

Data for the questions below:

PostgreSQL

Host: pg-technical-assessment-v2.cvqh5ju3daog.us-east-1.rds.amazonaws.com

Port: 5432

Database: postgres

Username: postgres

Password: xjcFvv8iy2WRR3H

SQL Challenges:

Given the following Tables in the database above:

1. **orders:**

This table represents individual orders from an eCommerce store

Key fields:

- a. id | int
- b. created_at | timestamp
- c. customer_id | int

2. **orders_line_items:**

This table contains every item in each order - often orders will contain multiple line items

Key fields:

- a. order_id | int
- b. sku | varchar
- c. product | varchar
- d. product_type | varchar (category of the product)
- e. quantity | numeric
- f. price | numeric

You can assume that id and order_id are unique order identifiers and customer_id is a unique customer identifier. Please join **orders** and **orders_line_items** table using source_id and order_id.

1. Write a query that would find the total number of customers who have placed at least 3 product orders. Where a product order is any that has product_amount_post_refund > 0.
2. Write a query that would find, of that group, how many ordered shampoo on their *first*

order. You can assume that any product with the text “Shampoo” in the name, is a shampoo.

3. Which products are most correlated with improved retention? (highest likelihood of of customer making another purchase)
4. Show monthly retention of different monthly acquisition cohorts
 - a. Assume the first order for each customer is the acquisition cohort (month) of the customer
 - b. Show how likely users (by cohort) are to buy in their 2nd month, 3rd month etc.
5. In your own words (no data-pull necessary), how would you figure out how to price each of our products, in order to maximize company profits?