BRIGHTLEARN

Practical exercise (Google BigQuery)

Dataset: Retail Sales Dataset

QUESTIONS

1. WHERE Clause

Q1. Filter all transactions that occurred in the year 2023.

Expected output: All columns

2. Filtering + Conditions

Q2. Display all transactions where the Total Amount is more than the average Total Amount

of the entire dataset.

Expected output: All columns

3. Aggregate Functions

Q3. Calculate the total revenue (sum of Total Amount).

Expected output: Total_Revenue

4. DISTINCT

Q4. Display all distinct Product Categories in the dataset.

Expected output: Product_Category

5. GROUP BY

Q5. For each Product Category, calculate the total quantity sold.

Expected output: Product_Category, Total_Quantity

6. CASE Statement

Q6. Create a column called Age_Group that classifies customers as 'Youth' (<30), 'Adult'

(30–59), and 'Senior' (60+).

Expected output: Customer_ID, Age, Age_Group

7. Conditional Aggregation

Q7. For each Gender, count how many high-value transactions occurred (where Total

Amount > 500).

Expected output: Gender, High_Value_Transactions

8. HAVING Clause

Q8. For each Product Category, show only those categories where the total revenue exceeds 5,000.

Expected output: Product_Category, Total_Revenue

9. Calculated Fields

Q9. Display a new column called Unit_Cost_Category that labels a transaction as:

– 'Cheap' if Price per Unit < 50

– 'Moderate' if Price per Unit between 50 and 200

– 'Expensive' if Price per Unit > 200

Expected output: Transaction_ID, Price_per_Unit, Unit_Cost_Category

10. Combining WHERE + CASE

Q10. Display all transactions from customers aged 40 or older and add a column

Spending_Level showing 'High' if Total Amount > 1000, otherwise 'Low'.

Expected output: Customer_ID, Age, Total_Amount, Spending_Level