

## SQL and Databases – Project Report

Submission -1 [Q1] What is the distribution of customers across states?

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

state	count
New Jersey	9
Indiana	21
Washington	28
California	97
District of Columbia	35
Texas	97
Virginia	24
Illinois	25
Florida	86
Colorado	33
Iowa	11
Alabama	29
Minnesota	17
Utah	10
Connecticut	22
Louisiana	20

Georgia	18
New York	69
Michigan	17
Ohio	33
Wisconsin	8
Kansas	13
Arkansas	6
Missouri	23
North Carolina	20
South Carolina	9
New Hampshire	3
Pennsylvania	25
Nebraska	7
Oklahoma	16
Massachusetts	14
Arizona	26
North Dakota	2

Tennessee	23
Nevada	17
Idaho	7
West Virginia	10
Alaska	10
Hawaii	6
Maryland	14
Delaware	6
New Mexico	5
Maine	1
Montana	3
Kentucky	8
Mississippi	2
Oregon	7
Wyoming	1
Vermont	1

Submission – 2 [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.

quarter_number	Average_rating
1	3.5548
2	3.355
3	2.9563
4	2.397

[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:  $(\text{total number of very good feedback} / \text{total customer feedback}) * 100$  gives you the percentage of very good feedback.

total_feedback	COUNT(feedback)	quarter_number
1102	310	1
879	262	2
677	229	3
477	199	4

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

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

vehicle_maker	count_cust
Chevrolet	125
Ford	97
Toyota	78
Pontiac	75
Dodge	72

[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.

cust_count	vehicle_maker	state	Vehicle_rank	2		Mazda	Alabama	11
1	Buick	Alabama	1	1		Mitsubishi	Alabama	12
2	Chevrolet	Alabama	2	1		Morgan	Alabama	13
5	Dodge	Alabama	3	1		Oldsmobile	Alabama	14
3	Ford	Alabama	4	2		Plymouth	Alabama	15
1	Honda	Alabama	5	1		Pontiac	Alabama	16
1	Hyundai	Alabama	6	1		Porsche	Alabama	17
1	Infiniti	Alabama	7	1		Subaru	Alabama	18
1	Land Rover	Alabama	8	1		Suzuki	Alabama	19
1	Lexus	Alabama	9	1		Volkswagen	Alabama	20
1	Lincoln	Alabama	10					

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

Hint: Count the number of orders for each quarter.

orders_count	quarter_number
199	4
310	1
229	3
262	2

[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.

total_orders	quarter_number	revenue
310	1	12100846
262	2	8584167
229	3	5956470
199	4	5516516

[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.

avg_discount	credit_card_type
0.607382	jcb
0.623469	visa-electron
0.610233	switch
0.61449	diners-club-carte-blanche

0.643846	laser
0.622174	china-unionpay
0.599792	diners-club-enroute
0.616327	americanexpress
0.6295	mastercard
0.600833	visa

0.609545	bankcard
0.585	solo
0.624219	maestro
0.614615	diners-club-us-ca
0.620625	instapayment
0.584	diners-club-international

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

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

quarter_number	days
1	57.1677
2	71.1107
3	117.7555
4	174.0955