unit price by product line.
10. Count number of transactions per customer type.
11. Show sales split by gender.
12. Identify the branch with the highest total sales.
13. Compute average gross margin percentage per branch.
14. List top 5 dates with the highest sales.
15. Find average quantity sold per transaction by product line.
16. Compare product line performance by branch.
17. Identify the most purchased product line by male customers.
18. List transactions with unit price above the average.
19. Identify branches with the highest average customer ratings.

20. Use CTE & RANK() to get top 3 product lines by total sales in each branch.
21. Use CTE & RANK() to find best-selling product line for each city.

Techniques Used

- **Data Aggregation:** SUM(), AVG(), ROUND()
- **Grouping & Sorting:** GROUP BY, ORDER BY
- **Filtering:** WHERE, subqueries
- **Window Functions:** RANK(), PARTITION BY, OVER()
- **CTEs:** For ranking and advanced analysis

Key Insights

- Identified **top products and branches** driving revenue.
- Analyzed **payment method preferences** across regions.
- Discovered **high-rating branches** and their performance.
- Used **trend analysis** to observe sales growth patterns.