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	cars				
1	1	1	2021-01-01		make	****	style	
2	3	3	2021-02-03	car_id	Honda	type	Sedan	cost_\$ 30000
3	2	2	2021-02-10	2	Toyota	Corolla	Hatchback	25000
4	5	4	2021-03-01	3	Ford	Explorer	SUV	40000
5	8	1	2021-04-02	4	Chevrolet	Camaro	Coupe	36000
6	2	1	2021-05-05	5	BMW	X5	SUV	55000
		-		6	Audi	A4	Sedan	48000
7	4	2	2021-06-07	7	Mercedes	C-Class	Coupe	60000
8	5	3	2021-07-09	8	Nissan	Altima	Sedan	26000
9	2	4	2022-01-01					
10	1	3	2022-02-03					
11	8	2	2022-02-1-	salespersons				
12	7	2	2022-03-01					
13	5	3	2022-04-02	salesman_id	nam	e	age	city
14	3	1	2022-05-05	1	John Sr	nith	28	New York
15	5	4	2022-06-07	2	2 Emily V		35	San Fran
16	1	2	2022-07-09	3 Tom		.ee	42	Seattle
17	2	3	2023-01-01	4	Lucy Ci	hen	31	LA
18	6	3	2023-02-03					
19	7	1	2023-02-10					
20	4	4	2023-03-01					

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),
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```
(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');
Juestions
```

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?

```
-- 1. What are the details of all cars purchased in the year 2022?
  1
  2 •
         SELECT
             c.make,
  3
             c.type,
  4
             c.style,
  5
             c.cost_$ AS Cost,
             YEAR(s.purchase_date) AS 'Purchased Year'
  8
         FROM
             cars AS C
  9
                 INNER JOIN
 10
             sales AS s ON c.car_id = s.car_id
 11
 12
         WHERE
             YEAR(s.purchase_date) = 2022;
 13
                                              Export: Wrap Cell Content: I
Purchased
   make
             type
                      style
                                  Cost
                                          Year
  Honda
             Civic
                      Sedan
                                 30000
                                         2022
  Honda
            Civic
                      Sedan
                                 30000
                                         2022
            Corolla
                      Hatchback
                                 25000
                                         2022
  Toyota
                      SUV
                                 40000
  Ford
            Explorer
                                         2022
  BMW
            X5
                      SUV
                                 55000
                                         2022
            X5
  BMW
                      SUV
                                 55000
                                         2022
            C-Class
  Mercedes
                      Coupe
                                 60000
                                         2022
            Altima
                                 26000
                                         2022
  Nissan
                      Sedan
15
         -- 2. What is the total number of cars sold by each salesperson?
16 •
        SELECT
            sp.name, COUNT(s.sale_id) AS Cars_sold
17
        FROM
18
            sales AS s
19
20
21
            salespersons AS sp ON s.salesman_id = sp.salesman_id
22
        GROUP BY sp.name
        ORDER BY Cars_sold DESC;
23
                                             Export: Wrap Cell Content:
tesult Grid 🔢 🙌 Filter Rows:
  name
              Cars sold
  Tom Lee
  John Smith
             5
  Emily Wong
             4
 Lucy Chen
```

```
25
         -- 3. What is the total revenue generated by each salesperson?
 26 •
         SELECT
 27
             sp.name, SUM(c.cost_$) AS Total_Revenue
         FROM
 28
             cars AS c
 29
                 INNER JOIN
 30
             sales AS s ON s.car_id = c.car_id
 31
                 INNER JOIN
 32
             salespersons AS sp ON sp.salesman_id = s.salesman_id
 33
         GROUP BY sp.name
 34
         ORDER BY Total_Revenue DESC;
 35
Export: Wrap Cell Conten
               Total_Revenue
   name
               253000
  Tom Lee
  John Smith
              181000
  Emily Wong
              177000
  Lucy Chen
              171000
          -- 4. What are the details of the cars sold by each salesperson?
 37
         SELECT
 38 •
             sp.name, c.make, c.type, c.style
 39
         FROM
 40
 41
             cars AS c
 42
                 INNER JOIN
 43
             sales AS s ON s.car_id = c.car_id
                 INNER JOIN
 44
             salespersons AS sp ON sp.salesman id = s.salesman id
 45
 46
         GROUP BY sp.name , c.make , c.type , c.style;
Result Grid
               ♦ Filter Rows:
                                               Export: Wrap Cell Content: 1
   name
               make
                                   style
                          type
  John Smith
              Honda
                         Civic
                                   Sedan
   John Smith
              Nissan
                         Altima
                                   Sedan
   John Smith
              Toyota
                                   Hatchback
                         Corolla
   John Smith
              Ford
                         Explorer
                                   SUV
   John Smith
              Mercedes
                         C-Class
                                   Coupe
  Emily Wong
              Toyota
                                   Hatchback
                         Corolla
  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
```

```
-- 6. What are the details of the cars sold in the year 2021 by salesperson 'Emily Wong'?
  59 •
         SELECT
  60
             sp.name, c.make, c.type, c.style, c.cost_$ AS Cost
         FROM
  61
  62
             cars AS c
                 INNER JOIN
  63
             sales AS s ON s.car_id = c.car_id
  64
  65
                 INNER JOIN
             salespersons AS sp ON sp.salesman_id = s.salesman_id
  66
  67
         WHERE
             sp.name = 'Emily Wong'
  68
  69
                AND YEAR(s.purchase_date) = 2021;
                                           Export: Wrap Cell Content: IA
make
   name
                       type
                                style
                                           Cost
  Emily Wong
                                           25000
              Toyota
                        Corolla
                                Hatchback
                                          36000
  Emily Wong Chevrolet Camaro Coupe
 71
        -- 7. What is the total revenue generated by the sales of hatchback cars?
 72 •
        SELECT
            SUM(c.cost_$) AS 'Total Revenue'
 73
         FROM
 74
         cars AS c
 75
                INNER JOIN
 76
             cars AS cc ON c.car_id = cc.car_id
 77
                INNER JOIN
 78
            sales AS s ON c.car_id = s.car_id
 79
        WHERE
            c.style = 'Hatchback';
                               Export: Wrap Cell Content: IA
Result Grid Filter Rows:
   Total
   Revenue
 100000
```

```
-- 8. What is the total revenue generated by the sales of SUV cars in the year 2022?
             c.style AS 'Style: SUV', SUM(c.cost_$) AS 'Total Revenue'
 85
         FROM
 86
            cars AS c
 87
                INNER JOIN
 88
             cars AS cc ON c.car_id = cc.car_id
 89
                INNER JOIN
 90
             sales AS s ON c.car_id = s.car_id
 91
 92
         WHERE
 93
             c.style = 'SUV'
                 AND YEAR(s.purchase_date) = 2022;
                                            Export: Wrap Cell Content: 1A
Style:
              Total
   SUV
              Revenue
  SUV
             150000
  22
          -- 9. What is the name and city of the salesperson who sold the most number of cars in the year 2023?
  96
  97 •
          SELECT
             sp.name, sp.city, COUNT(*) AS Total_Sales
  98
  99
          FROM
             sales AS s
  100
  101
                INNER JOIN
             salespersons AS sp ON s.salesman_id = sp.salesman_id
  102
  103
          WHERE
  104
             YEAR(s.purchase_date) = 2023
         GROUP BY sp.name , sp.city
  105
          ORDER BY Total_Sales DESC
  106
  107
          LIMIT 1;
  108
                                         Export: Wrap Cell Content: A Fetch rows:
 city
                  Total_Sales
    name
 Tom Lee Seattle 2
```

```
-- 10. What is the name, city and age of the salesperson who generated the highest revenue in the year 2022?
118
119 • SELECT
120
         sp.name AS Name, sp.city AS City, sp.age, SUM(c.cost_$) AS 'Revenue'
        FROM
121
           cars AS c
122
              INNER JOIN
123
124
           sales AS s ON s.car_id = c.car_id
125
               INNER JOIN
126
           salespersons AS sp ON s.salesman_id = sp.salesman_id
127
       WHERE
128
           YEAR(purchase_date) = 2022
       GROUP BY sp.name , sp.city,sp.age
129
        ORDER BY Revenue DESC
130
 131
        LIMIT 1;
                                        Export: Wrap Cell Content: TA | Fetch rows:
Name City age Revenue
▶ Emily Wong San Fran 35
                           116000
```