GRADUATE BUSINESS SCHOOL DATASET PROJECT

Project Introduction

This project is designed to refresh your memory on the concepts you've learned and to challenge you to explore new ideas beyond the course content. While collaboration with your peers is encouraged, I strongly recommend that you put in the effort to solve the tasks independently before seeking help. The process of figuring things out on your own will deepen your understanding and enhance your problem-solving skills.

Remember, the purpose of this project is not just to assess your current knowledge, but also to cultivate a growth mindset—the ability to seek out and learn new concepts on your own. Don't hesitate to use online resources, documentation, and forums as you work through the tasks. These are valuable skills in the real world, where knowing how to find the answer is just as important as knowing the answer itself.

Take this as an opportunity to challenge yourself, build confidence, and showcase your skills! You'll be sharing your work on GitHub and LinkedIn, so make sure to put your best effort into the project. Let it be a testament to your dedication and readiness to advance in the field of data analysis.

BUSINESS QUESTIONS

1. Data Retrieval and Filtering:

- Write a query to retrieve all orders shipped to the state of "California" that used "Second Class" shipping mode. Include `Order ID`, `Customer Name`, `Sales`, and `Profit`.
- Find all orders placed between "2013-01-01" and "2013-12-31" where the `Category` is "Furniture" and the `Profit` is greater than 100. Display the `Order ID`, `Order Date`, `Product Name`, and `Profit`.
- Write a query to list all unique `Ship Modes` and the number of orders shipped through each mode, sorted in descending order of order count.

2. Aggregations and Grouping:

- Calculate the total `Sales` and `Profit` for each `Category` and `Sub-Category`. Display the results in descending order of total `Sales`.
- Find the top 3 customers in terms of total `Sales` in each `Region`. Display `Customer Name`, `Region`, and `Total Sales`.
- Write a query to determine which `City` has the highest average `Profit` per order, and display the top 5 cities with the highest average.

3. Joins and Subqueries:

- Write a query to find the `Product Name` and `Category` of the most frequently ordered product (the one with the highest total `Quantity`).
- Use a subquery to find all orders where the `Sales` amount is greater than the average `Sales` for that specific `Category`.
- Write a query to find customers who have placed orders in both the "Corporate" and "Consumer" segments. Display their `Customer ID` and `Customer Name`.

4. Data Updates:

- Update the `Ship Mode` of all orders shipped in "Kentucky" with a `Discount` of 0 to "Standard Class".
- Write a query to adjust the `Discount` to 0.3 for all products in the "Office Supplies" category that have a `Profit` less than zero.
- Write a query to increase the `Quantity` by 1 for all orders that have `Sales` greater than 500 but have a `Quantity` of 2 or less.

5. Complex Conditions:

- Find orders where the `Profit` is negative, but the `Sales` amount is above the average `Sales` of all orders. Display `Order ID`, `Customer Name`, `Sales`, and `Profit`.
- Write a query to calculate the `Profit` margin (as `Profit/Sales`) for each `Product ID` and find the top 5 products with the highest profit margin.
- Write a query to find all `Order IDs` where the `Ship Date` is more than 5 days after the `Order Date`. Display `Order ID`, `Order Date`, `Ship Date`, and the `days difference`.

6. Bonus Challenge:

- Write a query to find the total `Sales` and `Profit` contribution for each `Segment` by year. Display the results with `Year`, `Segment`, `Total Sales`, and `Total Profit`.
- Identify the `Sub-Category` with the most orders where `Discount` was applied. Display the `Sub-Category`, the total number of such orders, and the average `Discount` given in those cases.

Submission Instructions

1. Upload the Project to GitHub:

- Create a repository named `Graduate-school-business-dataset`(or any name of your choice) on GitHub.

- Upload all the SQL scripts.

2. Share on LinkedIn:

- Write a post describing your experience with this project, what you learned, and include a link to your GitHub repository.

- Use relevant hashtags like `MySQL`, `DataAnalytics`, `SQLProject`

3. Share in the WhatsApp Group:

- Send the linkedin post link to the whatsapp group.