## BrightLight Data Analytics Coding Practical

## Practical 2.1: Advanced SQL

The following questions are designed to help you build a strong foundation in basic SQL syntax. You are provided with a dataset named shoping\_trends.csv. Upload this dataset to your Snowflake account and use it to answer the questions below.

Please follow the instructions below carefully:

 Find all records where Size is missing and the purchase\_amount is greater than 50.

**Expected Columns:** Customer ID, Size, purchase amount, Item Purchased



2. List the total number of purchases grouped by Season, treating NULL values as 'Unknown Season'.

**Expected Columns:** Season, Total Purchases

```
--Total purchases by Season, using 'Unknown Season' for NULL

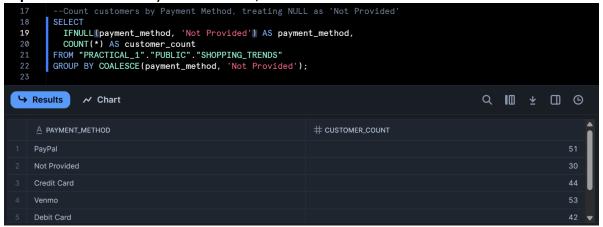
SELECT
IFNULL(season, 'Unknown Season') AS season,
COUNT(*) AS total_purchases
FROM "PRACTICAL_1"."PUBLIC"."SHOPPING_TRENDS"
GROUP BY COALESCE(season, 'Unknown Season');

A SEASON
# TOTAL_PURCHASES

1 Summer
2 Unknown Season
3 Winter
4 Spring
5 Fall
5 Fall
```

3. Count how many customers used each Payment Method, treating NULLs as 'Not Provided'.

**Expected Columns:** Payment Method, Customer Count



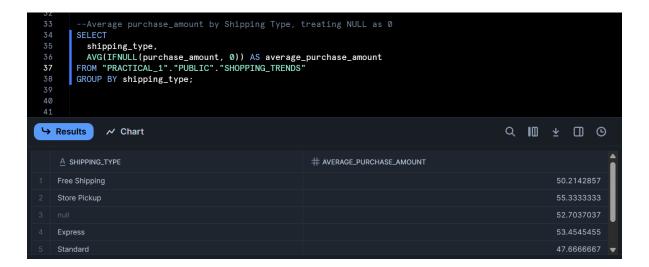
4. Show customers where Promo Code Used is NULL and Review Rating is below 3.0.

**Expected Columns:** Customer ID, Promo Code Used, Review Rating, Item Purchased



5. Group customers by Shipping Type, and return the average purchase\_amount, treating missing values as 0.

**Expected Columns:** Shipping Type, Average purchase\_amount



6. Display the number of purchases per Location only for those with more than 5 purchases and no NULL Payment Method.

**Expected Columns:** Location, Total Purchases



7. Create a column Spender Category that classifies customers using CASE: 'High' if amount > 80, 'Medium' if BETWEEN 50 AND 80, 'Low' otherwise. Replace NULLs in purchase\_amount with 0.

Expected Columns: Customer ID, purchase\_amount, Spender Category

```
customer_id,
        IFNULL(purchase_amount, 0) AS purchase_amount,
        CASE
          WHEN IFNULL(purchase_amount, 0) > 80 THEN 'High
          WHEN IFNULL(purchase_amount, 0) BETWEEN 50 AND 80 THEN 'Medium'
          ELSE
        END AS spender_category
      FROM "PRACTICAL_1"."PUBLIC"."SHOPPING_TRENDS";
                                                                                            Q III ± II 0
→ Results

✓ Chart
   # CUSTOMER_ID
                                     # PURCHASE_AMOUNT
                                                                            A SPENDER_CATEGORY
                                                                           Low
                                                                           Low
                                                                           Low
                                                                           Low
                                                                           Medium
```

 Find customers who have no Previous Purchases value but whose Color is not NULL.

**Expected Columns:** Customer ID, Color, Previous Purchases



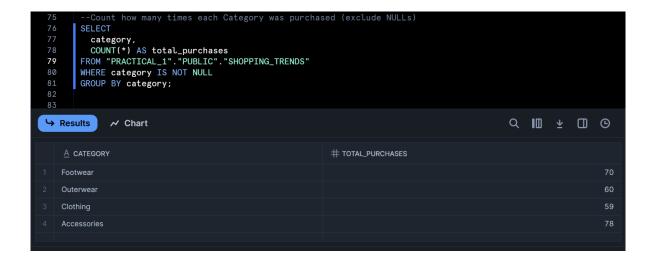
9. Group records by Frequency of Purchases and show the total amount spent per group, treating NULL frequencies as 'Unknown'.

**Expected Columns:** Frequency of Purchases, Total purchase\_amount



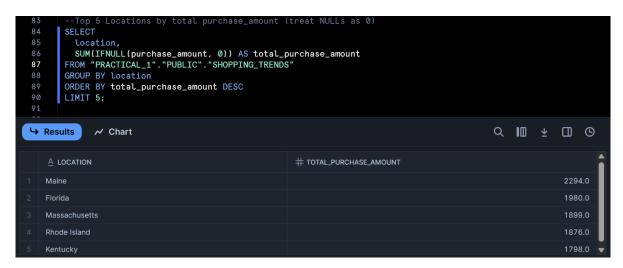
10. Display a list of all Category values with the number of times each was purcha sed, excluding rows where Categoryis NULL.

**Expected Columns:** Category, Total Purchases



11. Return the top 5 Locations with the highest total purchase\_amount, replacing NULLs in amount with 0.

**Expected Columns:** Location, Total purchase\_amount



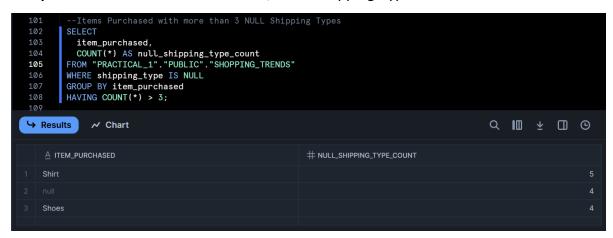
12. Group customers by Gender and Size, and count how many entries have a NULL Color.

Expected Columns: Gender, Size, Null Color Count



13. Identify all Item Purchased where more than 3 purchases had NULL Shipping Type.

Expected Columns: Item Purchased, NULL Shipping Type Count



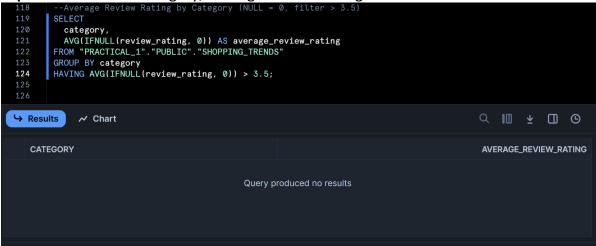
14. Show a count of how many customers per Payment Method have NULL Review Rating.

Expected Columns: Payment Method, Missing Review Rating Count



15. Group by Category and return the average Review Rating, replacing NULLs with 0, and filter only where average is greater than 3.5.

Expected Columns: Category, Average Review Rating



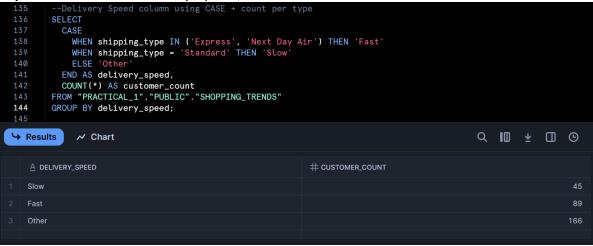
16. List all Colors that are missing (NULL) in at least2 rows and the average Age of customers for those rows.

Expected Columns: Color, Average Age



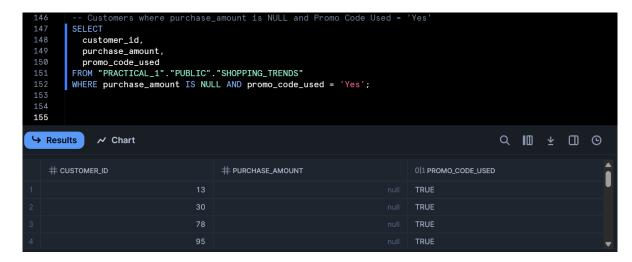
17. Use CASE to create a column Delivery Speed: 'Fast' if Shipping Type is 'Express' or 'Next Day Air', 'Slow' if 'Standard', 'Other' for all else including NULL. Then count how many customers fall into each category.

**Expected Columns:** Delivery Speed, Customer Count



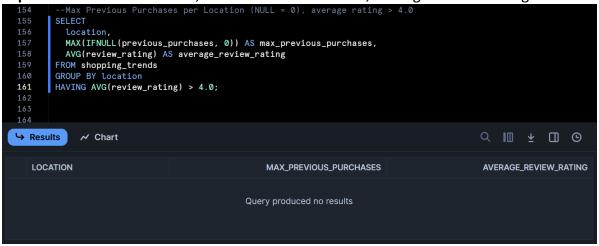
18. Find customers whose purchase\_amount is NULL and whose Promo Code Used is 'Yes'.

Expected Columns: Customer ID, purchase amount, Promo Code Used



19. Group by Location and show the maximum Previous Purchases, replacing NULLs with 0, only where the average rating is above 4.0.

Expected Columns: Location, Max Previous Purchases, Average Review Rating



20. Show customers who have a NULL Shipping Type but made a purchase in the range of 30 to 70 USD.

**Expected Columns:** Customer ID, Shipping Type, purchase\_amount, Item Purchased

