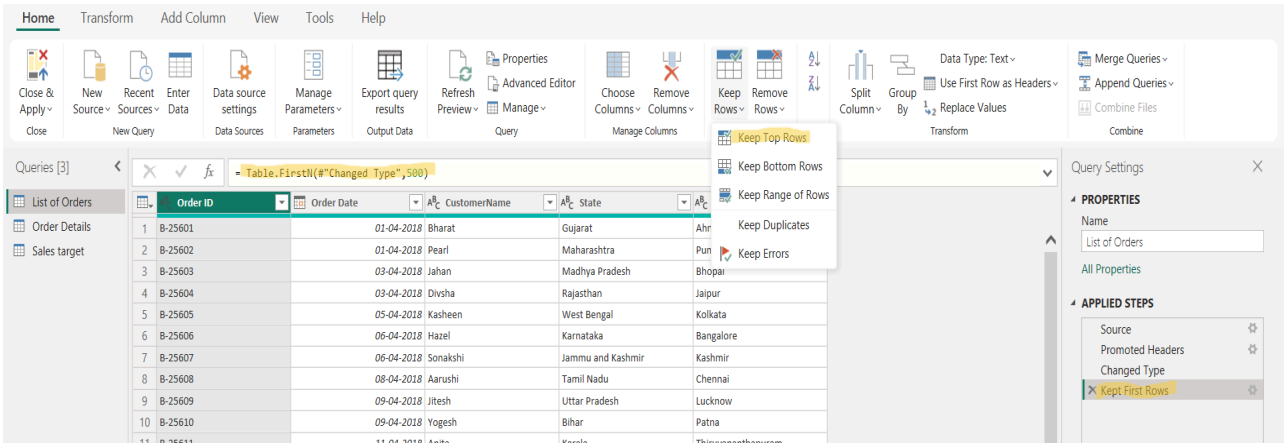
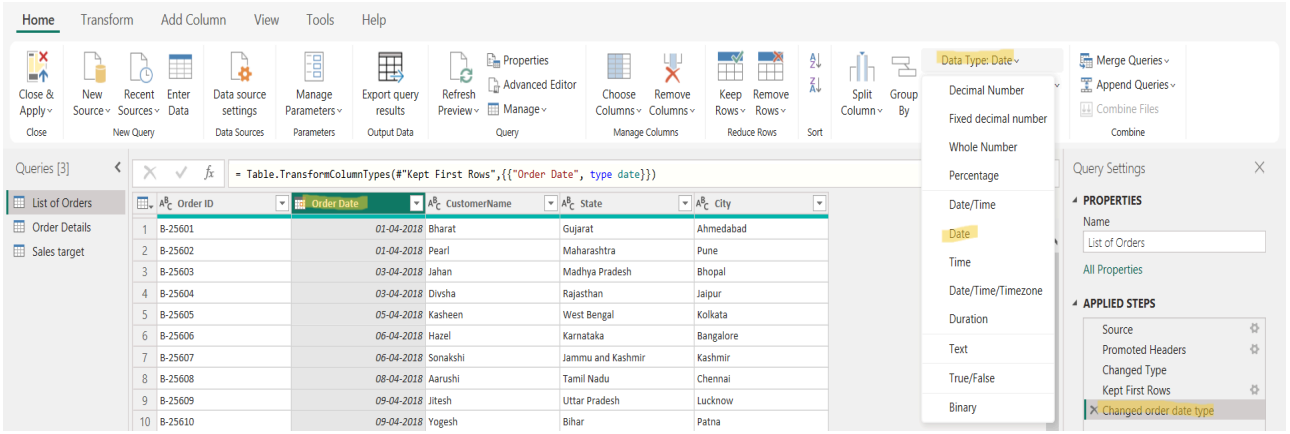
Power BI Assignment 1 – Data Transformation & Data Modeling

Data Transformation:

Restrict the "List of Orders" table to only the first 500 rows.

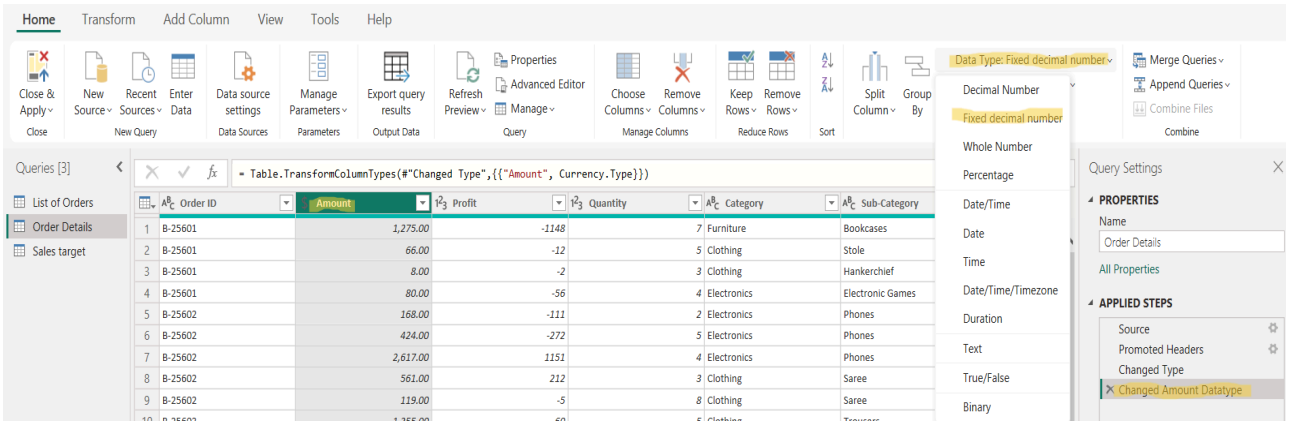


Ensure the "Order Date" column in the "List of Orders" table is set to data type 'Date'.

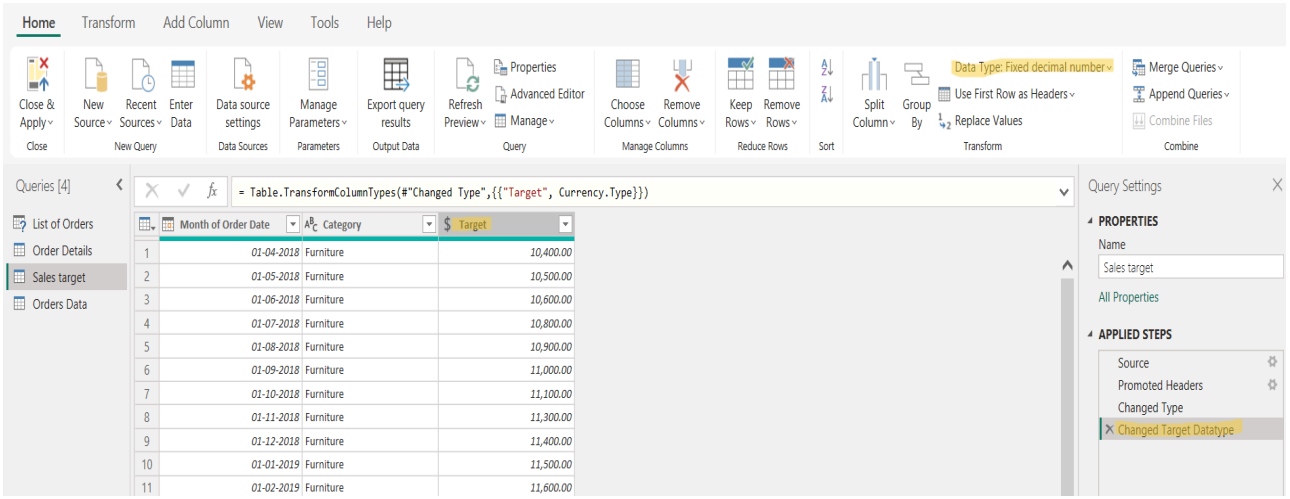


Change the data type of "Amount" and "Target" columns to 'Fixed Decimal Number'

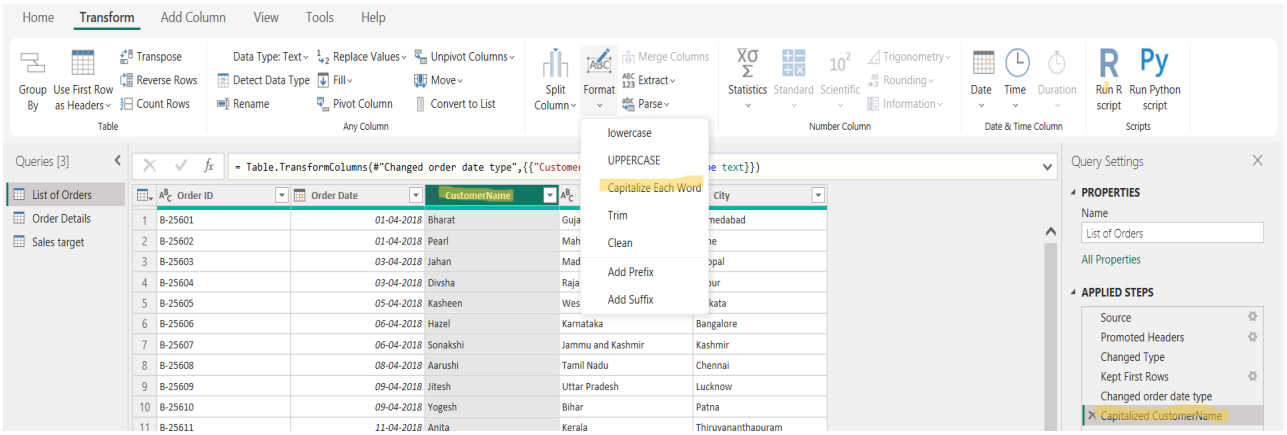
Amount :



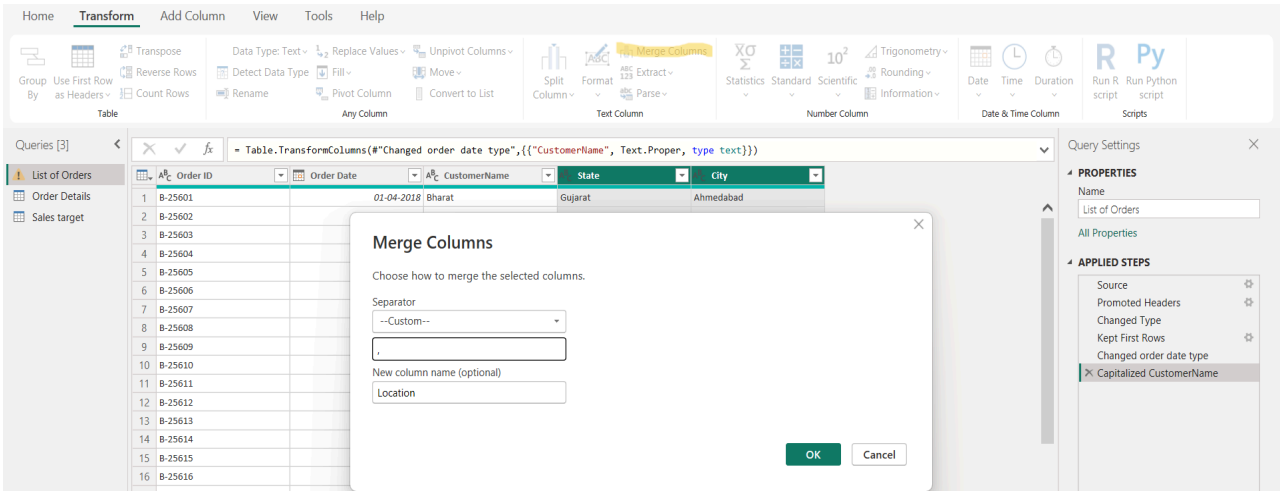
Target :



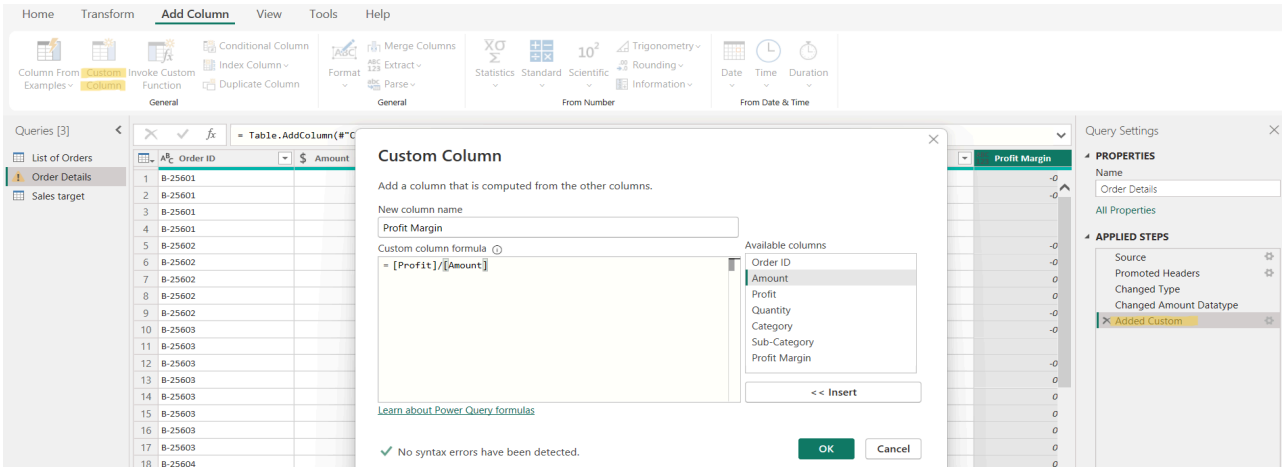
Format the "CustomerName" column into proper case, ensuring consistent capitalization for each word.



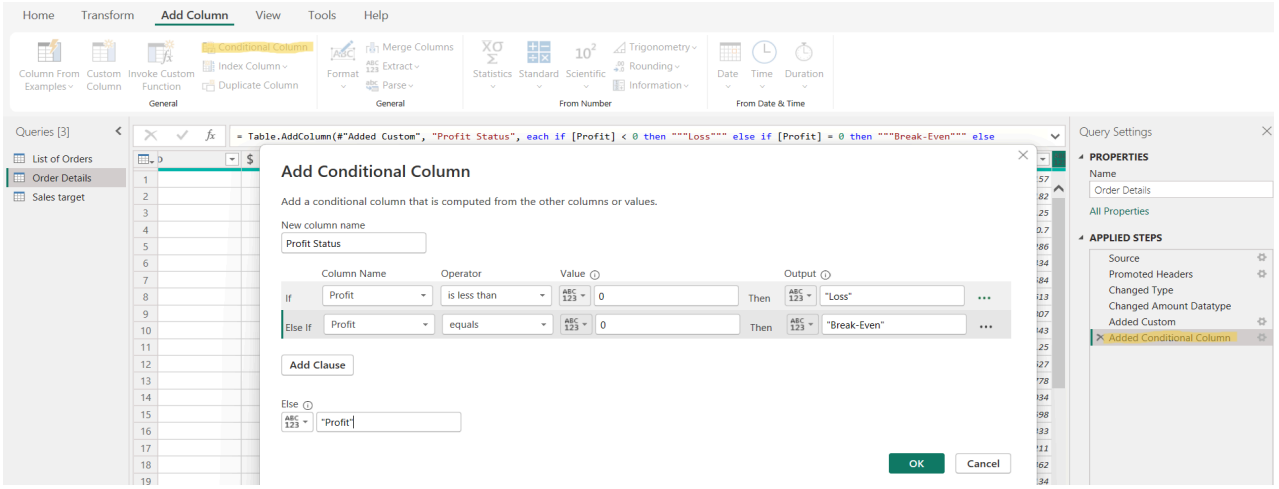
Merge the "State" and "City" columns to create a new column named "Location" in the format ‘City, State’.



Create a new custom column named "Profit Margin" as the percentage of "Profit" divided by "Amount".

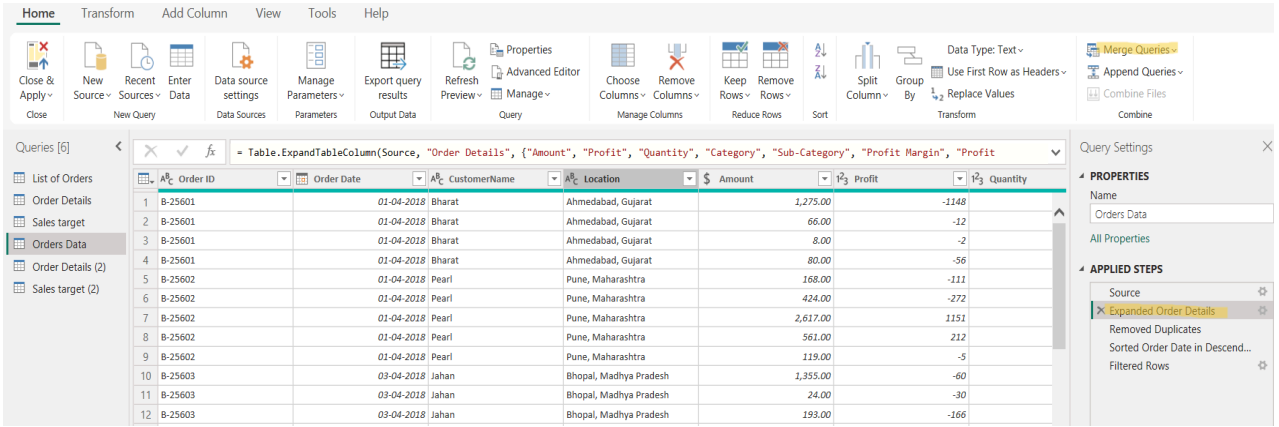


Add a new conditional column named "Profit Status" based on the values in the "Profit" column. The conditions are as follows: if the profit is less than 0, the label should be "Loss"; if the profit equals 0, the label should be "Break-Even"; and if the profit is greater than 0, the label should be "Profit".



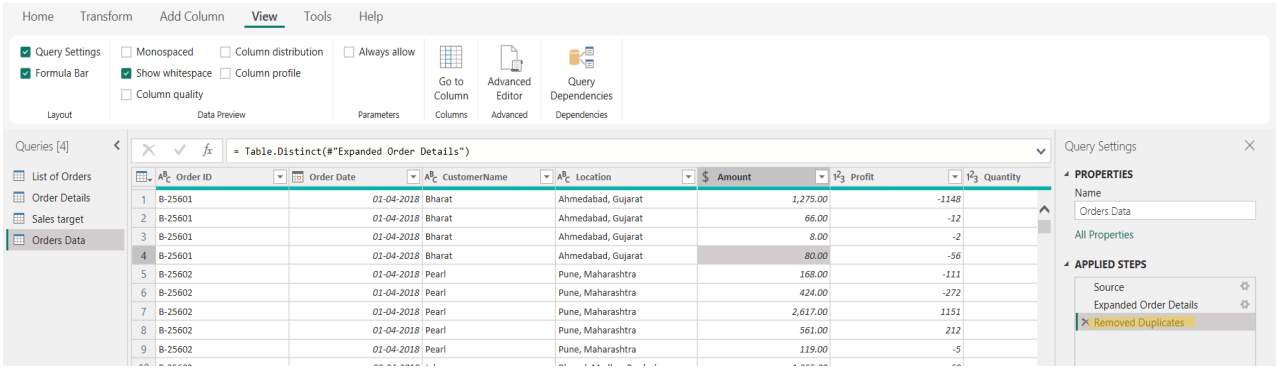
Merging Data (Joins):

Merge the "List of Orders" and "Order Details" tables into a new single table named "Orders Data" based on the "Order ID" relationship.



Handling Missing Data & Duplicate Data:

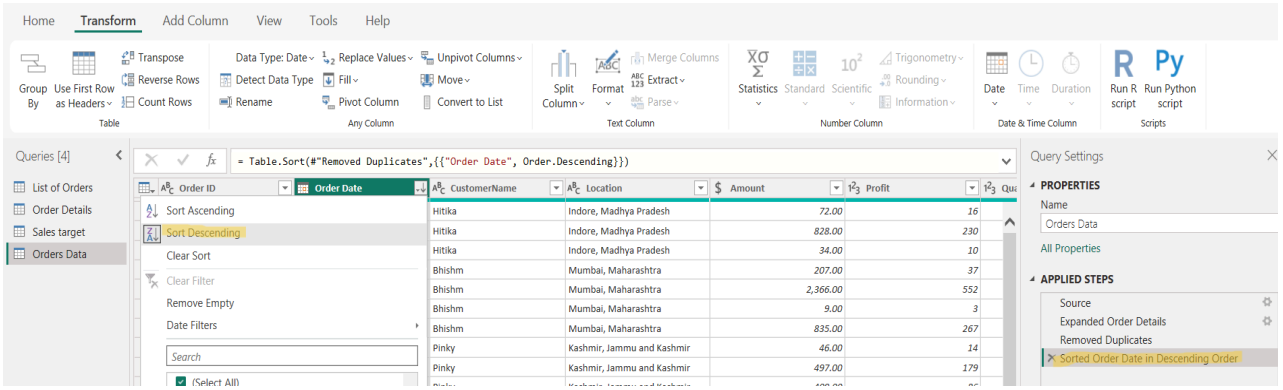
Identify missing values in the data and determine a strategy to address them.Check for duplicate rows and define a strategy to handle duplicates.



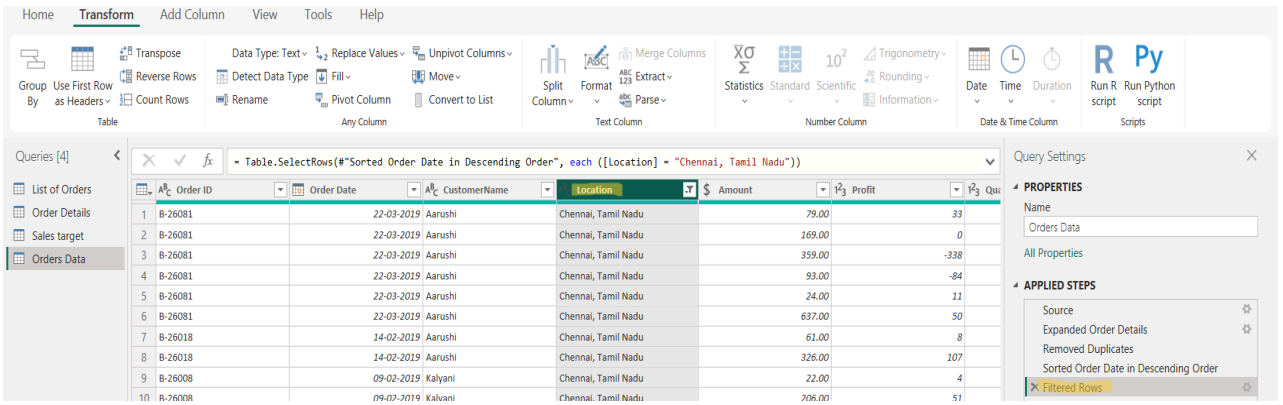
Sorting and Filtering Data:

In the 'Orders Data' table, utilize sorting and filtering techniques on columns like Order Date, State or Category to analyze data based on specific criteria:

◆ Sort the orders by Order Date in descending order to analyze recent trends.



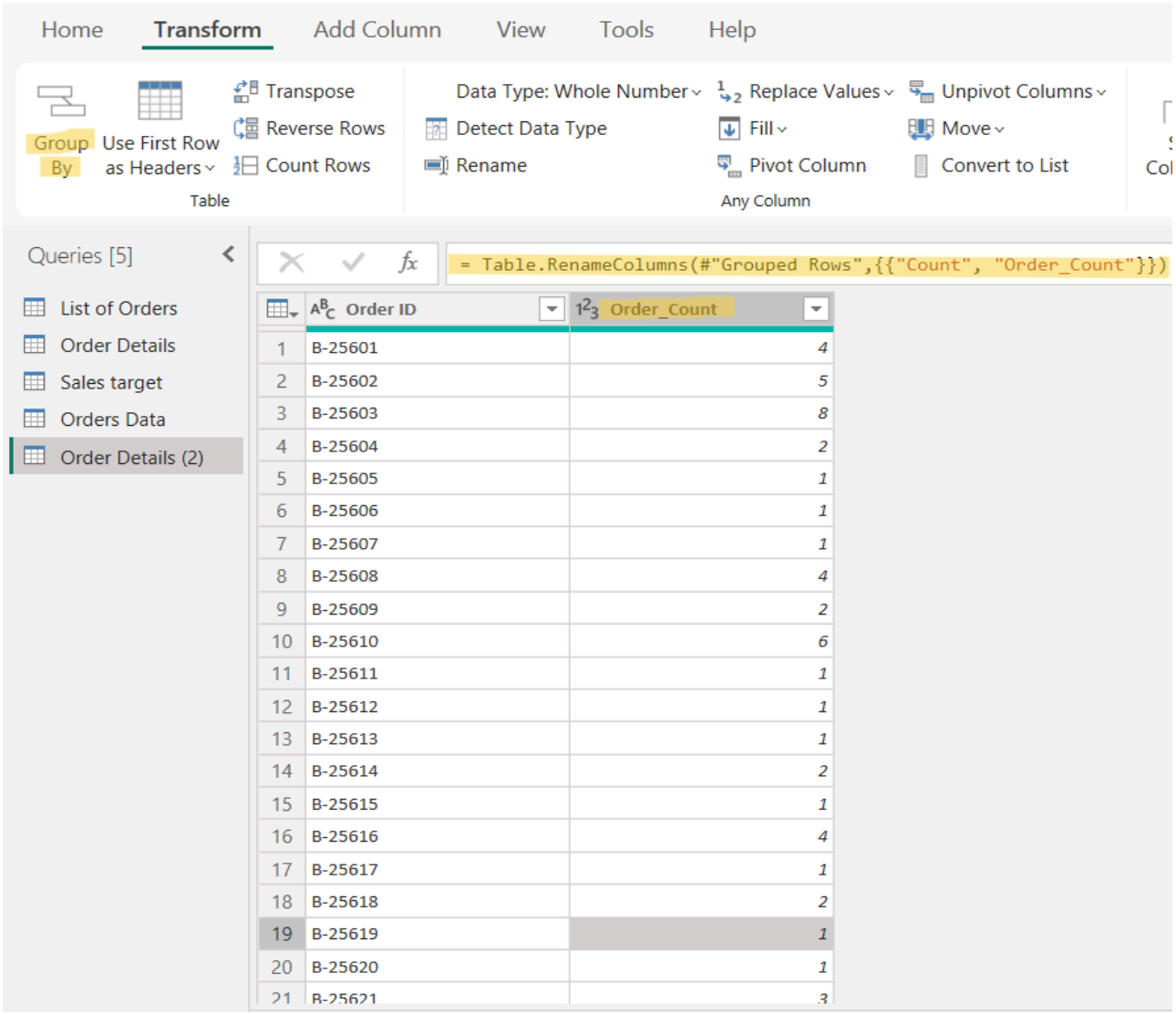
◆ Filter the orders to focus only on a specific state (e.g., Tamil Nadu) for regional analysis.



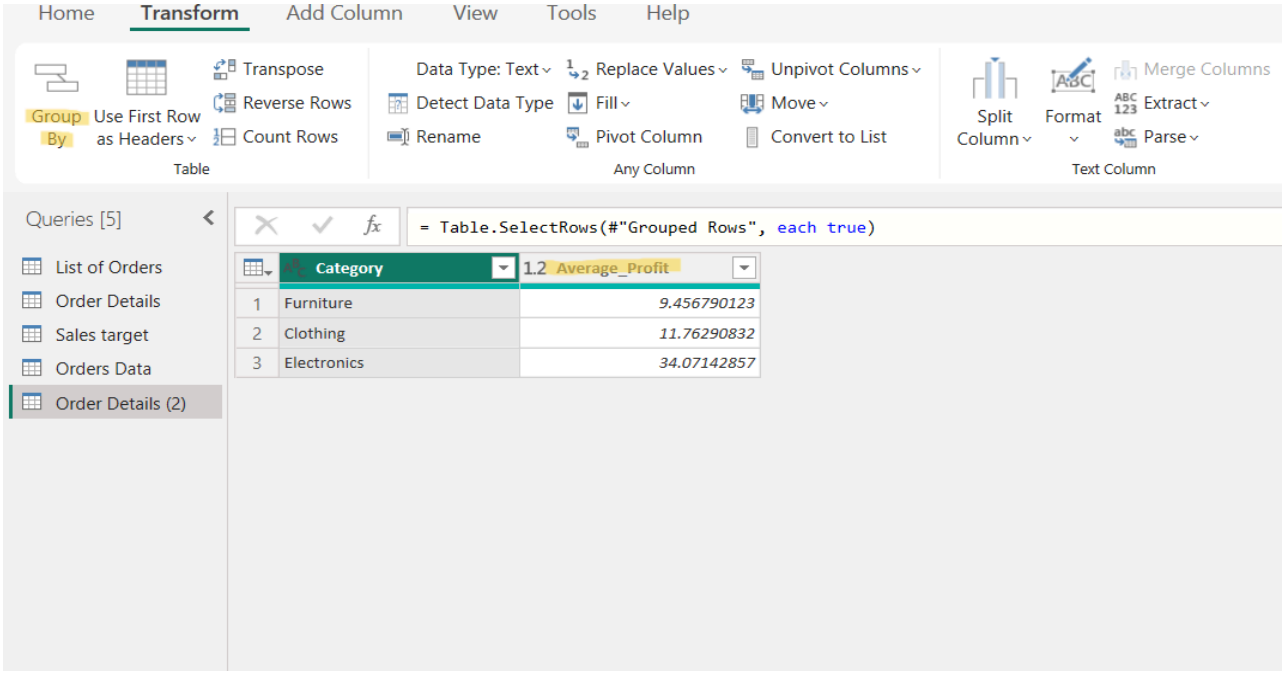
Grouping and Aggregating Data:

Duplicate the "Order Details" table and calculate the count of each Order ID, average profit by Category or total amount by Sub-Category.

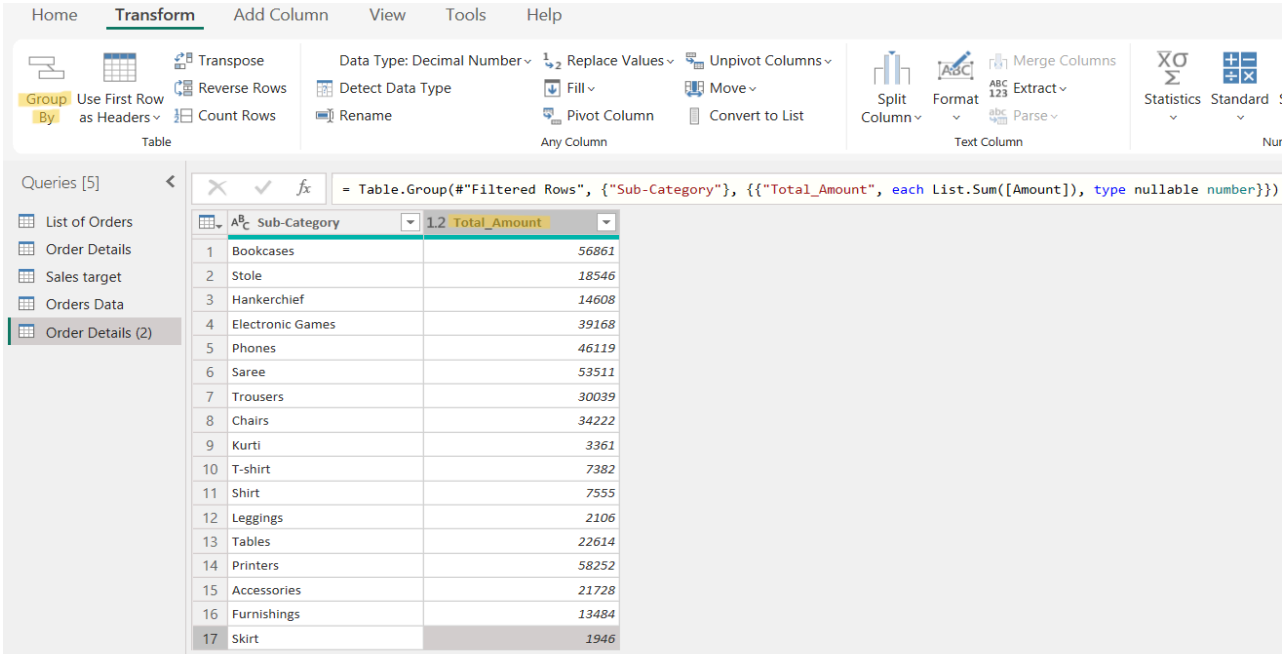
Count of each Order ID



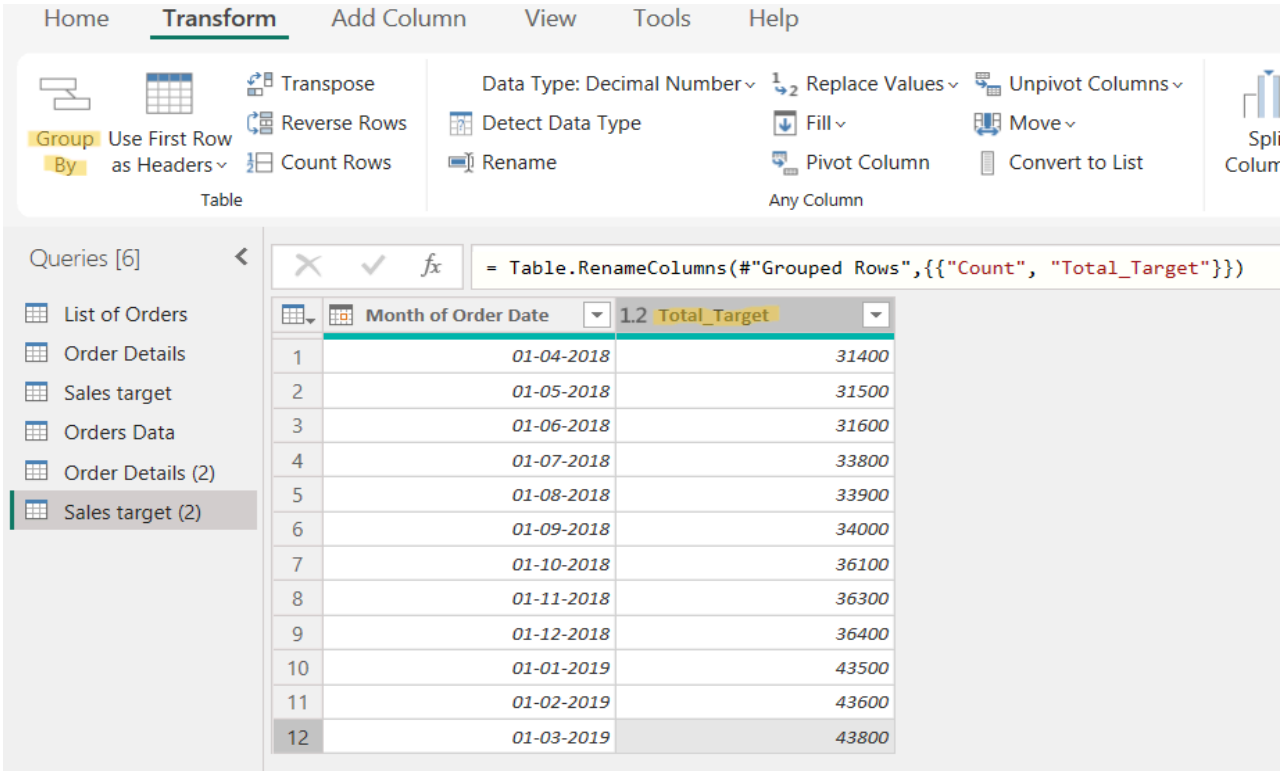
Average profit by each category



Total amount by sub-category



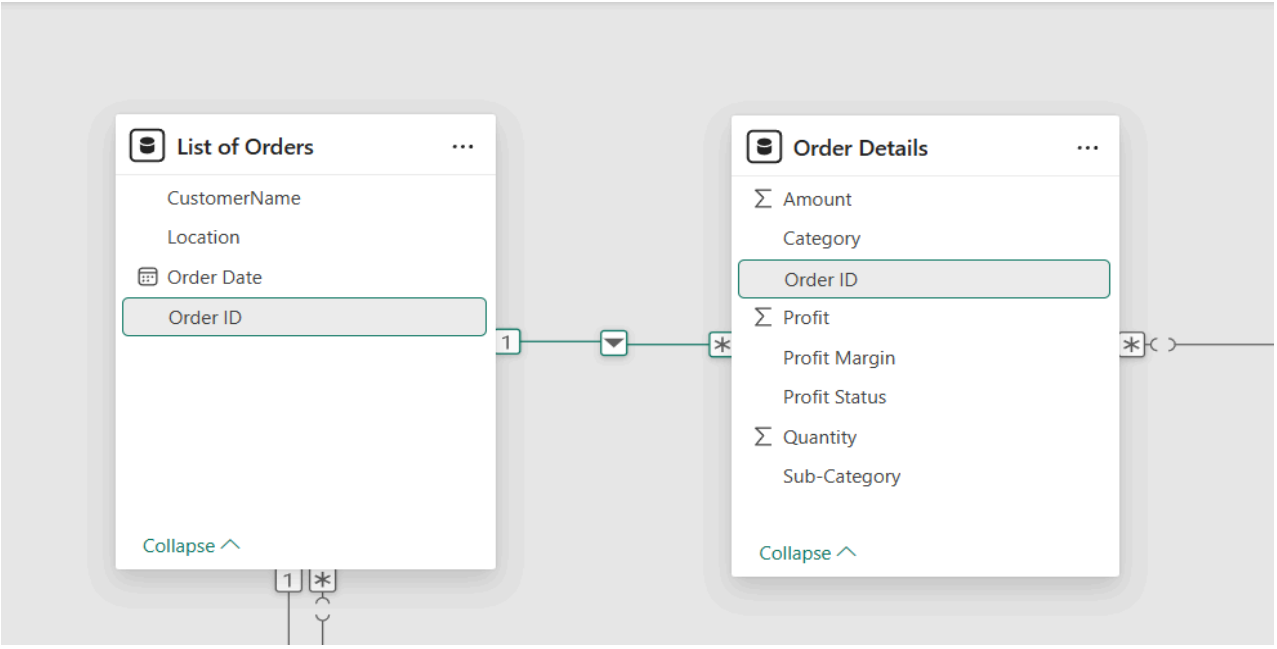
Duplicate the "Sales Target" table and aggregate the total target amount by Month of Order Date.



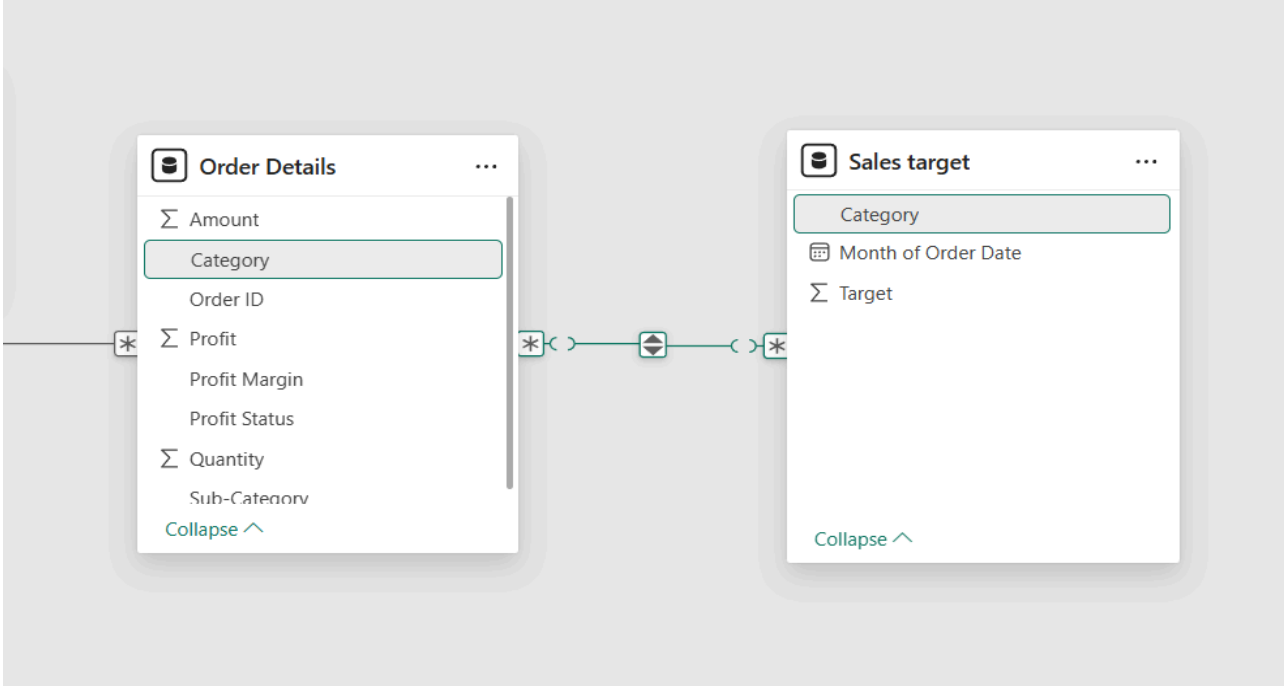
	Month of Order Date	1.2 Total_Target
1	01-04-2018	31400
2	01-05-2018	31500
3	01-06-2018	31600
4	01-07-2018	33800
5	01-08-2018	33900
6	01-09-2018	34000
7	01-10-2018	36100
8	01-11-2018	36300
9	01-12-2018	36400
10	01-01-2019	43500
11	01-02-2019	43600
12	01-03-2019	43800

Data Modeling:

Establish a relationship between the "List of Orders" and "Order Details" tables using the 'Order ID' column.



Build a relationship between the “Order Details” and “Sales Target” tables based on the ‘Category’ column.



Click "Manage relationships" and ensure this relationship is active.