



# 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!**

