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

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
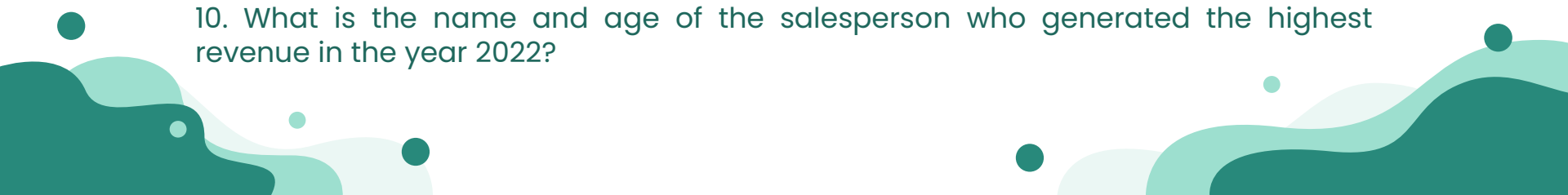
cars

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?

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

```sql
SELECT * FROM cars
INNER JOIN sales ON cars.car_id = sales.car_id
WHERE Year(sales.purchase_date) = 2022;
```

	car_id	make	type	style	cost_$	sale_id	car_id	salesman_id	purchase_date
▶	1	Honda	Civic	Sedan	30000	10	1	3	2022-02-03
	1	Honda	Civic	Sedan	30000	16	1	2	2022-07-09
	2	Toyota	Corolla	Hatchback	25000	9	2	4	2022-01-01
	3	Ford	Explorer	SUV	40000	14	3	1	2022-05-05
	5	BMW	X5	SUV	55000	13	5	3	2022-04-02
	5	BMW	X5	SUV	55000	15	5	4	2022-06-07
	7	Mercedes	C-Class	Coupe	60000	12	7	2	2022-03-01
	8	Nissan	Altima	Sedan	26000	11	8	2	2022-02-10

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

```sql
SELECT salespersons.name AS salesperson_name, COUNT(sales.car_id) AS cars_sold
FROM salespersons
INNER JOIN sales ON salespersons.salesman_id = sales.salesman_id
GROUP BY salespersons.name
```

	salesperson_name	cars_sold
▶	John Smith	5
	Emily Wong	5
	Tom Lee	6
	Lucy Chen	4

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

```sql
SELECT salespersons.name, SUM(cars.cost_$) AS Total_Revenue
FROM sales
INNER JOIN cars ON sales.car_id = cars.car_id
INNER JOIN salespersons ON  sales.salesman_id = salespersons.salesman_id
GROUP BY salespersons.name;
```

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

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

```sql
SELECT sales.salesman_id, salespersons.name, cars.make, cars.style, cars.type, cars.cost_$
FROM sales
INNER JOIN salespersons ON sales.salesman_id = salespersons.salesman_id
INNER JOIN cars on sales.car_id = cars.car_id;
```

	salesman_id	name	make	style	type	cost_$
▶	1	John Smith	Honda	Sedan	Civic	30000
	1	John Smith	Nissan	Sedan	Altima	26000
	1	John Smith	Toyota	Hatchback	Corolla	25000
	1	John Smith	Ford	SUV	Explorer	40000
	1	John Smith	Mercedes	Coupe	C-Class	60000
	2	Emily Wong	Toyota	Hatchback	Corolla	25000
	2	Emily Wong	Chevrolet	Coupe	Camaro	36000
	2	Emily Wong	Nissan	Sedan	Altima	26000
	2	Emily Wong	Mercedes	Coupe	C-Class	60000
	2	Emily Wong	Honda	Sedan	Civic	30000

	salesman_id	name	make	style	type	cost_$
	3	Tom Lee	Ford	SUV	Explorer	40000
	3	Tom Lee	BMW	SUV	X5	55000
	3	Tom Lee	Honda	Sedan	Civic	30000
	3	Tom Lee	BMW	SUV	X5	55000
	3	Tom Lee	Toyota	Hatchback	Corolla	25000
	3	Tom Lee	Audi	Sedan	A4	48000
	4	Lucy Chen	BMW	SUV	X5	55000
	4	Lucy Chen	Toyota	Hatchback	Corolla	25000
	4	Lucy Chen	BMW	SUV	X5	55000
	4	Lucy Chen	Chevrolet	Coupe	Camaro	36000

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

```sql
SELECT cars.type, SUM(cost_$)
FROM cars
INNER JOIN sales ON cars.car_id = sales.car_id
GROUP BY cars.type;
```

type	SUM(cost_$)
Civic	90000
Corolla	100000
Explorer	80000
Camaro	72000
X5	220000
A4	48000
C-Class	120000
Altima	52000

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

```sql
SELECT salespersons.name, cars.make, cars.type, cars.style, cars.cost_$, sales.purchase_date
FROM cars
INNER JOIN sales ON cars.car_id = sales.car_id
INNER JOIN salespersons ON sales.salesman_id = salespersons.salesman_id
WHERE year(sales.purchase_date) = 2021 AND salespersons.name = 'Emily Wong'
```

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

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

```sql
SELECT style AS Car_Style, SUM(cost_$) AS Total_Revenue FROM cars
INNER JOIN sales ON cars.car_id = sales.car_id
WHERE Style = 'Hatchback';
```

	Car_Style	Total_Revenue
▶	Hatchback	100000

Q8. What is the total revenue generated by the sales of SUV cars in the year 2022?

```sql
SELECT style AS Car_Style, SUM(cost_$) AS Total_Revenue FROM cars
INNER JOIN sales ON cars.car_id = sales.car_id
WHERE Style = 'SUV' AND year(purchase_date) = 2022
```

	Car_Style	Total_Revenue
▶	SUV	150000

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

```sql
SELECT salespersons.name, salespersons.city, COUNT(sales.sale_id) AS Total_cars_sold
FROM salespersons
INNER JOIN sales ON salespersons.salesman_id = sales.salesman_id
WHERE year(sales.purchase_date) = 2023
GROUP BY salespersons.name, salespersons.city
ORDER BY Total_cars_sold Desc
LIMIT 1;
```

	name	city	Total_cars_sold
▶	Tom Lee	Seattle	2

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

```sql
SELECT salespersons.name, salespersons.age, SUM(cars.cost_$) AS Heighest_Revenue
FROM salespersons
INNER JOIN sales ON salespersons.salesman_id = sales.salesman_id
INNER JOIN cars ON sales.car_id = cars.car_id
WHERE year(sales.purchase_date) = 2022
GROUP BY salespersons.name, salespersons.age
ORDER BY Heighest_Revenue Desc
LIMIT 1;
```

name	age	Heighest_Revenue
Emily Wong	35	116000

Thank You