



Steel Data

SQL CHALLENGE 1

Challenge 1
Steve's Car Showroom

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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.
- The following data need to be analyzed to provide Steve with all the Insights he requires.
- The Case study Consist of 3 Tables :
 - 1) Cars
 - 2) Sales
 - 3) Salesperson

Tables For Analysis

Sales Table

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	XS	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

Salespersons Table

Cars Table

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

Input

```
SELECT c.car_id, c.make, c.type, c.style, c.cost_$, s.purchase_date
FROM sales s
JOIN cars c ON c.car_id = s.car_id
WHERE YEAR(s.purchase_date) = 2022;
```

	car_id	make	type	style	cost_\$	purchase_date
1	2	Toyota	Corolla	Hatchback	25000	2022-01-01
2	1	Honda	Civic	Sedan	30000	2022-02-03
3	8	Nissan	Altima	Sedan	26000	2022-02-10
4	7	Mercedes	C-Class	Coupe	60000	2022-03-01
5	5	BMW	X5	SUV	55000	2022-04-02
6	3	Ford	Explorer	SUV	40000	2022-05-05
7	5	BMW	X5	SUV	55000	2022-06-07
8	1	Honda	Civic	Sedan	30000	2022-07-09

Output

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

```
SELECT sp.name, COUNT(*) AS total_cars_sold
FROM salespersons sp
JOIN sales s ON sp.salesman_id = s.salesman_id
GROUP BY sp.name;
```

Input

Output

	name	total_cars_sold
1	Emily Wong	5
2	John Smith	5
3	Lucy Chen	4
4	Tom Lee	6

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

```
SELECT sp.name, SUM(c.cost_$) AS total_revenue
FROM salespersons sp
JOIN sales s ON sp.salesman_id = s.salesman_id
JOIN cars c ON s.car_id = c.car_id
GROUP BY sp.name;
```

Input

Output

	name	total_revenue
1	Emily Wong	177000
2	John Smith	181000
3	Lucy Chen	171000
4	Tom Lee	253000

Input

```
SELECT sp.name, c.*  
FROM salespersons sp  
JOIN sales s ON sp.salesman_id = s.salesman_id  
JOIN cars c ON s.car_id = c.car_id;
```

	name	car_id	make	type	style	cost_
1	John Smith	1	Honda	Civic	Sedan	30000
2	Tom Lee	3	Ford	Explorer	SUV	40000
3	Emily Wong	2	Toyota	Corolla	Hatchback	25000
4	Lucy Chen	5	BMW	X5	SUV	55000
5	John Smith	8	Nissan	Altima	Sedan	26000
6	John Smith	2	Toyota	Corolla	Hatchback	25000
7	Emily Wong	4	Chevrolet	Camaro	Coupe	36000
8	Tom Lee	5	BMW	X5	SUV	55000
9	Lucy Chen	2	Toyota	Corolla	Hatchback	25000
10	Tom Lee	1	Honda	Civic	Sedan	30000
11	Emily Wong	8	Nissan	Altima	Sedan	26000
12	Emily Wong	7	Merced...	C-Class	Coupe	60000
13	Tom Lee	5	BMW	X5	SUV	55000
14	John Smith	3	Ford	Explorer	SUV	40000
15	Lucy Chen	5	BMW	X5	SUV	55000
16	Emily Wong	1	Honda	Civic	Sedan	30000
17	Tom Lee	2	Toyota	Corolla	Hatchback	25000
18	Tom Lee	6	Audi	A4	Sedan	48000
19	John Smith	7	Merced...	C-Class	Coupe	60000
20	Lucy Chen	4	Chevrolet	Camaro	Coupe	36000

Output

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

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

Input

```
select type, SUM(cost_$) AS total_revenue
from cars
Inner Join  sales On cars.car_id = sales.car_id
group by cars.type;
```

Output

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

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

Input

```
SELECT SUM(cost_$) AS total_revenue , style
FROM cars
JOIN sales ON sales.car_id = cars.car_id
WHERE style = 'Hatchback'
group by style;
```

Output

	total_revenue	style
1	100000	Hatchback

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

Input

```
SELECT TOP 1 sp.name AS salesperson, sp.city,  
YEAR(s.purchase_date) AS [year], COUNT(s.car_id) AS total_cars  
FROM salespersons sp  
JOIN sales s ON sp.salesman_id = s.salesman_id  
WHERE YEAR(s.purchase_date) = 2023  
GROUP BY sp.name, sp.city, YEAR(s.purchase_date)  
ORDER BY total_cars DESC;
```

Output

	salesperson	city	year	total_cars
1	Tom Lee	Seattle	2023	2

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

Input

```
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;
```

Output

	style	Revenue
1	SUV	150000

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

Input

```
= select salespersons.name, cars.make, cars.type, cars.style, cars.cost_$,  
sales.purchase_date  
from cars  
Inner Join sales  
On cars.car_id = sales.car_id  
Inner Join salespersons  
On sales.salesman_id = salespersons.salesman_id  
where salespersons.name = 'Emily Wong' AND year(sales.purchase_date) = 2021;
```

Output

	name	make	type	style	cost_\$	purchase_date
1	Emily Wong	Toyota	Corolla	Hatchback	25000	2021-02-10
2	Emily Wong	Chevrolet	Camaro	Coupe	36000	2021-06-07

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

Input

```
SELECT sp.name, sp.age, SUM(c.cost_$) AS total_revenue
FROM salespersons sp
JOIN sales s ON sp.salesman_id = s.salesman_id
JOIN cars c ON s.car_id = c.car_id
WHERE YEAR(s.purchase_date) = 2022
GROUP BY sp.name, sp.age
HAVING SUM(c.cost_$) = (
    SELECT MAX(total_revenue)
    FROM (
        SELECT sp.salesman_id, SUM(c.cost_$) AS total_revenue
        FROM salespersons sp
        JOIN sales s ON sp.salesman_id = s.salesman_id
        JOIN cars c ON s.car_id = c.car_id
        WHERE YEAR(s.purchase_date) = 2022
        GROUP BY sp.salesman_id
    ) AS revenue_table
);
```

Output

	name	age	total_revenue
1	Emily Wong	35	116000