

SQL CHALLENGE 1

Steve's Car Showroom

Challenge hosted on steeldata.org

Solutions by Gayatri Pradhan

Date : 04/02/2024





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

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

QUESTIONS

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?

```
69 #What are the details OF ALL cars purchased IN the year 2022?
70 SELECT make, type, style, cost_$, purchase_date
71 FROM sales
72 LEFT JOIN cars
73 ON sales.car_id = cars.car_id
74 WHERE purchase_date LIKE '2022%';
75
```

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

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

```
76 # What IS the total number OF cars sold BY EACH salesperson?
77 SELECT sp.name, COUNT(car_id) AS no_of_cars_sold
78 FROM sales AS s
79 LEFT JOIN salespersons AS sp
80 ON s.salesman_id = sp.salesman_id
81 GROUP BY sp.name;
82
```

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

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

```
83 #What IS the total revenue generated BY EACH salesperson?  
84 SELECT sp.name, sum(cost_$) AS revenue  
85 FROM sales AS s  
86 INNER JOIN cars AS c  
87 ON s.car_id = c.car_id  
88 INNER JOIN salespersons AS sp  
89 ON s.salesman_id = sp.salesman_id  
90 GROUP BY sp.salesman_id  
91 ORDER BY sum(cost_$) ASC;  
92
```

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

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

```
93 #What are the details OF the cars sold BY EACH salesperson?
94 SELECT name,purchase_date, make, type, style, cost_$
95 FROM cars AS c
96 INNER JOIN sales AS s
97 ON c.car_id = s.car_id
98 INNER JOIN salespersons AS sp
99 ON s.salesman_id = sp.salesman_id
100 ORDER BY name ASC;
```

!	name	purchase_date	make	type	style	cost_\$
	Emily Wong	2021-02-10	Toyota	Corolla	Hatchback	25000
	Emily Wong	2021-06-07	Chevrolet	Camaro	Coupe	36000
	Emily Wong	2022-02-10	Nissan	Altima	Sedan	26000
	Emily Wong	2022-03-01	Mercedes	C-Class	Coupe	60000
	Emily Wong	2022-07-09	Honda	Civic	Sedan	30000
	John Smith	2021-01-01	Honda	Civic	Sedan	30000

!	name	purchase_date	make	type	style	cost_\$
	John Smith	2021-04-02	Nissan	Altima	Sedan	26000
	John Smith	2021-05-05	Toyota	Corolla	Hatchback	25000
	John Smith	2022-05-05	Ford	Explorer	SUV	40000
	John Smith	2023-02-10	Mercedes	C-Class	Coupe	60000
	Lucy Chen	2021-03-01	BMW	X5	SUV	55000
	Lucy Chen	2022-01-01	Toyota	Corolla	Hatchback	25000

!	name	purchase_date	make	type	style	cost_\$
	Lucy Chen	2022-06-07	BMW	X5	SUV	55000
	Lucy Chen	2023-03-01	Chevrolet	Camaro	Coupe	36000
	Tom Lee	2021-02-03	Ford	Explorer	SUV	40000
	Tom Lee	2021-07-09	BMW	X5	SUV	55000
	Tom Lee	2022-02-03	Honda	Civic	Sedan	30000
	Tom Lee	2022-04-02	BMW	X5	SUV	55000
	Tom Lee	2023-01-01	Toyota	Corolla	Hatchback	25000
	Tom Lee	2023-02-03	Audi	A4	Sedan	48000

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

```
102 #What IS the total revenue generated BY EACH car type?
103 SELECT (cost_$ * COUNT(sale_id)) AS revenue, c.type
104 FROM cars AS c
105 INNER JOIN sales AS s
106 ON c.car_id = s.car_id
107 GROUP BY c.type
108 ORDER BY (cost_$* sale_id) ASC;
```

! revenue	type
90000	Civic
100000	Corolla
80000	Explorer
52000	Altima
220000	X5
72000	Camaro
120000	C-Class
48000	A4

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

```
110 #What are the details OF the cars sold IN the year 2021 BY salesperson 'Emily Wong'?
111 SELECT sp.name, s.sale_id, s.purchase_date, c.car_id, c.make, c.type, c.style, c.cost_$
112 FROM cars AS c
113 INNER JOIN sales AS s
114 ON c.car_id = s.car_id
115 INNER JOIN salespersons AS sp
116 ON s.salesman_id = sp.salesman_id
117 WHERE sp.name = "Emily Wong" AND purchase_date LIKE "2021%";
118
```

!	name	sale_id	purchase_date	car_id	make	type	style	cost_\$
	Emily Wong	3	2021-02-10	2	Toyota	Corolla	Hatchback	25000
	Emily Wong	7	2021-06-07	4	Chevrolet	Camaro	Coupe	36000

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

```
119 #What IS the total revenue generated BY the sales OF hatchback cars?
120 SELECT c.style, sum(cost_*) AS revenue
121 FROM cars AS c
122 INNER JOIN sales AS s
123 ON c.car_id = s.car_id
124 WHERE c.style = 'Hatchback';
125
```

!	style	revenue
	Hatchback	100000

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

```
126 #What IS the total revenue generated BY the sales OF SUV cars IN the year 2022?
127 SELECT c.style, sum(c.cost_$) AS total_revenue
128 FROM sales AS s
129 LEFT JOIN cars AS c
130 ON s.car_id = c.car_id
131 WHERE c.style = 'SUV' AND s.purchase_date LIKE '2022%';
132
```

! style	total_revenue
SUV	150000

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

```
133 #What IS the name & city OF the salesperson who sold the most number OF cars IN the year 2023?
134 SELECT sp.name, sp.city, COUNT(s.sale_id) AS no_of_cars_sold
135 FROM sales AS s
136 LEFT JOIN salespersons AS sp
137 ON s.salesman_id = sp.salesman_id
138 WHERE purchase_date LIKE '2023%'
139 GROUP BY sp.city
140 ORDER BY COUNT(s.sale_id) DESC
141 LIMIT 1;
```

!	name	city	no_of_cars_sold
	Tom Lee	Seattle	2

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

```
143 #What IS the name & age OF the salesperson who generated the highest revenue IN the year 2022?
144 SELECT sp.name, sp.age, sum(cost_$) AS revenue
145 FROM cars AS c
146 LEFT JOIN sales AS s
147 ON c.car_id = s.car_id
148 LEFT JOIN salespersons AS sp
149 ON sp.salesman_id = s.salesman_id
150 WHERE purchase_date LIKE '2022%'
151 GROUP BY sp.name, sp.age
152 ORDER BY sum(cost_$) DESC
153 LIMIT 1;
```

! name	age	revenue
Emily Wong	35	116000



THANK YOU!!

By: - GAYATRI PRADHAN