SQL Challenge 1

Challenge 1 - Steve's Car Showroom

Intro

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

Here are the tables you will be using

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

Copy the following code into the "Schema SQL" section on https://www.db-fiddle.com/

```
CREATE TABLE cars (
car_id INT PRIMARY KEY,
make VARCHAR(50),
type VARCHAR(50),
style VARCHAR(50),
cost_$ INT
);
--------------------
INSERT INTO cars (car_id, make, type, style, cost_$)
VALUES (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);
--------------------
CREATE TABLE salespersons (
salesman_id INT PRIMARY KEY,
name VARCHAR(50),
age INT,
city VARCHAR(50)
);
--------------------
INSERT INTO salespersons (salesman_id, name, age, city)
VALUES (1, 'John Smith', 28, 'New York'),
(2, 'Emily Wong', 35, 'San Fran'),
(3, 'Tom Lee', 42, 'Seattle'),
(4, 'Lucy Chen', 31, 'LA');
--------------------
CREATE TABLE sales (
sale_id INT PRIMARY KEY,
car_id INT,
salesman_id INT,
purchase_date DATE,
FOREIGN KEY (car_id) REFERENCES cars(car_id),
FOREIGN KEY (salesman_id) REFERENCES salespersons(salesman_id)
);
--------------------
INSERT INTO sales (sale_id, car_id, salesman_id, purchase_date)
VALUES (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, '2022-02-10'),
(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');
```

Questions

Answer the following questions

Then write a LinkedIn post saying what you have learnt or enjoyed

Make sure to tag @Steel Data and @Matthew Steel

1. What are the details of all cars purchased in the year 2022?
2. What is the total number of cars sold by each salesperson?
3. What is the total revenue generated by each salesperson?
4. What are the details of the cars sold by each salesperson?
5. What is the total revenue generated by each car type?
6. What are the details of the cars sold in the year 2021 by salesperson 'Emily Wong'?
7. What is the total revenue generated by the sales of hatchback cars?
8. What is the total revenue generated by the sales of SUV cars in the year 2022?
9. What is the name and city of the salesperson who sold the most number of cars in the year

2023?

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

```sql
-- 1. What are the details of all cars purchased in the year 2022?
SELECT
    c.make,
    c.type,
    c.style,
    c.cost_$ AS Cost,
    YEAR(s.purchase_date) AS 'Purchased Year'
FROM
    cars AS c
        INNER JOIN
    sales AS s ON c.car_id = s.car_id
WHERE
    YEAR(s.purchase_date) = 2022;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

make	type	style	Cost	Purchased Year
Honda	Civic	Sedan	30000	2022
Honda	Civic	Sedan	30000	2022
Toyota	Corolla	Hatchback	25000	2022
Ford	Explorer	SUV	40000	2022
BMW	X5	SUV	55000	2022
BMW	X5	SUV	55000	2022
Mercedes	C-Class	Coupe	60000	2022
Nissan	Altima	Sedan	26000	2022

```sql
-- 2. What is the total number of cars sold by each salesperson?
SELECT
    sp.name, COUNT(s.sale_id) AS Cars_sold
FROM
    sales AS s
        JOIN
    salespersons AS sp ON s.salesman_id = sp.salesman_id
GROUP BY sp.name
ORDER BY Cars_sold DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

name	Cars_sold
Tom Lee	6
John Smith	5
Emily Wong	5
Lucy Chen	4

```sql
-- 3. What is the total revenue generated by each salesperson?
SELECT
    sp.name, SUM(c.cost_$) AS Total_Revenue
FROM
    cars AS c
        INNER JOIN
    sales AS s ON s.car_id = c.car_id
        INNER JOIN
    salespersons AS sp ON sp.salesman_id = s.salesman_id
GROUP BY sp.name
ORDER BY Total_Revenue DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Conten

name	Total_Revenue
Tom Lee	253000
John Smith	181000
Emily Wong	177000
Lucy Chen	171000

```sql
-- 4. What are the details of the cars sold by each salesperson?
SELECT
    sp.name, c.make, c.type, c.style
FROM
    cars AS c
        INNER JOIN
    sales AS s ON s.car_id = c.car_id
        INNER JOIN
    salespersons AS sp ON sp.salesman_id = s.salesman_id
GROUP BY sp.name , c.make , c.type , c.style;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

name	make	type	style
John Smith	Honda	Civic	Sedan
John Smith	Nissan	Altima	Sedan
John Smith	Toyota	Corolla	Hatchback
John Smith	Ford	Explorer	SUV
John Smith	Mercedes	C-Class	Coupe
Emily Wong	Toyota	Corolla	Hatchback
Emily Wong	Chevrolet	Camaro	Coupe
Emily Wong	Nissan	Altima	Sedan
Emily Wong	Mercedes	C-Class	Coupe
Emily Wong	Honda	Civic	Sedan
Tom Lee	Ford	Explorer	SUV

```sql
-- 6. What are the details of the cars sold in the year 2021 by salesperson 'Emily Wong'?
SELECT
    sp.name, c.make, c.type, c.style, c.cost_$ AS Cost
FROM
    cars AS c
        INNER JOIN
    sales AS s ON s.car_id = c.car_id
        INNER JOIN
    salespersons AS sp ON sp.salesman_id = s.salesman_id
WHERE
    sp.name = 'Emily Wong'
        AND YEAR(s.purchase_date) = 2021;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

name	make	type	style	Cost
Emily Wong	Toyota	Corolla	Hatchback	25000
Emily Wong	Chevrolet	Camaro	Coupe	36000

```sql
-- 7. What is the total revenue generated by the sales of hatchback cars?
SELECT
    SUM(c.cost_$) AS 'Total Revenue'
FROM
    cars AS c
        INNER JOIN
    cars AS cc ON c.car_id = cc.car_id
        INNER JOIN
    sales AS s ON c.car_id = s.car_id
WHERE
    c.style = 'Hatchback';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Total Revenue
100000

```sql
-- 8. What is the total revenue generated by the sales of SUV cars in the year 2022?
SELECT
    c.style AS 'Style: SUV', SUM(c.cost_$) AS 'Total Revenue'
FROM
    cars AS c
        INNER JOIN
    cars AS cc ON c.car_id = cc.car_id
        INNER JOIN
    sales AS s ON c.car_id = s.car_id
WHERE
    c.style = 'SUV'
        AND YEAR(s.purchase_date) = 2022;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Style: SUV	Total Revenue
SUV	150000

```sql
-- 9. 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_Sales
FROM
    sales AS s
        INNER JOIN
    salespersons AS sp ON s.salesman_id = sp.salesman_id
WHERE
    YEAR(s.purchase_date) = 2023
GROUP BY sp.name , sp.city
ORDER BY Total_Sales DESC
LIMIT 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

name	city	Total_Sales
Tom Lee	Seattle	2

```sql
-- 10. What is the name,city and age of the salesperson who generated the highest revenue in the year 2022?
SELECT
    sp.name AS Name, sp.city AS City,sp.age,SUM(c.cost_$) AS 'Revenue'
FROM
    cars AS c
        INNER JOIN
    sales AS s ON s.car_id = c.car_id
        INNER JOIN
    salespersons AS sp ON s.salesman_id = sp.salesman_id
WHERE
    YEAR(purchase_date) = 2022
GROUP BY sp.name , sp.city,sp.age
ORDER BY Revenue DESC
LIMIT 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

Name	City	age	Revenue
Emily Wong	San Fran	35	116000