

SQL CHALLENGE

CAR SHOWROOM



INTRODUCTION

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

Can you analyse the following data to provide him with all the answers he requires?

TABLES

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

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

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

Q1

--Q1. What are the details of all cars purchased in the year 2022?

```
SELECT c.*  
FROM cars c  
JOIN sales s ON c.car_id = s.car_id  
WHERE YEAR(purchase_date) = 2022
```

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

Q2

--Q2. What is the total number of cars sold by each salesperson?

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

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

Q3

--Q3. What is the total revenue generated by each salesperson?

```
SELECT sp.salesman_id, 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.salesman_id, sp.name;
```

	<u>salesman_id</u>	<u>name</u>	<u>total_revenue</u>
1	1	John Smith	181000
2	2	Emily Wong	177000
3	3	Tom Lee	253000
4	4	Lucy Chen	171000

Q4

--Q4. What are the details of the cars sold by each salesperson?

```
SELECT sp.name AS salesperson_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;
```

	salesperson_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	Mercedes	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	Mercedes	C-Class	Coupe	60000
20	Lucy Chen	4	Chevrolet	Camaro	Coupe	36000

Q5

--Q5. What is the total revenue generated by each car type?

```
SELECT c.type, SUM(c.cost_) AS total_revenue  
FROM cars c  
JOIN sales s ON c.car_id = s.car_id  
GROUP BY c.type
```

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

Q6

--Q6. What are the details of the cars sold in the year 2021 by salesperson 'Emily Wong'?

```
SELECT c.*  
FROM cars c  
JOIN sales s ON c.car_id = s.car_id  
JOIN salespersons sp ON s.salesman_id = sp.salesman_id  
WHERE sp.name = 'Emily Wong' AND YEAR(s.purchase_date) = 2021;
```

	car_id	make	type	style	cost_\$
1	2	Toyota	Corolla	Hatchback	25000
2	4	Chevrolet	Camaro	Coupe	36000

Q7

--Q7. What is the total revenue generated by the sales of hatchback cars?

```
SELECT SUM(c.cost$_) AS total_revenue  
FROM cars c  
JOIN sales s ON c.car_id = s.car_id  
WHERE c.style = 'Hatchback';
```

	total_revenue
1	100000

Q8

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

```
SELECT SUM(c.cost_$/) AS total_revenue  
FROM cars c  
JOIN sales s ON c.car_id = s.car_id  
WHERE c.style = 'SUV' AND YEAR(s.purchase_date) = 2022;
```

	total_revenue
1	150000

Q9

--Q9. What is the name and city of the salesperson who sold the most number of cars in the year 2023?

```
SELECT sp.name, sp.city, COUNT(*) AS total_cars_sold
FROM salespersons AS sp
JOIN sales s ON sp.salesman_id = s.salesman_id
WHERE YEAR(s.purchase_date) = 2023
GROUP BY sp.name, sp.city
ORDER BY total_cars_sold DESC;
```

	name	city	total_cars_sold
1	Tom Lee	Seattle	2
2	Lucy Chen	LA	1
3	John Smith	New York	1

Q10

--Q10. What is the name and age of the salesperson who generated the highest revenue in the year 2022?

```
SELECT sp.name, sp.age
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
ORDER BY SUM(c.cost$_) DESC;
```

	name	age
1	Emily Wong	35
2	Tom Lee	42
3	Lucy Chen	31
4	John Smith	28

THANK YOU