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SQL Project #2 - SaaS Sales Analysis

Context:

This data analytics project uses SQL to examine sales data from a fictitious Software-as-a-Service (SaaS) company. I decided this would be a great way to conduct analyses I am already comfortable with, but using a tool I haven't had the opportunity to leverage in a business setting. I will be asking myself some standard questions and answering them through analyzing the data with SQL.

Environment:

I am running my SQL queries using **Google BigQuery**. I think it is a great opportunity to familiarize myself with a new platform and display my SQL skills.

Data:

The data set I am using displays the global sales of SaaS products, customers, sales reps, and other common fields such as segment, region and more. I extracted the dataset (~10K rows) from Kaggle.com. I choose SaaS sales data because it is aligned with the area of work I have experience in--SalesOps/BizOps/RevOps. I included the CSV file for reference.

Functions Used:

- CTEs
- Window Functions
- Aggregates (SUM, AVG)
- GROUP BY, ORDER BY, LIMIT, IN

Questions:

1. Which sales rep has the highest total sales?
2. Which sales rep has the highest average sales?
3. What are the top 5 sold products?
4. Which sales reps have the lowest profit in each segment (SMB, Strategic, Enterprise)?
5. What are the top selling products in the United States, Germany, and Japan?
6. Display the top 3 sales reps for each segment based on total sales. Also include the total quantity sold and total profits for each rep.

Work & Results:

```
---Which sales rep has the highest total sales?---
SELECT Contact_name, ROUND(SUM(` Sales `),2) AS `Total Sales` FROM `sales_data.saas_sales`
GROUP BY Contact_name
ORDER BY `Total Sales` DESC
LIMIT 1;
---Diane Murray had the highest total sales at 25,043.07---
```

Row	Contact_name	Total Sales
1	Diane Murray	25043.07

```
---Which sales rep has the highest average sales?---
SELECT Contact_name, ROUND(AVG(` Sales `),2) AS `Average Sales` FROM `sales_data.saas_sales`
GROUP BY Contact_name
ORDER BY `Average Sales` DESC
LIMIT 1;
---Megan Smith had the highest average sales at 1751.29---
```

Row	Contact_name	Average Sales
1	Megan Smith	1751.29

```
---What are the top 5 sold products?---
SELECT Product, ROUND(SUM(` Sales `),2) AS `Total Sales`, COUNT(Product) AS `Count Sold` FROM
`sales_data.saas_sales`
GROUP BY Product
ORDER BY `Total Sales` DESC
LIMIT 5;
--- ContactMatcher, FinanceHub, Site Analytics, Marketing Suite - Gold, and Big OI Database are the
top 5 selling products.---
```

Row	Product	Total Sales	Count Sold
1	ContactMatcher	410378.45	1842
2	FinanceHub	340935.43	981
3	Site Analytics	330007.1	889
4	Marketing Suite - Gold	223843.59	846
5	Big Ol Database	189238.68	115

```sql
---Which sales reps have the lowest profit in each segment (SMB, Strategic, Enterprise)?---
WITH RankedProfits AS(
 SELECT Contact_name, Segment, ROUND(SUM(` Profit `),2) AS `Total Profit`,
 ROW_NUMBER() OVER(PARTITION BY Segment ORDER BY ROUND(SUM(` Profit `),2)) AS rank
 FROM `sales_data.saas_sales`
 GROUP BY Contact_name, Segment
)
SELECT Contact_name, Segment,`Total Profit`
FROM RankedProfits
WHERE rank = 1
ORDER BY `Total Profit` ASC;
---Faith C., Emily F., and Joshua V. had the lowest profits in their respective segments.---
```

Row	Contact_name	Segment	Total Profit
1	Faith Campbell	SMB	-6626.37
2	Emily Fisher	Strategic	-4108.66
3	Joshua Vaughan	Enterprise	-3333.91

```sql
---What are the top selling products in the United States, Germany, and Japan?---
WITH RankedSales AS(
 SELECT Country, Product, ROUND(SUM(` Sales `),2 ) AS `Total Sales`,
 ROW_NUMBER() OVER(PARTITION BY Country ORDER BY ROUND(SUM(` Sales `),2 ) DESC ) AS rank
 FROM `sales_data.saas_sales`
 WHERE Country IN ('United States','Germany','Japan')
 GROUP BY Country, Product
)
SELECT Country, Product, `Total Sales`
FROM RankedSales
WHERE rank = 1
ORDER BY Country, `Total Sales` DESC;
---The top selling products in the US, GR, and JP are: US<>ContactMatcher, GR<>Big OI Database, and
JP<>Site Analytics. ---
```

Row	Country	Product	Total Sales
1	Germany	Big Ol Database	24573.95
2	Japan	Site Analytics	28589.57
3	United States	ContactMatcher	73903.35

```
---Display the top 3 sales reps for each segment based on total sales. Also include the total
quantity sold and total profits for each rep. ---
WITH RankedSales AS(
SELECT Contact_name, Segment,
ROUND(SUM(` Sales `),2) AS `Total Sales`,
SUM(Quantity) AS `Total Count`,
SUM(` Profit `) AS `Total Profits`,
ROW_NUMBER() OVER(PARTITION BY Segment ORDER BY ROUND(SUM(` Sales `),2) DESC) AS rank
FROM `sales_data.saas_sales`
GROUP BY Contact_name, Segment
)
SELECT Contact_name, Segment,`Total Sales`, `Total Count`, `Total Profits`
FROM RankedSales
WHERE rank = 1
ORDER BY `Total Sales` DESC;
---Diane M., Nicholas S., and Cameron M. were the highest selling sales reps in each segment---
```

Row	Contact_name	Segment	Total Sales	Total Count	Total Profits
1	Diane Murray	Enterprise	25043.07	50.0	-1980.75
2	Nicholas Skinner	Strategic	19052.22	42.0	8981.32
3	Cameron MacLeod	SMB	15117.35	71.0	6976.09