/\*-- QUESTIONS RELATED TO CUSTOMERS

[Q1] What is the distribution of customers across states?

Hint: For each state, count the number of customers.\*/

select state, count(customer\_id) Total\_customer

from customer\_t

group by state

order by Total\_customer desc;

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/\* [Q2] What is the average rating in each quarter?

-- Very Bad is 1, Bad is 2, Okay is 3, Good is 4, Very Good is 5.

Hint: Use a common table expression and in that CTE, assign numbers to the different customer ratings.

      Now average the feedback for each quarter. \*/

with feedback\_t as (

select quarter\_number,

case when customer\_feedback = 'Very Good' then 5

when customer\_feedback = 'Good' then 4

when customer\_feedback = 'Okay' then 3

when customer\_feedback = 'Bad' then 2

when customer\_feedback = 'Very Bad' then 1

end feedback

from order\_t)

select quarter\_number,round(avg(feedback),2) Avg\_feedback\_rating

from feedback\_t

group by quarter\_number

order by 1;

Note: For reference, refer to question number 4. Week-2: mls\_week-2\_gl-beats\_solution-1.sql.

      You'll get an overview of how to use common table expressions from this question.\*/

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/\* [Q3] Are customers getting more dissatisfied over time?

Hint: Need the percentage of different types of customer feedback in each quarter. Use a common table expression and

determine the number of customer feedback in each category as well as the total number of customer feedback in each quarter.

Now use that common table expression to find out the percentage of different types of customer feedback in each quarter.

Eg: (total number of very good feedback/total customer feedback)\* 100 gives you the percentage of very good feedback.

Note: For reference, refer to question number 4. Week-2: mls\_week-2\_gl-beats\_solution-1.sql.

      You'll get an overview of how to use common table expressions from this question.\*/

with tot\_feedback as(

select quarter\_number,count(customer\_feedback) tot\_feedback

from order\_t

group by quarter\_number

order by quarter\_number),

feedback\_t as (select quarter\_number,customer\_feedback,count(customer\_feedback) feedback\_per\_quarter

from order\_t

group by 1,2

order by 1,2)

select ft.quarter\_number,ft.customer\_feedback,round((feedback\_per\_quarter/tot\_feedback \*100),2) as Feedback\_perecn\_Ratio

from tot\_feedback fd join feedback\_t ft on fd.quarter\_number = ft.quarter\_number

group by 1,2

order by 1,2;

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/\*[Q4] Which are the top 5 vehicle makers preferred by the customer. \*/

select pr.vehicle\_maker, count(ord.product\_id) tot\_prod

from product\_t pr join order\_t ord on pr.product\_id = ord.product\_id

group by pr.vehicle\_maker

order by tot\_prod desc

limit 5;

select pr.vehicle\_maker, count(c.customer\_id) tot\_customer

from product\_t pr join order\_t ord on pr.product\_id = ord.product\_id

join customer\_t c on ord.customer\_id = c.customer\_id

group by pr.vehicle\_maker

order by tot\_customer desc

limit 5;

Hint: For each vehicle make what is the count of the customers.\*/

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/\*[Q5] What is the most preferred vehicle make in each state?

Hint: Use the window function RANK() to rank based on the count of customers for each state and vehicle maker.

After ranking, take the vehicle maker whose rank is 1.\*/

with cust\_rnk as(

select c.state,prod.vehicle\_maker,count(c.customer\_id) tot\_customers,

rank() over(partition by state order by count(c.customer\_id)desc) as rnk\_per\_customer

from order\_t ord join customer\_t c on ord.customer\_id = c.customer\_id

join product\_t prod on prod.product\_id = ord.product\_id

group by 1,2

order by 1,3 desc)

select state, vehicle\_maker,tot\_customers,rnk\_per\_customer

from cust\_rnk

where rnk\_per\_customer= 1;

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/\*QUESTIONS RELATED TO REVENUE and ORDERS

-- [Q6] What is the trend of number of orders by quarters?

Hint: Count the number of orders for each quarter.\*/

select quarter\_number, count(order\_id) tot\_orders

from order\_t

group by 1

order by 1;

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/\* [Q7] What is the quarter over quarter % change in revenue?

Hint: Quarter over Quarter percentage change in revenue means what is the change in revenue from the subsequent quarter to the previous quarter in percentage.

To calculate you need to use the common table expression to find out the sum of revenue for each quarter.

Then use that CTE along with the LAG function to calculate the QoQ percentage change in revenue.

\*/

With rev\_change as (

select quarter\_number,sum(quantity \* (vehicle\_price - vehicle\_price\* (discount/100))) as tot\_Revenue

from order\_t

group by quarter\_number)

select quarter\_number, tot\_Revenue,

Round(((tot\_revenue - lag(tot\_Revenue, 1) over (order by quarter\_number)) / lag(tot\_Revenue, 1) over (order by quarter\_number)) \* 100,2) as percent\_per\_QoQ

from rev\_change

order by 1;

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/\* [Q8] What is the trend of revenue and orders by quarters?

Hint: Find out the sum of revenue and count the number of orders for each quarter.

\*/

SELECT quarter\_number, SUM(quantity \* (vehicle\_price - ((discount/100)\*vehicle\_Price))) as total\_revenue ,count(order\_id)

FROM order\_t GROUP BY quarter\_number order by 1;

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/\* QUESTIONS RELATED TO SHIPPING

[Q9] What is the average discount offered for different types of credit cards? \*/

Hint: Find out the average of discount for each credit card type.\*/

select c.credit\_card\_type, avg(discount) avg\_discount

from order\_t ord join customer\_t c on ord.customer\_id = c.customer\_id

group by 1

order by 1;

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/\* [Q10] What is the average time taken to ship the placed orders for each quarters?

Hint: Use the dateiff function to find the difference between the ship date and the order date.

\*/

select quarter\_number,round(avg(datediff(ship\_date,order\_date)),2) Avg\_time\_to\_ship

from order\_t

group by 1

order by 1;

select alcohol, Rcuisine,total\_restaurants\_per\_cuisine, total\_restaurants\_per\_alcohol, (total\_restaurants\_per\_cuisine / total\_restaurants\_per\_alcohol) \* 100 as cuisine\_percfrom (select alcohol, Rcuisine, total\_restaurants\_per\_cuisine,sum(total\_restaurants\_per\_cuisine) over (partition by alcohol) as total\_restaurants\_per\_alcoholfrom (select alcohol, Rcuisine, count(placeID) as total\_restaurants\_per\_cuisinefrom (select gp.placeID, alcohol, Rcuisinefrom geoplaces2 as gpjoin chefmozcuisine as cc on gp.placeID = cc.placeID) as tb1group by alcohol, Rcuisineorder by alcohol) as tb2) tb3group by 1,2,3,4;