STEVE'S CARSHOWROOM ANALYSIS

SANNIDHYA DAS

INTRODUCTION

Steve runs a top-end car showroom but his data analyst has just quit and left him without his crucial insights. Here I analyse the given data and providing him all the answers he requires .

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?

For More Information ***https://www.steeldata.org.uk/sql1.html***

SCHEMA DIAGRAM

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

Q1. WHAT ARE THE DETAILS OF ALL CARS PURCHASED IN THE YEAR 2022?

SOLUTION

```sql
SELECT cars.car_id,make,type,style,cost_$,sales.purchase_date FROM cars
JOIN sales ON cars.car_id=sales.car_id
WHERE purchase_date >= '2022-01-01' AND purchase_date < '2023-01-01'
ORDER BY purchase_date;
```

car_id integer	make character varying (50)	type character varying (50)	style character varying (50)	cost_$ integer	purchase_date date
2	Toyota	Corolla	Hatchback	25000	2022-01-01
1	Honda	Civic	Sedan	30000	2022-02-03
8	Nissan	Altima	Sedan	26000	2022-02-10
7	Mercedes	C-Class	Coupe	60000	2022-03-01
5	BMW	X5	SUV	55000	2022-04-02
3	Ford	Explorer	SUV	40000	2022-05-05
5	BMW	X5	SUV	55000	2022-06-07

Q2. WHAT IS THE TOTAL NUMBER OF CARS SOLD BY EACH SALESPERSON?

SOLUTION

```
SELECT salespersons.name AS Sales_person,salespersons.salesman_id,
COUNT(sale_id) AS Cars_sold_by
FROM salespersons
JOIN sales ON salespersons.salesman_id=sales.salesman_id
GROUP BY salespersons.salesman_id
ORDER BY 3 DESC;
```

sales_person character varying (50)	salesman_id [PK] integer	cars_sold_by bigint
Tom Lee	3	6
Emily Wong	2	5
John Smith	1	5
Lucy Chen	4	4

Q3. WHAT IS THE TOTAL REVENUE GENERATED BY EACH SALESPERSON?

SOLUTION

```sql
WITH total_rev AS (
  SELECT
    salespersons.salesman_id,
    SUM(cars.cost_$) AS total_revenue
  FROM
    salespersons
    JOIN sales ON salespersons.salesman_id = sales.salesman_id
    JOIN cars ON sales.car_id = cars.car_id
  GROUP BY
    salespersons.salesman_id
)
SELECT
  salespersons.name,
  total_rev.total_revenue,salespersons.salesman_id
FROM
  salespersons
  JOIN total_rev ON salespersons.salesman_id = total_rev.salesman_id
ORDER BY
  total_rev.total_revenue DESC;
```

name character varying (50)	total_revenue bigint	salesman_id [PK] integer
Tom Lee	253000	3
John Smith	181000	1
Emily Wong	177000	2
Lucy Chen	171000	4

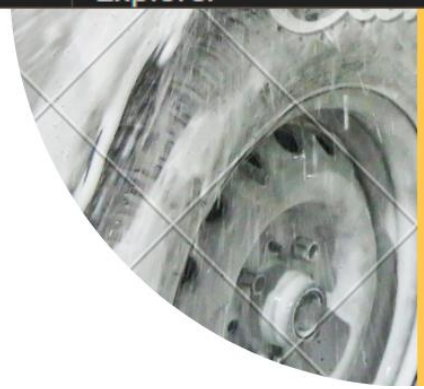
Q4. WHAT ARE THE DETAILS OF THE CARS SOLD BY EACH SALESPERSON?

SOLUTION

```sql
WITH total_rev AS(

SELECT name,sales.car_id FROM salespersons
    JOIN  sales ON salespersons.salesman_id=sales.salesman_id
GROUP BY salespersons.salesman_id,sales.car_id
ORDER BY 1
)
SELECT total_rev.*,make,type,style,cost_$ FROM total_rev
JOIN cars ON total_rev.car_id=cars.car_id;
```

name character varying (50)	car_id integer	make character varying (50)	type character varying (50)	style character varying (50)	cost_$ integer
Emily Wong	1	Honda	Civic	Sedan	30000
Emily Wong	4	Chevrolet	Camaro	Coupe	36000
Emily Wong	8	Nissan	Altima	Sedan	26000
Emily Wong	2	Toyota	Corolla	Hatchback	25000
Emily Wong	7	Mercedes	C-Class	Coupe	60000
John Smith	1	Honda	Civic	Sedan	30000
John Smith	3	Ford	Explorer	SUV	40000



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

SOLUTION

```
SELECT cars.type,
  SUM(cars.cost_$) AS total_revenue
FROM sales
  JOIN cars ON sales.car_id = cars.car_id
GROUP BY cars.type
  ORDER BY total_revenue DESC;
```

type character varying (50)	total_revenue bigint
X5	220000
C-Class	120000
Corolla	100000
Civic	90000
Explorer	80000
Camaro	72000
Altima	52000

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

SOLUTION

```sql
SELECT make,type,style,cost_$,salespersons.name,sales.purchase_date
FROM cars
JOIN sales ON cars.car_id=sales.car_id
JOIN salespersons ON salespersons.salesman_id=sales.salesman_id
WHERE purchase_date >= '2021-01-01'
AND purchase_date < '2022-01-01'
AND name = 'Emily Wong';
```

make character vary	type character vary	style character vary	cost_$ integer	name character vary	purchase_date date
Toyota	Corolla	Hatchback	25000	Emily Wong	2021-02-10
Chevrolet	Camaro	Coupe	36000	Emily Wong	2021-06-07

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

SOLUTION

```
SELECT cars.car_id,style,SUM(cost_$) AS total_rev
FROM cars
JOIN sales ON cars.car_id=sales.car_id
WHERE style = 'Hatchback'
GROUP BY cars.car_id;
```

car_id [PK] integer	style character varying (50)	total_rev bigint
2	Hatchback	100000

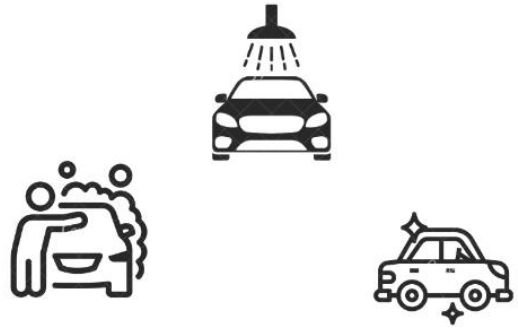
Q8. WHAT IS THE TOTAL REVENUE GENERATED BY THE SALES OF SUV CARS IN THE YEAR 2022?

SOLUTION

```sql
WITH total_rev_SUV AS(

SELECT cars.car_id, type,style,SUM(cost_$) AS total_rev
FROM cars
JOIN sales ON cars.car_id=sales.car_id
WHERE style = 'SUV'
AND purchase_date >= '2022-01-01'
AND purchase_date < '2023-01-01'
GROUP BY cars.car_id
ORDER BY 4
)
SELECT style,SUM(total_rev) AS total_revenue
FROM total_rev_SUV
GROUP BY total_rev_suv.style
```

style character varying (50)	total_revenue numeric
SUV	150000



Q9. WHAT IS THE NAME AND CITY OF THE SALESPERSON WHO SOLD THE MOST NUMBER OF CARS IN THE YEAR 2023?

SOLUTION

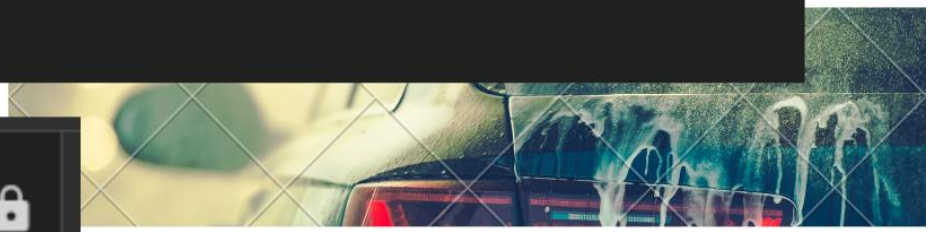
```sql
SELECT salespersons.salesman_id,salespersons.name,
salespersons.city,COUNT(*) AS num_cars_sold
FROM salespersons
JOIN sales ON salespersons.salesman_id=sales.salesman_id
WHERE purchase_date >= '2023-01-01'
AND purchase_date < '2024-01-01'
GROUP BY
    salespersons.salesman_id,
    salespersons.name,
    salespersons.city
ORDER BY 4 DESC
LIMIT 1;
```

salesman_id [PK] integer	name character var	city character vary	num_cars_sold bigint
3	Tom Lee	Seattle	2

Q10. WHAT IS THE NAME AND AGE OF THE SALESPERSON WHO GENERATED THE HIGHEST REVENUE IN THE YEAR 2022?

SOLUTION

```sql
SELECT salespersons.name,salespersons.age,SUM(cost_$) AS Revenue
FROM salespersons
JOIN sales ON salespersons.salesman_id=sales.salesman_id
JOIN cars ON sales.car_id=cars.car_id
WHERE purchase_date >= '2022-01-01'
AND purchase_date < '2023-01-01'
GROUP BY
    salespersons.name, salespersons.age
ORDER BY 3 DESC
LIMIT 1;
```



name character varying (50)	age integer	revenue bigint
Emily Wong	35	116000


THANK YOU!
PRESENTATION BY SANNIDHYA DAS
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