

CHALLENGE 1

STEVE'S CAR SHOWROOM ANALYSIS

SQL Case Study



INTRODUCTION

Steve runs a top-end car showroom but his data analyst has just quit and left him without his crucial insights.

Here I am going to analyse the following data to provide him with all the answers he requires.



TABLE USED

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?



```
select c.* from cars as c
join sales as s on c.car_id = s.car_id
where Extract(year from purchase_date) = 2022
```



output :

	car_id [PK] integer 	make character varying (50) 	type character varying (50) 	style character varying (50) 	cost_\$ integer 
1	1	Honda	Civic	Sedan	30000
2	1	Honda	Civic	Sedan	30000
3	2	Toyota	Corolla	Hatchback	25000
4	3	Ford	Explorer	SUV	40000
5	5	BMW	X5	SUV	55000
6	5	BMW	X5	SUV	55000
7	7	Mercedes	C-Class	Coupe	60000
8	8	Nissan	Altima	Sedan	26000

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



```
select  
sp.salesman_id, sp.name, count(s.car_id)  
total_car_sold from salespersons as sp  
inner join sales as s on sp.salesman_id =  
s.salesman_id  
group by sp.salesman_id, sp.name  
order by total_car_sold desc
```

output :




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

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



```
select sp.salesman_id, sp.name, sum(c.cost_$)  
total_revenue from salespersons as sp  
left join sales as s on s.salesman_id =  
sp.salesman_id  
left join cars as c on c.car_id = s.car_id  
group by sp.salesman_id, sp.name  
order by total_revenue desc
```


output :

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

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



```
select sp.salesman_id, sp.name, c.*  
from salespersons as sp  
join sales as s on sp.salesman_id =  
s.salesman_id  
join cars as c on c.car_id = s.car_id  
order by sp.salesman_id
```

output :

	salesman_id integer	name character varying (50)	car_id integer	make character varying (50)	type character varying (50)	style character varying (50)	cost_\$ integer
1	1	John Smith	2	Toyota	Corolla	Hatchback	25000
2	1	John Smith	7	Mercedes	C-Class	Coupe	60000
3	1	John Smith	1	Honda	Civic	Sedan	30000
4	1	John Smith	3	Ford	Explorer	SUV	40000
5	1	John Smith	8	Nissan	Altima	Sedan	26000
6	2	Emily Wong	8	Nissan	Altima	Sedan	26000
7	2	Emily Wong	2	Toyota	Corolla	Hatchback	25000
8	2	Emily Wong	4	Chevrolet	Camaro	Coupe	36000
9	2	Emily Wong	7	Mercedes	C-Class	Coupe	60000
10	2	Emily Wong	1	Honda	Civic	Sedan	30000
11	3	Tom Lee	5	BMW	X5	SUV	55000
12	3	Tom Lee	3	Ford	Explorer	SUV	40000
13	3	Tom Lee	5	BMW	X5	SUV	55000
14	3	Tom Lee	2	Toyota	Corolla	Hatchback	25000
15	3	Tom Lee	6	Audi	A4	Sedan	48000
16	3	Tom Lee	1	Honda	Civic	Sedan	30000
17	4	Lucy Chen	2	Toyota	Corolla	Hatchback	25000
18	4	Lucy Chen	5	BMW	X5	SUV	55000




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



```
select c.car_id,c.type,sum(c.cost_$)  
total_revenue from cars as c  
left join sales as s on c.car_id = s.car_id  
group by c.car_id, c.type  
order by total_revenue desc
```



output :

	car_id [PK] integer 	type character varying (50) 	total_revenue bigint 
1	5	X5	220000
2	7	C-Class	120000
3	2	Corolla	100000
4	1	Civic	90000
5	3	Explorer	80000
6	4	Camaro	72000
7	8	Altima	52000
8	6	A4	48000



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



```
select c.* from cars as c
join sales as s on c.car_id = s.car_id
join salespersons as sp on s.salesman_id =
sp.salesman_id
where Extract(year from purchase_date) =
2021 and sp.name = 'Emily Wong'
```

output :

	car_id [PK] integer	make character varying (50)	type character varying (50)	style character varying (50)	cost_\$ integer
1	2	Toyota	Corolla	Hatchback	25000
2	4	Chevrolet	Camaro	Coupe	36000

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



```
select c.car_id,c.make,c.style,c.type,sum(c.cost_$)
total_revenue from cars as c
join sales as s on c.car_id = s.car_id
where c.style = 'Hatchback'
group by c.car_id,c.style
```

output :

	car_id [PK] integer	make character varying (50)	style character varying (50)	type character varying (50)	total_revenue bigint
1	2	Toyota	Hatchback	Corolla	100000

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



```
select c.style,sum(c.cost_$) total_revenue
from cars as c
join sales as s on c.car_id = s.car_id
where Extract(year from purchase_date) = 2022
and c.style = 'SUV'
group by c.style
```

output :

	style character varying (50)	total_revenue bigint
1	SUV	150000



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



```
select sp.salesman_id,sp.name,sp.city,count(s.car_id)
total_car_sold from cars as c
join sales as s on c.car_id=s.car_id
join salespersons as sp on s.salesman_id=sp.salesman_id
where extract(year from purchase_date) = 2023
group by sp.salesman_id,sp.name
order by total_car_sold desc
limit
```

output :

	salesman_id [PK] integer	name character varying (50)	city character varying (50)	total_car_sold bigint
1	3	Tom Lee	Seattle	2



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



```
select sp.salesman_id, sp.name, sp.age, sum(c.cost_$)
revenue from salespersons as sp
join sales as s on sp.salesman_id = s.salesman_id
join cars as c on c.car_id = s.car_id
where extract(year from purchase_date) = 2022
group by sp.salesman_id, sp.name
order by revenue desc
limit 1
```

output :

	salesman_id [PK] integer	name character varying (50)	age integer	revenue bigint
1	2	Emily Wong	35	116000



THANK YOU

Created By : Preeti Saini