# 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: (total number of very good feedback/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 |
| 1 | Buick | Alabama | 1 |
| 2 | Chevrolet | Alabama | 2 |
| 5 | Dodge | Alabama | 3 |
| 3 | Ford | Alabama | 4 |
| 1 | Honda | Alabama | 5 |
| 1 | Hyundai | Alabama | 6 |
| 1 | Infiniti | Alabama | 7 |
| 1 | Land Rover | Alabama | 8 |
| 1 | Lexus | Alabama | 9 |
| 1 | Lincoln | Alabama | 10 |
| 2 | Mazda | Alabama | 11 |
| 1 | Mitsubishi | Alabama | 12 |
| 1 | Morgan | Alabama | 13 |
| 1 | Oldsmobile | Alabama | 14 |
| 2 | Plymouth | Alabama | 15 |
| 1 | Pontiac | Alabama | 16 |
| 1 | Porsche | Alabama | 17 |
| 1 | Subaru | Alabama | 18 |
| 1 | Suzuki | Alabama | 19 |
| 1 | Volkswagen | Alabama | 20 |

[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 |