



# STEVE'S CAR SHOWROOM SQL CHALLENGE

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# INTRODUCTION

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



# TABLES

## 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?

```
SELECT SALES.CAR_ID, COUNT(SALES.CAR_ID) AS TOTAL_NUMBER_OF_CARS,  
       MAKE, TYPE, STYLE, COST_$, SUM(COST_$) AS TOTAL_$  
FROM SALES  
JOIN CARS  
ON CARS.CAR_ID = SALES.CAR_ID  
WHERE YEAR(PURCHASE_DATE) = '2022'  
GROUP BY SALES.CAR_ID;
```

CAR_ID	TOTAL_NUMBER_OF_CARS	MAKE	TYPE	STYLE	COST_\$	TOTAL_\$
1	2	Honda	Civic	Sedan	30000	60000
2	1	Toyota	Corolla	Hatchback	25000	25000
3	1	Ford	Explorer	SUV	40000	40000
5	2	BMW	X5	SUV	55000	110000
7	1	Mercedes	C-Class	Coupe	60000	60000
8	1	Nissan	Altima	Sedan	26000	26000

## 2. WHAT IS THE TOTAL NUMBER OF CARS SOLD BY EACH SALESPERSON?

```
SELECT SP.SALESMAN_ID, NAME, COUNT(CAR_ID) NUMBER_OF_CARS_SOLD
FROM SALES
JOIN SALESPERSONS SP
ON SP.SALESMAN_ID = SALES.SALESMAN_ID
GROUP BY SP.SALESMAN_ID
ORDER BY SP.SALESMAN_ID;
```

SALESMAN_ID	NAME	NUMBER_OF_CARS_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?

```
SELECT SALES.SALESMAN_ID, NAME, SUM(COST_$) AS REVENUE
FROM SALES
JOIN CARS ON SALES.CAR_ID = SALES.CAR_ID
JOIN SALESPERSONS ON SALESPERSONS.SALESMAN_ID = SALES.SALESMAN_ID
GROUP BY SALES.SALESMAN_ID, NAME
ORDER BY SALES.SALESMAN_ID;
```

SALESMAN_ID	NAME	REVENUE
1	John Smith	1600000
2	Emily Wong	1600000
3	Tom Lee	1920000
4	Lucy Chen	1280000

## 4. WHAT ARE THE DETAILS OF THE CARS SOLD BY EACH SALESPERSON?

```
SELECT SALES.SALESMAN_ID, NAME, SALES.CAR_ID, COUNT(SALES.CAR_ID) AS NUMBER_OF_CARS,  
       MAKE, TYPE, STYLE, SUM(COST_$) AS PRICE  
FROM SALES  
JOIN CARS ON SALES.CAR_ID = CARS.CAR_ID  
JOIN SALESPERSONS ON SALESPERSONS.SALESMAN_ID = SALES.SALESMAN_ID  
GROUP BY SALES.SALESMAN_ID, SALES.CAR_ID;
```

SALESMAN_ID	NAME	CAR_ID	NUMBER_OF_CARS	MAKE	TYPE	STYLE	PRICE
1	John Smith	1	1	Honda	Civic	Sedan	30000
1	John Smith	8	1	Nissan	Altima	Sedan	26000
1	John Smith	2	1	Toyota	Corolla	Hatchback	25000
1	John Smith	3	1	Ford	Explorer	SUV	40000
1	John Smith	7	1	Mercedes	C-Class	Coupe	60000
2	Emily Wong	2	1	Toyota	Corolla	Hatchback	25000
2	Emily Wong	4	1	Chevrolet	Camaro	Coupe	36000
2	Emily Wong	8	1	Nissan	Altima	Sedan	26000
2	Emily Wong	7	1	Mercedes	C-Class	Coupe	60000
2	Emily Wong	1	1	Honda	Civic	Sedan	30000
3	Tom Lee	3	1	Ford	Explorer	SUV	40000
3	Tom Lee	5	2	BMW	X5	SUV	110000
3	Tom Lee	1	1	Honda	Civic	Sedan	30000
3	Tom Lee	2	1	Toyota	Corolla	Hatchback	25000
3	Tom Lee	6	1	Audi	A4	Sedan	48000
4	Lucy Chen	5	2	BMW	X5	SUV	110000
4	Lucy Chen	2	1	Toyota	Corolla	Hatchback	25000
4	Lucy Chen	4	1	Chevrolet	Camaro	Coupe	36000

## 5. WHAT IS THE TOTAL REVENUE GENERATED BY EACH CAR TYPE?

```
SELECT S.CAR_ID, TYPE, SUM(COST_$) AS REVENUE
FROM SALES S
JOIN CARS ON S.CAR_ID = CARS.CAR_ID
GROUP BY S.CAR_ID
ORDER BY S.CAR_ID;
```

CAR_ID	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'?

```
SELECT SALES.SALESMAN_ID, NAME, SALES.CAR_ID, MAKE, TYPE, STYLE, COST_$  
FROM SALES  
JOIN CARS ON SALES.CAR_ID = CARS.CAR_ID  
JOIN SALESPERSONS ON SALESPERSONS.SALESMAN_ID = SALES.SALESMAN_ID  
WHERE NAME = 'Emily Wong' AND YEAR(PURCHASE_DATE) = '2021';
```

SALESMAN_ID	NAME	CAR_ID	MAKE	TYPE	STYLE	COST_\$
2	Emily Wong	2	Toyota	Corolla	Hatchback	25000
2	Emily Wong	4	Chevrolet	Camaro	Coupe	36000

## 7. WHAT IS THE TOTAL REVENUE GENERATED BY THE SALES OF HATCHBACK CARS?

```
SELECT STYLE, SUM(COST_$) AS REVENUE
FROM SALES S
JOIN CARS ON CARS.CAR_ID = S.CAR_ID
WHERE STYLE = 'Hatchback'
GROUP BY STYLE;
```

STYLE	REVENUE
Hatchback	100000

## 8. WHAT IS THE TOTAL REVENUE GENERATED BY THE SALES OF SUV CARS IN THE YEAR 2022?

```
SELECT STYLE, SUM(COST_$) AS REVENUE
FROM SALES S
JOIN CARS ON CARS.CAR_ID = S.CAR_ID
WHERE STYLE = 'SUV' AND YEAR(PURCHASE_DATE) = '2022'
GROUP BY STYLE;
```

STYLE	REVENUE
SUV	150000

## 9. WHAT IS THE NAME AND CITY OF THE SALESPERSON WHO SOLD THE MOST NUMBER OF CARS IN THE YEAR 2023?

```
SELECT SALES.SALESMAN_ID, NAME, CITY, COUNT(SALES.CAR_ID) NUMBER_OF_CARS
FROM SALES
JOIN SALESPERSONS SP ON SP.SALESMAN_ID = SALES.SALESMAN_ID
WHERE YEAR(PURCHASE_DATE) = '2023'
GROUP BY SALES.SALESMAN_ID
ORDER BY COUNT(SALES.CAR_ID) DESC
LIMIT 1;
```

SALESMAN_ID	NAME	CITY	NUMBER_OF_CARS
3	Tom Lee	Seattle	2

## 10. WHAT IS THE NAME AND AGE OF THE SALESPERSON WHO GENERATED THE HIGHEST REVENUE IN THE YEAR 2022?

```
SELECT SALES.SALESMAN_ID, NAME, AGE, SUM(COST_$) AS REVENUE
FROM SALES
JOIN SALESPERSONS SP ON SP.SALESMAN_ID = SALES.SALESMAN_ID
JOIN CARS ON CARS.CAR_ID = SALES.CAR_ID
WHERE YEAR(PURCHASE_DATE) = '2022'
GROUP BY SALES.SALESMAN_ID
ORDER BY SUM(COST_$) DESC
LIMIT 1;
```

SALESMAN_ID	NAME	AGE	REVENUE
2	Emily Wong	35	116000

# RESULTS

- In 2022 the most number of purchased cars were from Honda (2) and BMW (2), the highest revenue was made by BMW (1 10000\$).
- Tom Lee sold the most number of cars (6) and the highest total revenue (1 920000\$) was generated by him as well.
- The highest total revenue was generated by Car Type X5 (220000\$).
- Emily Wong sold a Toyota (25000\$) and a Chevrolet (36000\$) in 2021.
- Hatchback Style Cars generated 1 000000\$ Revenue.
- SUV Style Cars generated 1 500000\$ Revenue in 2022.
- In 2023 the most number of cars were sold by Tom Lee (2) in Seattle.
- In 2022 the highest revenue (1 160000\$) was generated by Emily (age: 35).

**THANK YOU!**

