SQL CASE STUDY - CHALLENGE 1

TITLE : Steve's Car Showroom Data Analysis

INTRODUCTION

In this presentation, we analyze data for Steve's high-end car showroom due to the departure of his data analyst. Our goal is to extract valuable insights from the dataset, enabling Steve to make informed decisions and improve his business performance

Certainly, here are the key points :

- Our analysis is centered on Steve's car showroom.
- The dataset is from @Steel Data and @Matthew Steel challenge.
- Our main objective is to answer crucial questions about sales and revenue
- We address various questions, e.g., cars purchased in 2022, salespeople performance, and revenue by car type.
- The goal is to provide Steve with a comprehensive view of his showroom's enabling data-driven decisions for future success.

HERE ARE THE TABLE WE WILL BE USING :

sales

sale_id	car_id	salesman_id	purchase_date
1	1	1	2021-01-01
2	3	3	2021-02-03
3	2	2	2021-02-10
4	5	4	2021-03-01
5	8	1	2021-04-02
6	2	1	2021-05-05
7	4	2	2021-06-07
8	5	3	2021-07-09
9	2	4	2022-01-01
10	1	3	2022-02-03
11	8	2	2022-02-1-
12	7	2	2022-03-01
13	5	3	2022-04-02
14	3	1	2022-05-05
15	5	4	2022-06-07
16	1	2	2022-07-09
17	2	3	2023-01-01
18	6	3	2023-02-03
19	7	1	2023-02-10
20	4	4	2023-03-01

cars

car_id	make	type	style	cost_$
1	Honda	Civic	Sedan	30000
2	Toyota	Corolla	Hatchback	25000
3	Ford	Explorer	SUV	40000
4	Chevrolet	Camaro	Coupe	36000
5	BMW	X5	SUV	55000
6	Audi	A4	Sedan	48000
7	Mercedes	C-Class	Coupe	60000
8	Nissan	Altima	Sedan	26000

salespersons

salesman_id	name	age	city
1	John Smith	28	New York
2	Emily Wong	35	San Fran
3	Tom Lee	42	Seattle
4	Lucy Chen	31	LA

# Question 1: Details of Cars Purchased in 2022 ?

Query SQL

```sql
1 select c.* ,s.sale_id, sp.*,purchase_date
2 from cars  c
3 right join sales s
4 using (car_id)
5 join salespersons sp
6 using(salesman_id)
7 where year(purchase_date)=2022
8 order by purchase_date;
9
```

Question 1: Details of Cars Purchased in 2022 ?

OUTPUT

car_id	make	type	style	cost_$	sale_id	purchase_date	salesman_id	name	age	city
2	Toyota	Corolla	Hatchback	25000	9	2022-01-01	4	Lucy Chen	31	LA
1	Honda	Civic	Sedan	30000	10	2022-02-03	3	Tom Lee	42	Seattle
8	Nissan	Altima	Sedan	26000	11	2022-02-10	2	Emily Wong	35	San Fran
7	Mercedes	C-Class	Coupe	60000	12	2022-03-01	2	Emily Wong	35	San Fran
5	BMW	X5	SUV	55000	13	2022-04-02	3	Tom Lee	42	Seattle
3	Ford	Explorer	SUV	40000	14	2022-05-05	1	John Smith	28	New York
5	BMW	X5	SUV	55000	15	2022-06-07	4	Lucy Chen	31	LA
1	Honda	Civic	Sedan	30000	16	2022-07-09	2	Emily Wong	35	San Fran
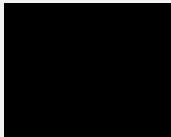
Question 2: Total Number of Cars Sold by Each Salesperson ?

```sql
Query SQL ●

1 select sp.*,count(*) as no_of_cars_sold from sales s
2 left join salespersons sp
3 using (salesman_id)
4 group by salesman_id
5 order by no_of_cars_sold desc;
```

OUTPUT

salesman_id	name	age	city	no_of_cars_sold
3	Tom Lee	42	Seattle	6
1	John Smith	28	New York	5
2	Emily Wong	35	San Fran	5
4	Lucy Chen	31	LA	4

Question 3: Total Revenue Generated by Each Salesperson ?

Query SQL ●

```sql
1
2    select sp.name ,sum(cost_$) as revenue_generated
3    from sales s
4    left join salespersons sp
5    using (salesman_id)
6    left join cars c
7    using (car_id)
8    group by sp.name
9    order by revenue_generated;
```

Question 3: Total Revenue Generated by Each Salesperson ?

OUTPUT

| name	revenue_generated
Lucy Chen	171000
Emily Wong	177000
John Smith	181000
Tom Lee	253000
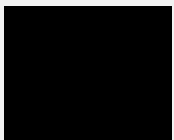
Question 4: Details of Cars Sold by Each Salesperson ?

Query SQL ●

```sql
select s.salesman_id ,sp.name , c.*
from sales s
left join salespersons sp
using (salesman_id)
left join cars c
using (car_id)
order by salesman_id;
```

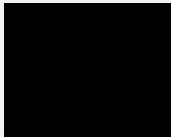# Question 4: Details of Cars Sold by Each Salesperson ?

OUTPUT

salesman_id	name	car_id	make	type	style	cost_$
1	John Smith	7	Mercedes	C-Class	Coupe	60000
1	John Smith	3	Ford	Explorer	SUV	40000
1	John Smith	2	Toyota	Corolla	Hatchback	25000
1	John Smith	8	Nissan	Altima	Sedan	26000
1	John Smith	1	Honda	Civic	Sedan	30000
2	Emily Wong	1	Honda	Civic	Sedan	30000
2	Emily Wong	7	Mercedes	C-Class	Coupe	60000
2	Emily Wong	8	Nissan	Altima	Sedan	26000
2	Emily Wong	4	Chevrolet	Camaro	Coupe	36000
2	Emily Wong	2	Toyota	Corolla	Hatchback	25000
3	Tom Lee	1	Honda	Civic	Sedan	30000
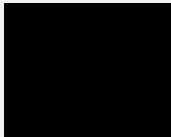
Question 4: Details of Cars Sold by Each Salesperson ?

OUTPUT

| 3	Tom Lee	5	BMW	X5	SUV	55000
3	Tom Lee	3	Ford	Explorer	SUV	40000
3	Tom Lee	6	Audi	A4	Sedan	48000
3	Tom Lee	2	Toyota	Corolla	Hatchback	25000
3	Tom Lee	5	BMW	X5	SUV	55000
4	Lucy Chen	4	Chevrolet	Camaro	Coupe	36000
4	Lucy Chen	5	BMW	X5	SUV	55000
4	Lucy Chen	2	Toyota	Corolla	Hatchback	25000
4	Lucy Chen	5	BMW	X5	SUV	55000

Question 5: Details of Cars Sold in 2021 by Emily Wong?

Query SQL ●

```sql
1  select sp.salesman_id,s.purchase_date,sp.name , c.* from sales s
2  left join salespersons sp
3  using (salesman_id)
4  left join cars c
5  using (car_id)
6  where  sp.name = "emily wong"
7  and year(purchase_date)=2021;
```

OUTPUT

| salesman_id	name	purchase_date	car_id	make	type	style	cost_$
2	Emily Wong	2021-02-10	2	Toyota	Corolla	Hatchback	25000
2	Emily Wong	2021-06-07	4	Chevrolet	Camaro	Coupe	36000
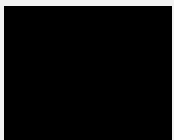
Question 6 : Total Revenue Generated by Hatchback Cars?

```sql
Query SQL ●

1  select c.style ,sum(cost_$) as revenue   from sales s
2  left join cars c
3  using (car_id)
4  where style ="hatchback"
5  group by car_id;
```

OUTPUT

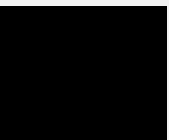| style	revenue
Hatchback	100000
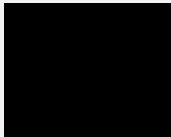
Question 7 : Total Revenue Generated by SUV Cars in 2022?

Query SQL ●

```sql
1 select c.style,sum(cost_$) as revenue from sales s
2 left join cars c
3 using (car_id)
4 where style="suv" and year(purchase_date)=2022
5 group by style;
```

OUTPUT

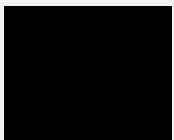| style	revenue
SUV	150000

Question 8 : Salesperson Who Sold the Most Cars in 2023?

Query SQL ●

```sql
1  select sp.name,sp.city , count(car_id) as carsold from sales s
2  left join salespersons sp
3  using (salesman_id)
4  where year(purchase_date)=2023
5  group by salesman_id
6  order by carsold desc
7  limit 1;
```

OUTPUT

name	city	carsold
Tom Lee	Seattle	2

Question 9 : Salesperson Who Generated Highest Revenue in 2022 ?

Query SQL ●

```sql
 1 select sp.name,sp.age , sum(cost_$) as revenue
 2 from sales s
 3 left join salespersons sp
 4 using (salesman_id)
 5 left join cars c
 6 using (car_id)
 7 where year(purchase_date)=2022
 8 group by salesman_id
 9 order by revenue desc
10 limit 1;
```

OUTPUT

name	age	revenue
Emily Wong	35	116000