SQL CASE STUDY

Steve's Car Showroom (Challenge-1)

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CONTENTS

01 Overview

Steve runs a top-end car showroom but his data analyst has just quit and left him without his crucial insights.

My task is to analyse the following data to provide him with all the answers he requires.

02 Tables

Three tables are there :

1. Sales
2. Cars
3. Salesperson

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

1. What are the details of all cars purchased in the year 2022?

SQL Statements:

```
SELECT *
FROM DATACOACH.CARS C
JOIN DATACOACH.SALES S ON C.CAR_ID = S.CAR_ID
WHERE YEAR(SALE.PURCHASE_DATE) = 2022;
```

Output:

car_id	make	type	style	cost_$	sale_id	car_id	salesman_id	purchase_date
1	Honda	Civic	Sedan	30000	10	1	3	2022-02-03
1	Honda	Civic	Sedan	30000	16	1	2	2022-07-09
2	Toyota	Corolla	Hatchback	25000	9	2	4	2022-01-01
3	Ford	Explorer	SUV	40000	14	3	1	2022-05-05
5	BMW	X5	SUV	55000	13	5	3	2022-04-02
5	BMW	X5	SUV	55000	15	5	4	2022-06-07
7	Mercedes	C-Class	Coupe	60000	12	7	2	2022-03-01
8	Nissan	Altima	Sedan	26000	11	8	2	2022-02-10

2. What is the total number of cars sold by each salesperson?

SQL Statements:

```
SELECT SP.SALESMAN_ID AS ID,SP.NAME AS NAME, COUNT(S.SALE_ID) AS TOTAL_CAR_SOLD
FROM DATACOACH.SALESPERSONS SP
JOIN DATACOACH.SALES S ON SP.SALESMAN_ID = S.SALESMAN_ID
GROUP BY SP.SALESMAN_ID,SP.NAME;
```

Output:

ID	NAME	TOTAL_CAR_SOLD
1	John Smith	5
2	Emily Wong	5
3	Tom Lee	6
4	Lucy Chen	4

3. What is the total revenue generated by each salesperson?

SQL Statements:

```
SELECT SP.SALESMAN_ID,SP.NAME , SUM(C.COST_$) Total_Revenue
FROM DATACOACH.SALESPERSONS SP
JOIN DATACOACH.SALES S ON SP.SALESMAN_ID = S.SALESMAN_ID
JOIN DATACOACH.CARS C ON S.CAR_ID = C.CAR_ID
GROUP BY SP.SALESMAN_ID,SP.NAME;
```

Output:

SALESMAN_ID	NAME	Total_Revenue
1	John Smith	181000
2	Emily Wong	177000
3	Tom Lee	253000
4	Lucy Chen	171000

4. What are the details of the cars sold by each salesperson?

SQL Statements:

```
SELECT SP.salesman_id AS ID,SP.name AS NAME, c.*
FROM datacoach.salespersons SP
JOIN datacoach.sales S ON SP.salesman_id = S.salesman_id
JOIN datacoach.cars c on s.car_id = c.car_id;
```

Output:

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

5. What is the total revenue generated by each car type?

SQL Statements:

```
SELECT c.car_id AS CAR_ID,c.type AS CAR_TYPE , sum(c.cost_$) AS REVENUE
FROM datacoach.cars c
JOIN datacoach.sales s on c.car_id=s.car_id
group by c.car_id,c.type;
```

Output:

CAR_ID	CAR_TYPE	REVENUE
1	Civic	90000
2	Corolla	100000
3	Explorer	80000
4	Camaro	72000
5	X5	220000
6	A4	48000
7	C-Class	120000
8	Altima	52000

6. What are the details of the cars sold in the year 2021 by salesperson 'Emily Wong'?

SQL Statements:

```
SELECT sp.salesman_id,c.*, s.purchase_date
from datacoach.cars c
join datacoach.sales s on c.car_id=s.car_id
join datacoach.salespersons sp on s.salesman_id = sp.salesman_id
where sp.name = 'Emily Wong'
and year(s.purchase_date)= 2021;
```

Output:

salesman_id	car_id	make	type	style	cost_$	purchase_date
2	2	Toyota	Corolla	Hatchback	25000	2021-02-10
2	4	Chevrolet	Camaro	Coupe	36000	2021-06-07

7. What is the total revenue generated by the sales of hatchback cars?

SQL Statements:

```
select c.style,sum(c.cost_$) as Total_Revenue
from datacoach.cars c
join datacoach.sales s on c.car_id=s.car_id
where c.style= 'Hatchback'
group by c.style;
```

Output:

	style	Total_Revenue
▶	Hatchback	100000

8. What is the total revenue generated by the sales of SUV cars in the year 2022?

SQL Statements:

```
select c.style,sum(c.cost_$) as Total_Revenue
from datacoach.cars c
join datacoach.sales s on c.car_id=s.car_id
where c.style= 'SUV'
and year(s.purchase_date)=2022
group by c.style;
```

Output:

	style	Total_Revenue
▶	SUV	150000

9. What is the name and city of the salesperson who sold the most number of cars in the year 2023?

SQL Statements:

```
select sp.name,sp.city,count(s.sale_id) as Sales
FROM datacoach.salespersons sp
join datacoach.sales s on sp.salesman_id = s.salesman_id
where year(s.purchase_date) =2023
group by sp.name,sp.city
order by Sales desc
limit 1;
```

Output:

	name	city	Sales
▶	Tom Lee	Seattle	2

10. What is the name and age of the salesperson who generated the highest revenue in the year 2022?

SQL Statements:

```
select sp.name, sp.age, sum(c.cost_$) as Revenue
FROM datacoach.salespersons sp
join datacoach.sales s on sp.salesman_id = s.salesman_id
join datacoach.cars c on s.car_id=c.car_id
where year(s.purchase_date) =2022
group by sp.name,sp.age
order by Revenue desc
limit 1;
```

Output:

	name	age	Revenue
▶	Emily Wong	35	116000

THANK YOU