Project: Practical exercise (Google Big Query)

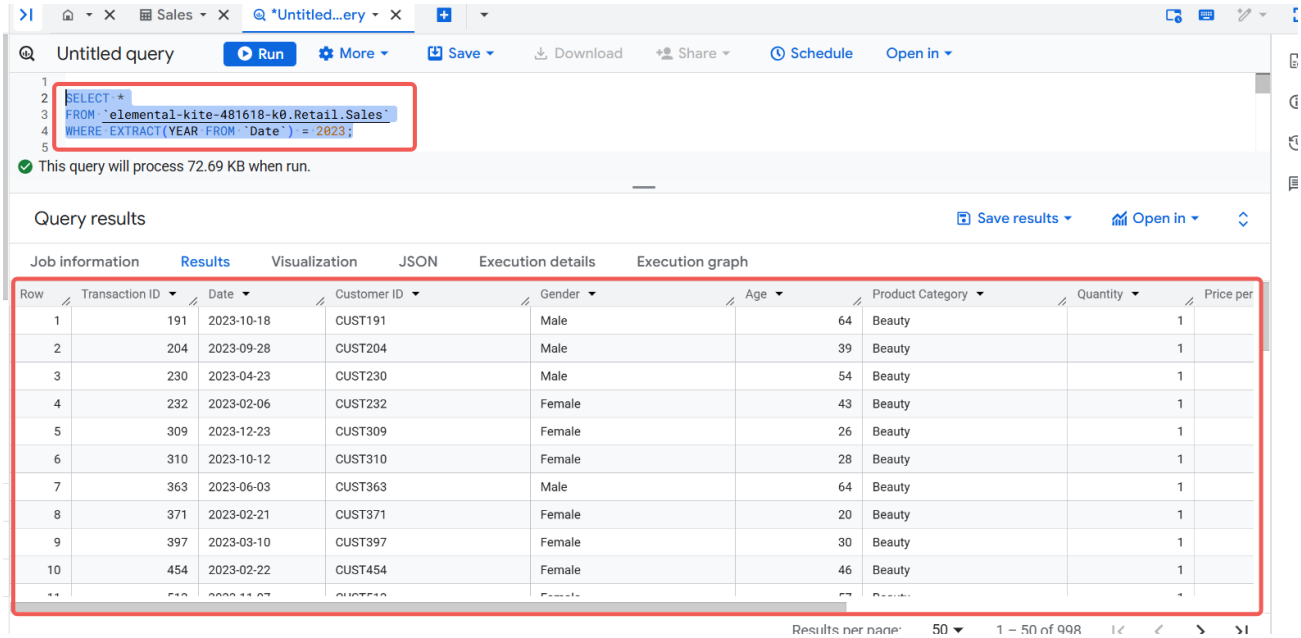
Dataset: **Retail Sales Dataset**

WHERE Clause

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

Expected output: All columns

ANS:

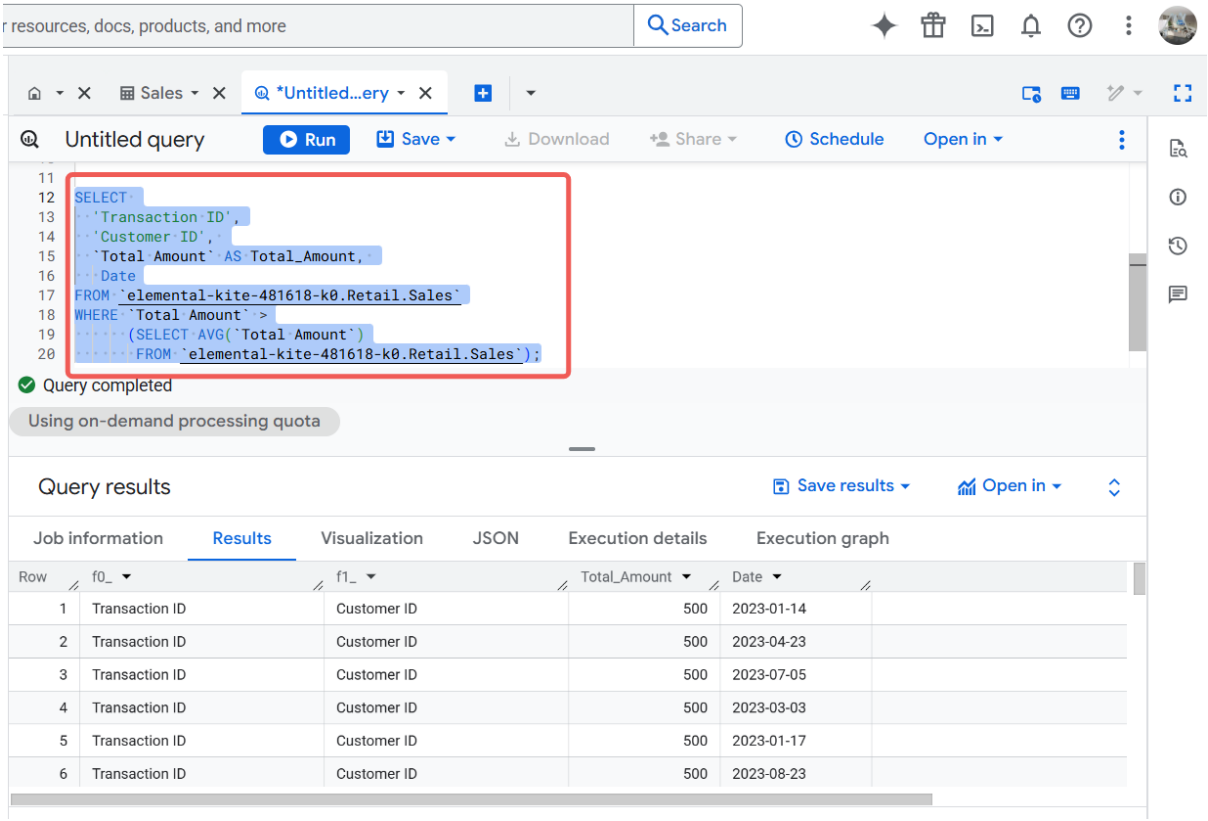


Filtering + Conditions

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

Expected output: All columns

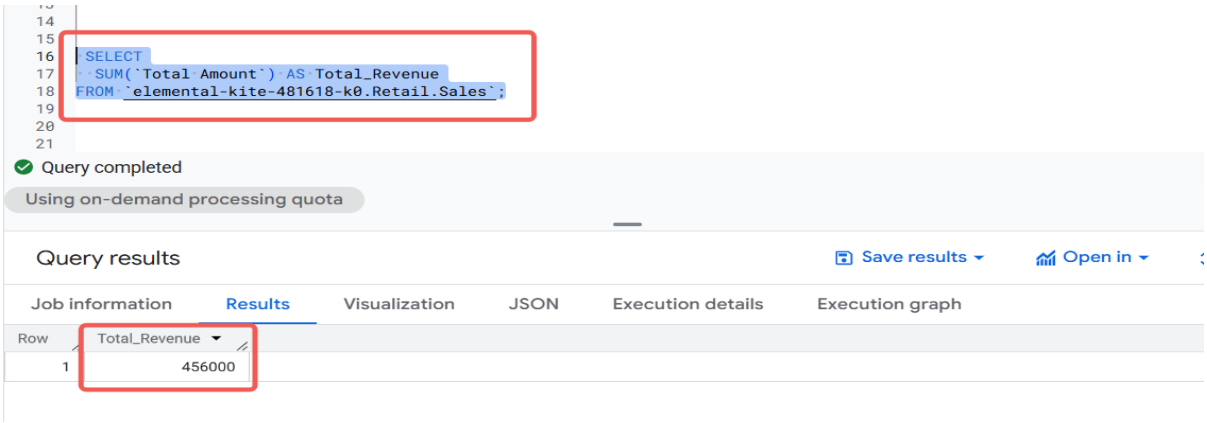
ANS:



Aggregate Functions

Q3. Calculate the total revenue (sum of Total Amount). Expected output: Total_Revenue

ANS:

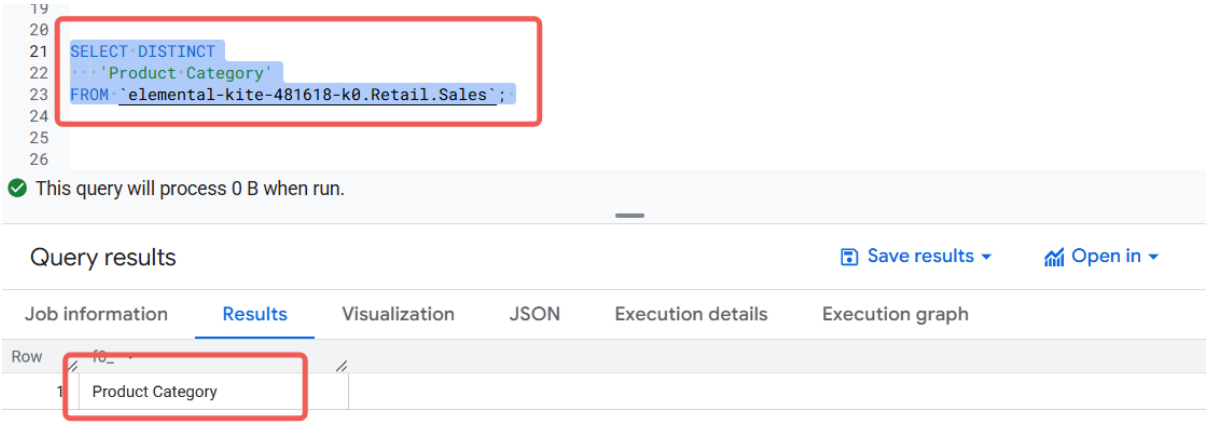


DISTINCT

Q4. Display all distinct Product Categories in the dataset.

Expected output: Product_Category

ANS

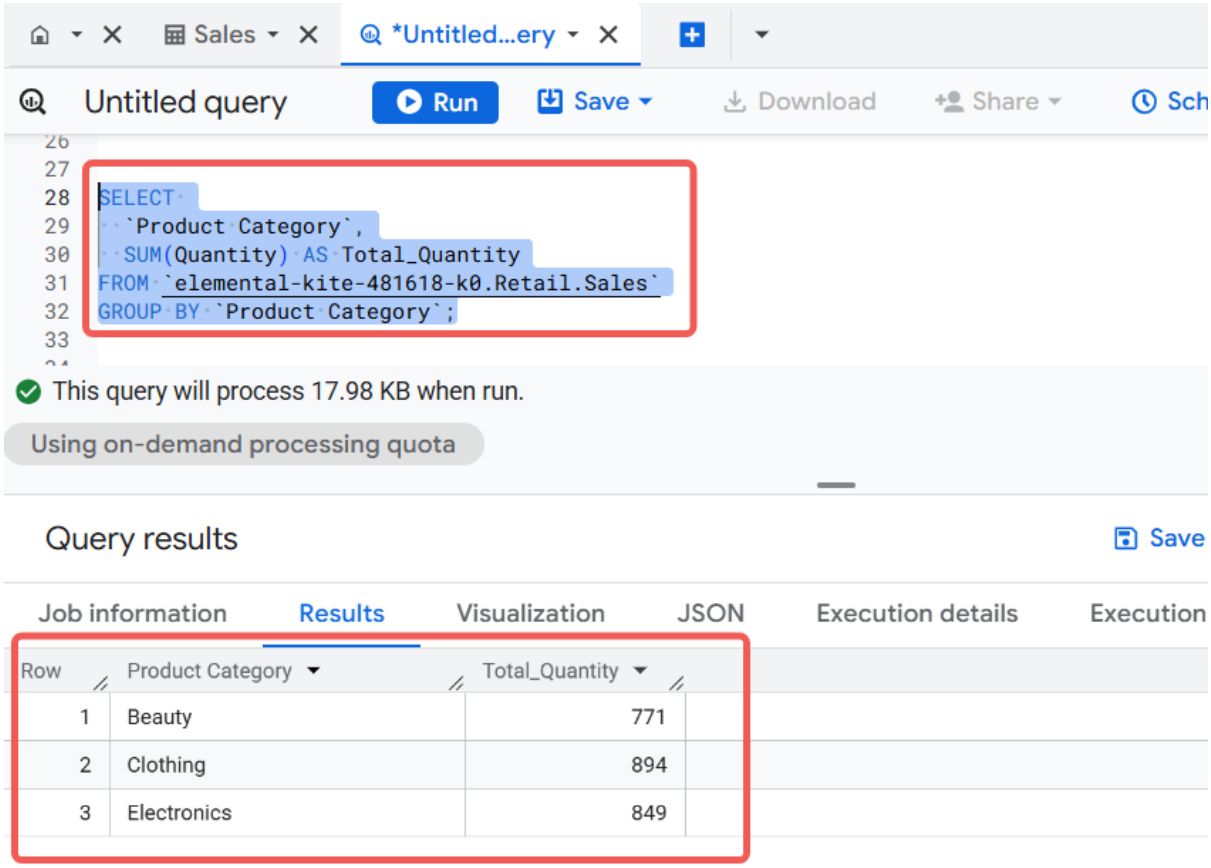


GROUP BY

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

Expected output: Product Category, Total Quantity

ANS:

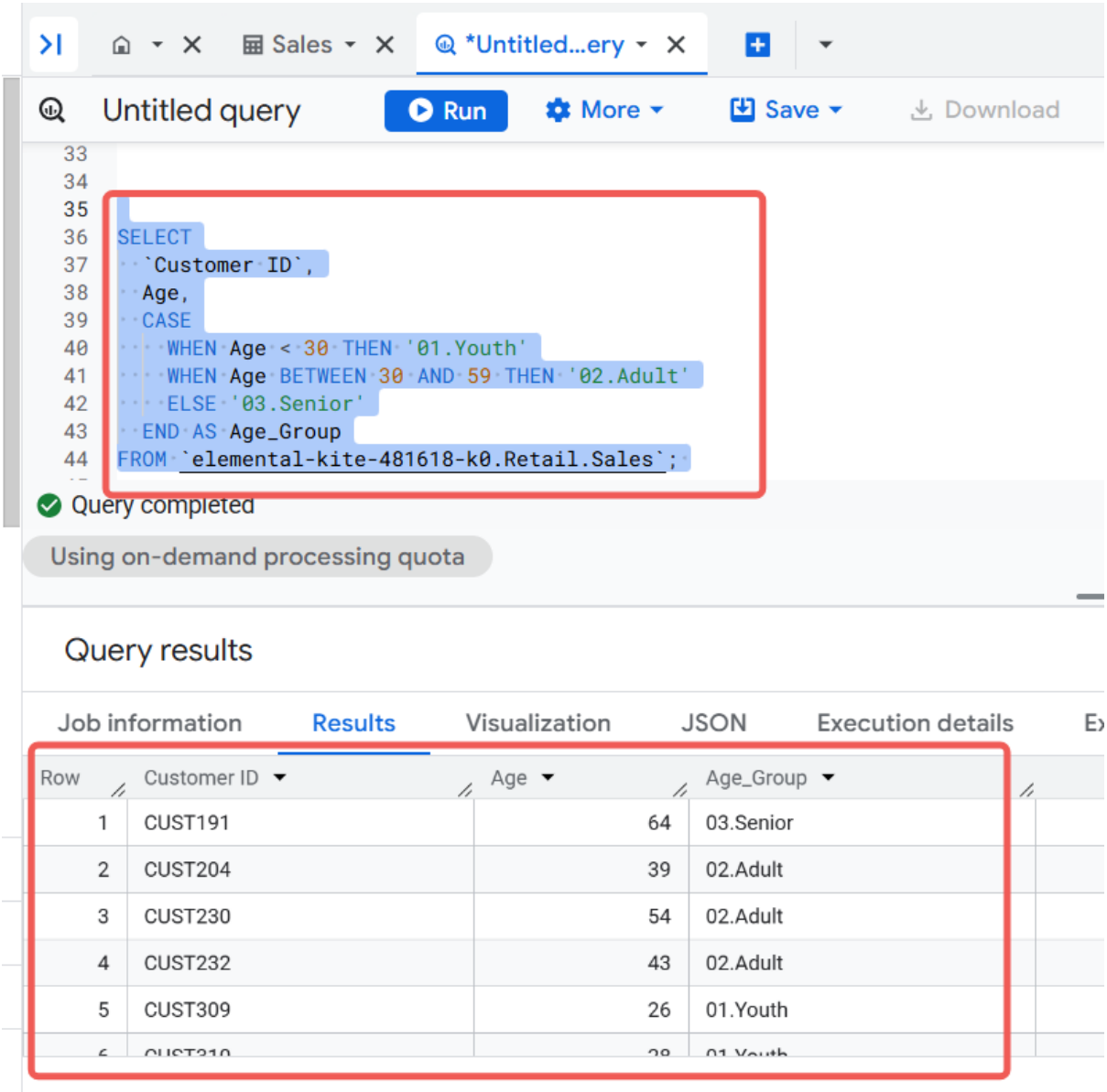


CASE Statement

Q6. Create a column called Age_Group that classifies customers as 'Youth' (<30), 'Adult' (30-59), 'Senior' (60+)

Expected output: Customer_ID, Age, Age_Group

ANS:

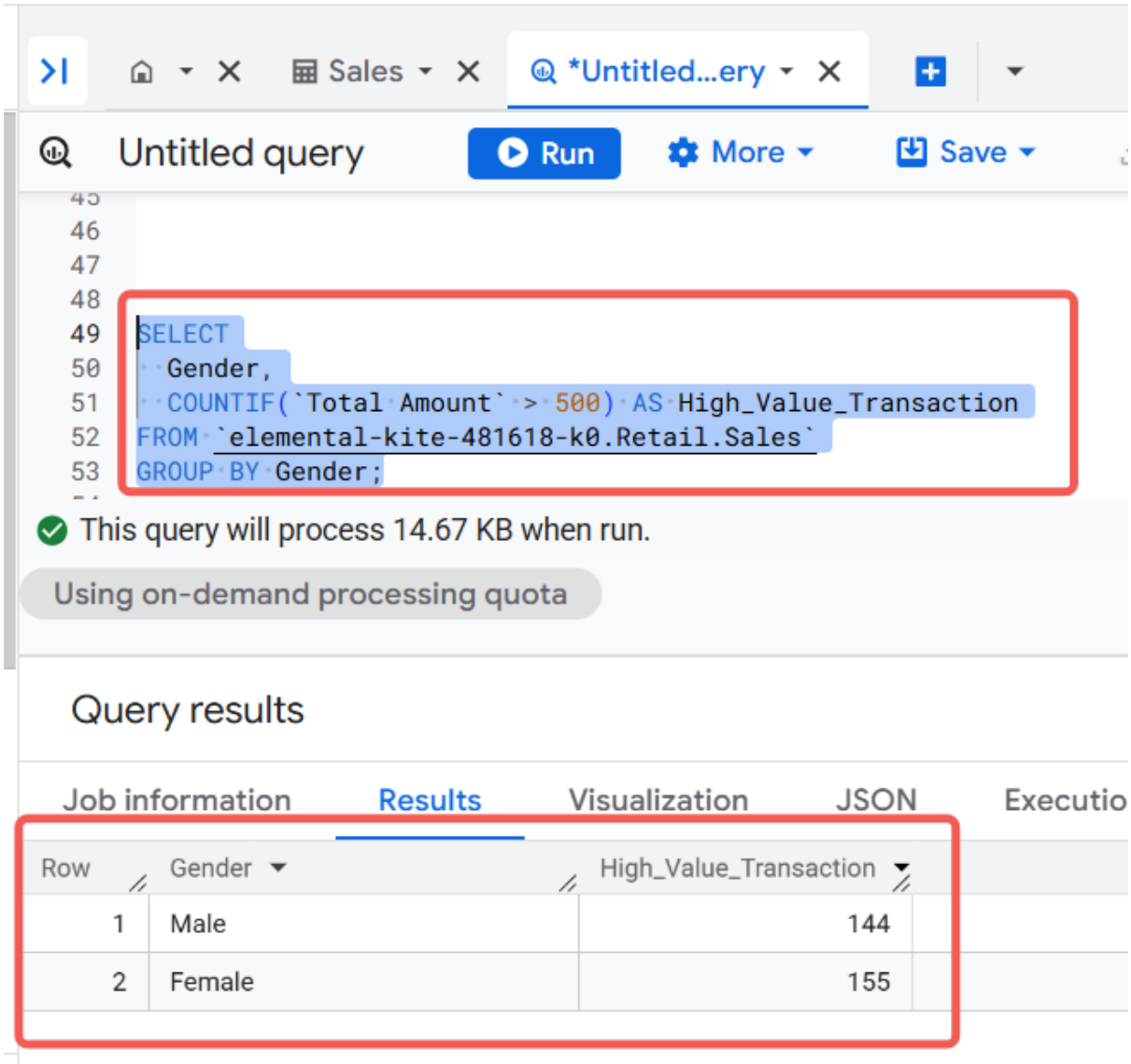


Conditional Aggregation

Q7. For each Gender, count how many high-value transactions occurred (where the Total Amount > 500).

Expected output: Gender, High_Value_Transactions

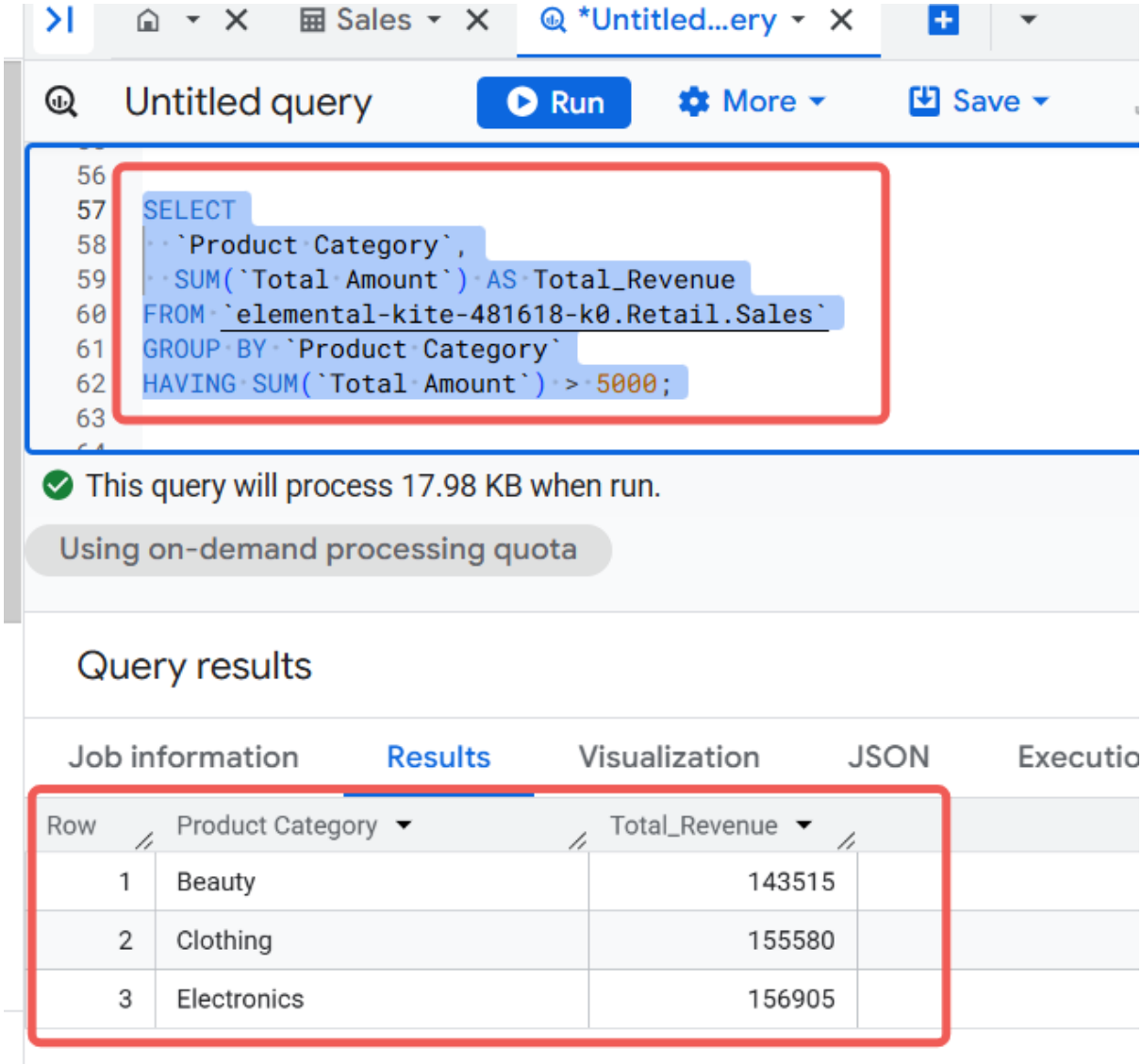
ANS:



HAVING Clause

Q8. For each Product Category, show only those categories where the total revenue exceeds 5,000. Expected output: Product_Category, Total_Revenue

ANS:

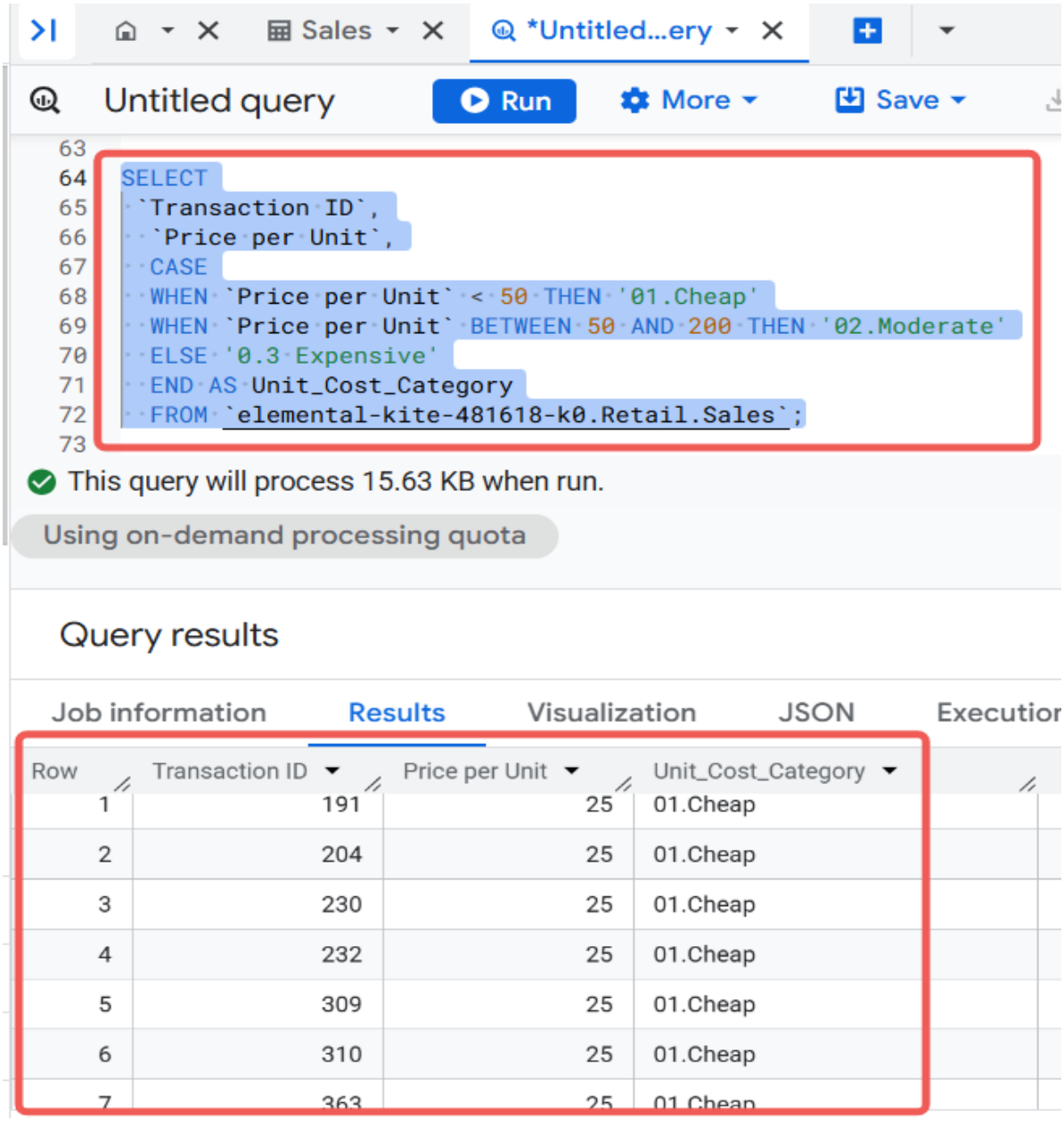


Calculated Fields

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

ANS:

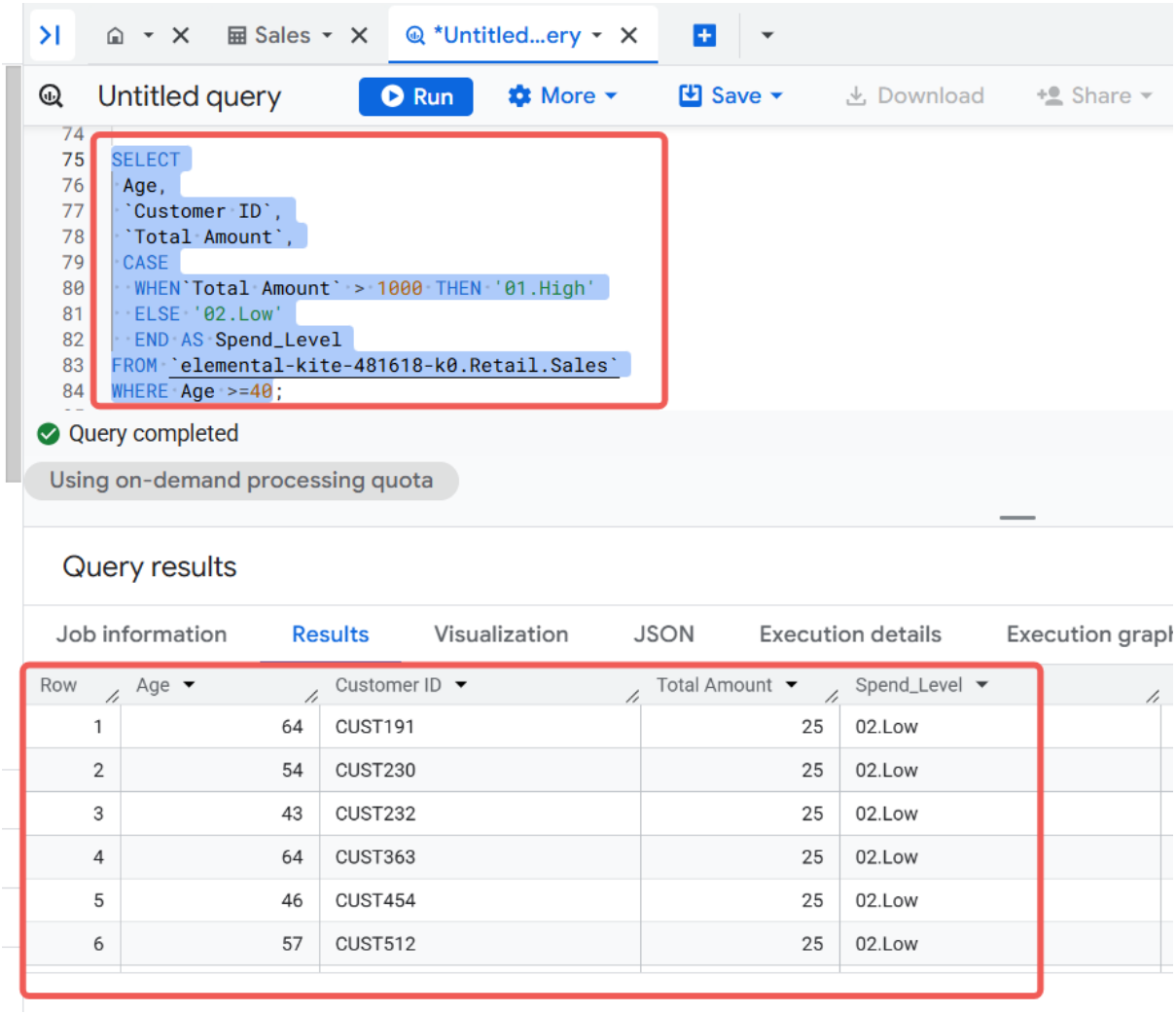


Combining WHERE + CASE

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

ANS:



Row	Age	Customer ID	Total Amount	Spend_Level
1	64	CUST191	25	02.Low
2	54	CUST230	25	02.Low
3	43	CUST232	25	02.Low
4	64	CUST363	25	02.Low
5	46	CUST454	25	02.Low
6	57	CUST512	25	02.Low