

# Supermarket Sales and Performance Analysis using SQL



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**Project Name:** Supermarket Sales

**Date:**

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## ➤ Project Overview

This SQL project analyses the Sample Superstore dataset to uncover sales trends, profit distribution, and customer behaviour across regions. Queries were designed to optimize data insights for business decision-making.

## ➤ Sample Data

	Ship_mode	Segment	Country	City	State	Postal_code	Region	Category	Sub_category	Sales	Quantity
▶	Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture	Bookcases	261.96	2
	Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture	Chairs	731.94	3
	Second Class	Corporate	United States	Los Angeles	California	90036	West	Office Supplies	Labels	14.62	2
	Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Furniture	Tables	957.5775	5
	Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Office Supplies	Storage	368	2
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture	Furnishings	48.86	7
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Art	7.28	4
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology	Phones	907.152	6
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Binders	18.504	3
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Appliances	114.9	5
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture	Tables	1706.184	9
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology	Phones	911.424	4
	Standard Class	Consumer	United States	Concord	North C...	28027	South	Office Supplies	Paper	15.552	3
	Standard Class	Consumer	United States	Seattle	Washington	98103	West	Office Supplies	Binders	407.976	3

## ➤ Dataset Description

- **Columns Overview**

- **Ship Mode:** The mode of shipment for the order (e.g., Standard Class, Second Class, First Class, Same Day).
- **Segment:** The market segment of the customer — Consumer, Corporate, or Home Office.
- **Country:** The country where the order was placed. (In this dataset, all orders are from the United States.)
- **City and State:** Location details of the transaction.
- **Postal Code:** The postal code of the delivery address.
- **Region:** The regional division of the U.S. (East, West, Central, South).
- **Category:** The broad category of the product — Furniture, Office Supplies, or Technology.
- **Subcategory:** A more specific classification of the product (e.g., Chairs, Binders, Phones).
- **Sales:** The total sales amount for the transaction.
- **Quantity:** The number of units sold in the transaction.
- **Discount:** The discount applied to the transaction (in decimal format).
- **Profit:** The profit earned from the transaction after accounting for discount and cost.

# SQL QUERIES FOR RETRIEVE & ANALYSE SUPER MARKET SALES DATA

## 1. Display all columns from the dataset.

- Shows every record and column

**Query:**

```
SELECT *  
FROM superstore;
```

**Output:**

Ship_mode	Segment	Country	City	State	Postal_code	Region	Category	Sub_category	Sales	Quantity
Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture	Bookcases	261.96	2
Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture	Chairs	731.94	3
Second Class	Corporate	United States	Los Angeles	California	90036	West	Office Supplies	Labels	14.62	2
Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Furniture	Tables	957.5775	5
Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Office Supplies	Storage	22.368	2
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture	Furnishings	48.86	7
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Art	7.28	4
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology	Phones	907.152	6
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Binders	18.504	3
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Appliances	114.9	5
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture	Tables	1706.184	9
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology	Phones	911.424	4
Standard Class	Consumer	United States	Concord	North C...	28027	South	Office Supplies	Paper	15.552	3

## 2. Show unique cities available in the dataset.

- Removes duplicates and lists all cities.

### Query:

```
SELECT DISTINCT City  
FROM superstore;
```

### Output:

City
Henderson
Los Angeles
Fort Lauderdale
Concord
Seattle
Fort Worth
Madison
West Jordan
San Francisco
superstore 22

Output ::::::::::::::::::::

Action Output

#	Time	Action	Message
1	15:56:28	SELECT DISTINCT City FROM superstore LIMIT 0, 1000	531 row(s) returned

### 3. Display first 10 records from the Superstore table.

- Checks the first few entries for preview.

#### Query:

```
SELECT *  
FROM superstore  
LIMIT 10;
```

#### Output:

The screenshot shows a database interface with a results grid and a history panel below it.

**Results Grid:**

	Ship_Mode	Segment	Country	City	State	Postal_Code	Region	Category	Sub_Category	Sales	Quantity
▶	Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture	Bookcases	261.96	2
	Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture	Chairs	731.94	3
	Second Class	Corporate	United States	Los Angeles	California	90036	West	Office Supplies	Labels	14.62	2
	Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Furniture	Tables	957.5775	5
	Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Office Supplies	Storage	22.368	2
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture	Furnishings	48.86	7
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Art	7.28	4
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology	Phones	907.152	6

**Action Output:**

#	Time	Action	Message
1	15:54:38	SELECT * FROM superstore LIMIT 10	10 row(s) returned

#### 4. Retrieve all orders where sales are greater than 1000.

- Filters transactions with high sales.

##### Query:

```
SELECT *  
FROM superstore  
WHERE Sales > 1000;
```

##### Output:

	Ship_Mode	Segment	Country	City	State	Postal_Code	Region	Category	Sub_Category	Sales	Quantity
▶	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture	Tables	1706.184	9
	Standard Class	Consumer	United States	Orem	Utah	84057	West	Furniture	Tables	1044.63	3
	Standard Class	Consumer	United States	Philadelphia	Pennsylvania	19140	East	Furniture	Bookcases	3083.43	7
	First Class	Corporate	United States	Richardson	Texas	75080	Central	Technology	Phones	1097.544	7
	Standard Class	Corporate	United States	New York City	New York	10024	East	Technology	Phones	1029.95	5
	Standard Class	Corporate	United States	Gilbert	Arizona	85234	West	Office Supplies	Art	1113.024	8
	Standard Class	Corporate	United States	Franklin	Wisconsin	53132	Central	Furniture	Chairs	1951.84	8
	Standard Class	Consumer	United States	San Antonio	Texas	78207	Central	Technology	Machines	8159.952	8

superstore 24 ×

Output

Action Output

#	Time	Action	Message
✓	1 15:58:07	SELECT * FROM superstore WHERE Sales > 1000 LIMIT 0, 1000	468 row(s) returned

## 5. List all records where the customer received a discount more than 0.5 .

- Finds discounted sales.

### Query:

```
SELECT *  
FROM Superstore  
WHERE Discount > 0.5;
```

### Output:

The screenshot shows a database interface with a results window titled "Superstore 18". The results are displayed in a table with the following columns: Ship\_Mode, Segment, Country, City, State, Postal\_Code, Region, Category, Sub\_Category, Sales, and Quantity. The data returned by the query is as follows:

	Ship_Mode	Segment	Country	City	State	Postal_Code	Region	Category	Sub_Category	Sales	Quantity
▶	Standard Class	Home Office	United States	Fort Worth	Texas	76106	Central	Office Supplies	Appliances	68.81	5
	Standard Class	Home Office	United States	Fort Worth	Texas	76106	Central	Office Supplies	Binders	2.544	3
	Standard Class	Consumer	United States	Philadelphia	Pennsylvania	19140	East	Office Supplies	Binders	9.618	2
	Standard Class	Consumer	United States	Philadelphia	Pennsylvania	19140	East	Office Supplies	Binders	6.858	6
	First Class	Corporate	United States	Richardson	Texas	75080	Central	Furniture	Furnishings	190.92	5
	First Class	Corporate	United States	Houston	Texas	77041	Central	Office Supplies	Binders	1.248	3
	First Class	Corporate	United States	Houston	Texas	77041	Central	Furniture	Furnishings	9.708	3
	Second Class	Consumer	United States	Houston	Texas	77070	Central	Furniture	Furnishings	19.3	5

Output

Action Output

#	Time	Action	Message
1	15:47:43	SELECT * FROM Superstore WHERE Discount > 0.5 LIMIT 0, 1000	856 row(s) returned

## 6. Show all orders from the city “Los Angeles”.

- Filters transactions by location.

### Query:

```
SELECT *  
FROM Superstore  
WHERE City = 'Los Angeles';
```

### Output:

The screenshot shows a database interface with a results grid and a command history at the bottom.

	Ship_Mode	Segment	Country	City	State	Postal_Code	Region	Category	Sub_Category	Sales	Quantity	Discount
▶	Second Class	Corporate	United States	Los Angeles	California	90036	West	Office Supplies	Labels	14.62	2	0
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture	Office Supplies	48.86	7	0
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Art	7.28	4	0
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology	Phones	907.152	6	0.2
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Binders	18.504	3	0.2
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies	Appliances	114.9	5	0
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture	Tables	1706.184	9	0.2
	Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology	Phones	911.424	4	0.2

superstore 26 × R

Output

Action Output

#	Time	Action	Message
1	16:02:25	SELECT * FROM superstore WHERE City = 'Los Angeles' LIMIT 0, 1000	747 row(s) returned

## 7. Display country and profit ordered by highest profit.

- Sorts country by profitability in the descending order.

### Query:

```
SELECT country, Profit  
FROM superstore  
ORDER BY Profit DESC;
```

### Output:

	country	Profit
▶	United States	8399.976
	United States	6719.9808
	United States	5039.9856
	United States	4946.37
	United States	4630.4755
	United States	3919.9888
	United States	3177.475
	United States	2799.984
	United States	2591.9568

superstore 28 X

Output

Action Output

#	Time	Action	Message
1	16:18:48	SELECT country, Profit FROM superstore ORDER BY Profit DESC LIMIT 0, 1000	1000 row(s) returned

## 8. Find all orders where profit WHERE is negative (losses).

- Identifies unprofitable transactions.

### Query:

```
SELECT *  
FROM superstore  
WHERE Profit < 0;
```

### Output:

The screenshot shows a data visualization interface with a table of sales data and a log of recent actions.

**Table Data:**

	Ship_Mode	Segment	Country	City	State	Postal_Code	Region	Category	Sub_Category	Sales	Quar
▶	Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Furniture	Tables	957.5775	5
	Standard Class	Home Office	United States	Fort Worth	Texas	76106	Central	Office Supplies	Appliances	68.81	5
	Standard Class	Home Office	United States	Fort Worth	Texas	76106	Central	Office Supplies	Binders	2.544	3
	Second Class	Consumer	United States	Philadelphia	Pennsylvania	19140	East	Furniture	Chairs	71.372	2
	Standard Class	Consumer	United States	Philadelphia	Pennsylvania	19140	East	Furniture	Bookcases	3083.43	7
	Standard Class	Consumer	United States	Philadelphia	Pennsylvania	19140	East	Office Supplies	Binders	9.618	2
	Standard Class	Consumer	United States	Philadelphia	Pennsylvania	19140	East	Office Supplies	Binders	6.858	6
	First Class	Corporate	United States	Richardson	Texas	75080	Central	Furniture	Furnishings	190.92	5

**Action Log:**

#	Time	Action	Message
1	22:13:38	SELECT * FROM superstore where Profit < 0 LIMIT 0, 1000	1000 row(s) returned

## 9. Calculate total sales and profit.

- Calculation of total sales and total profit of the Superstore .

### Query:

```
SELECT SUM(Sales) AS Total_sales, SUM(Profit) AS Total_profit  
FROM Superstore;
```

### Output:

	Total_Sales	Total_Profit
▶	2297200.860299955	286397.0217000013

Result 6 ×			
Output			
Action Output		Message	
#	Time	Action	Message
1	22:23:07	SELECT SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit FROM Superstore LIMIT 0, ...	1 row(s) returned

## 10. Find total sales per region.

- Compares regions by revenue.

### Query:

```
SELECT Region, SUM(Sales) AS Total_sales  
FROM Superstore  
GROUP BY Region;
```

### Output:

The screenshot shows a database interface with a results grid and a history pane.

	Region	Total_Sales
▶	South	391721.9050000003
	West	725457.8245000006
	Central	501239.8908000005
	East	678781.2399999979

Result 1 ×

Output

Action Output

#	Time	Action	Message
1	09:03:23	SELECT Region, SUM(Sales) AS Total_Sales FROM Superstore GROUP BY Region LIMIT 0...	4 row(s) returned

## 11. Find the top 5 cities with highest total profit.

- Locates top-performing cities.

### Query:

```
SELECT City, SUM(Profit) AS Total_Profit  
FROM Superstore  
GROUP BY City  
ORDER BY Total_Profit DESC  
LIMIT 5;
```

### Output:

	City	Total_Profit
▶	New York City	62036.98369999999
	Los Angeles	30440.75789999997
	Seattle	29156.0967
	San Francisco	17507.385399999985
	Detroit	13181.790800000002

Result 3 ×

Output

Action Output

#	Time	Action	Message
1	09:13:58	SELECT City, SUM(Profit) AS Total_Profit FROM superstore GROUP BY City ORDER BY Total_Profit DESC LIMIT 5;	5 row(s) returned

## 12. Find total sales per category where profit > 5000.

- Combines aggregation and filtering.

### Query:

```
SELECT Category, SUM(Sales) AS Total_sales  
FROM Superstore  
GROUP BY Category  
HAVING SUM(Profit) > 5000;
```

### Output:

Category	Total_sales
Furniture	741999.7952999998
Office Supplies	719047.0320000029
Technology	836154.0329999966

Result 4 ×

Output

Action Output

#	Time	Action	Message
1	09:21:55	SELECT Category, SUM(Sales) AS Total_sales FROM superstore Group by Category Having S...	3 row(s) returned

### 13. Show states having sales greater than average sales.

- Subquery to compare against average.

#### Query:

```
SELECT State, Sum(sales), avg(sales)  
FROM Superstore  
GROUP BY State  
HAVING SUM(Sales) > (SELECT AVG(Sales) FROM Superstore);
```

#### Output:

	State	Sum(sales)	avg(sales)
▶	Kentucky	36591.749999999997	263.2499999999998
	California	457687.631500001	228.72945102448827
	Florida	89473.708	233.6128146214099
	North Carolina	55603.16399999997	223.30587951807217
	Washington	138641.26999999993	273.99460474308285

Result 9 ×

Output

Action Output

#	Time	Action	Message
1	09:32:14	SELECT State, Sum(sales),avg(sales) FROM superstore group by State Having SUM(Sales) > (...	49 row(s) returned

## 14. Show category-wise profit margin (%).

- Evaluates category efficiency.

### Query:

```
SELECT Category,(SUM(Profit)/SUM(Sales))*100 AS Profit_margin  
FROM Superstore  
GROUP BY Category;
```

### Output:

	Category	profit_margin
▶	Furniture	2.486695133458887
	Office Supplies	17.0351583900286
	Technology	17.395712076891996

Result 12 ×

Output

Action Output

#	Time	Action	Message
1	09:41:38	SELECT Category, sum(profit)/sum(sales)*100 as profit_margin From superstore Group by cate...	3 row(s) returned

## 15. Calculate the profit percentage for each shipping mode and determine which shipping mode has the highest profit percentage.

- To examine the which ship mode has the highest profit .

### Query:

```
SELECT Ship_mode, SUM(Sales) as total_sales, sum(profit) as total_sales,  
sum(profit)/sum(sales)*100 as profit_percentage  
FROM superstore  
GROUP BY Ship_mode  
ORDER BY profit_percentage DESC;
```

### Output:

	Ship_mode	total_sales	total_sales	profit_percentage
▶	First Class	351428.4229000002	48969.83990000002	13.934513177932256
	Second Class	459193.5693999998	57446.6353999997	12.51033098635549
	Same Day	128363.125	15891.758899999984	12.380314751607974
	Standard Class	1358215.7429999826	164088.7874999997	12.081201999438303

Result 16 ×

Output

Action Output

#	Time	Action	Message
1	10:31:42	select Ship_mode, SUM(Sales) as total_sales, sum(profit) as total_sales, sum(profit)/sum(sales)*...	4 row(s) returned

## 16. Which cities have customers who bought more than 5 items in a single transaction, and what was the total quantity?

- Identify cities with customer buying over five items in a single transaction, and sum their total purchase quantities in those cities.

### Query:

```
SELECT City, SUM(Quantity)
```

```
FROM superstore
```

```
WHERE Quantity > 5
```

```
Group By City;
```

### Output:



The screenshot shows a database query results window. At the top, there is a toolbar with a 'SUM(Quantity)' button and a tooltip 'Resets all sorted columns'. Below the toolbar is a table with the following data:

	City	SUM(Quantity)
▶	Los Angeles	2000
	Madison	14
	Fremont	14
	Philadelphia	724
	Richardson	7
	Houston	545
	New Albany	12
	New York City	1289

Below the table, a message bar says 'Result 19' with a close button. At the bottom, there is an 'Output' section with a dropdown menu set to 'Action Output'. A log entry is shown:

#	Time	Action	Message
1	11:26:13	SELECT City, SUM(Quantity) FROM superstore WHERE Quantity > 5 Group By City LIMIT 0, ...	354 row(s) returned

## 17. Which cities have total profits greater than the total profit of New York City but less than the total profit of San Francisco?

- This query retrieves all cities whose total profits are greater than New York City's total profit but less than San Francisco's total profit.

### Query:

```
Select City  
FROM superstore  
GROUP BY city  
HAVING SUM(Profit) < (SELECT SUM(Profit)  
                           FROM superstore  
                           Where City = 'New York City')  
AND SUM(Profit) > (SELECT SUM(Profit)  
                           FROM superstore  
                           WHERE City = 'San Francisco');
```

### Output:

City
Los Angeles
Seattle

superstore 26 x

Action Output

#	Time	Action	Message
1	11:48:12	Select City FROM superstore Group by city HAVING SUM(Profit) < (SELECT SUM(Profit)) ...	2 row(s) returned

## 18. Find states with sales above the average.

- This query retrieves all states whose total sales are greater than the overall average sales.

### Query:

```
SELECT state  
FROM superstore  
GROUP BY state  
HAVING sum(sales) > (SELECT AVG(Sales)  
                         FROM superstore);
```

### Output:

#	Time	Action	Message
1	12:04:25	Select state from superstore group by state having sum(sales) > (select AVG(Sales))	... 49 row(s) returned

**19. Write a query to find the total sales for each product category and each city from the superstore dataset. Combine the results into one list where the category and city names are presented in the same column labeled 'Label' and the corresponding total sales are in the 'Total\_sales' column."**

- This query combines total sales by product category and by city into a single list, showing names under a unified 'Label' column and their corresponding 'Total\_sales' values.

**Query:**

```
SELECT Category AS Label, SUM(Sales) AS total_sales  
FROM superstore
```

```
GROUP BY Category
```

```
UNION ALL
```

```
SELECT city AS Label1, SUM(sales) AS total_sales  
FROM superstore  
GROUP BY city;
```

## Output:

The screenshot shows a database query results window. At the top, there is a table with two columns: 'Label' and 'total\_sales'. The data rows are Furniture (741999.7952999998), Office Supplies (719047.0320000029), Technology (836154.0329999966), Henderson (17549.067999999996), and Los Angeles (175851.341). Below the table, a message bar says 'Result 34 x'. Underneath, there is an 'Output' section with a dropdown menu set to 'Action Output'. The log table shows one entry: a green checkmark next to '1 12:28:03 SELECT Category AS Label, SUM(Sales) AS total\_sales FROM superstore GROUP BY Catego...', followed by '534 row(s) returned'.

Label	total_sales
Furniture	741999.7952999998
Office Supplies	719047.0320000029
Technology	836154.0329999966
Henderson	17549.067999999996
Los Angeles	175851.341

Result 34 x

Output

Action Output

#	Time	Action	Message
1	12:28:03	SELECT Category AS Label, SUM(Sales) AS total_sales FROM superstore GROUP BY Catego...	534 row(s) returned

## 20. Profit-to-Sales Ratio by Category.

- This query calculates the profit-to-sales ratio for each product category to identify which category generates the highest profitability relative to its sales.

### Query:

```
SELECT Category, SUM(Profit) / SUM(Sales) AS Profit_Sales_Ratio  
FROM superstore  
GROUP BY Category  
ORDER BY Profit_Sales_Ratio DESC;
```

### Output:

The screenshot shows a database interface with a results grid and a history pane.

	Category	Profit_Sales_Ratio
▶	Technology	0.17395712076891998
	Office Supplies	0.17035158390028599
	Furniture	0.024866951334588872

Result 36 ×

Output

Action Output

#	Time	Action	Message
1	12:39:03	SELECT Category, SUM(Profit) / SUM(Sales) AS Profit_Sales_Ratio FROM superstore GR...	3 row(s) returned

## 21. Most Discounted Sub-Category per Region

- This query finds the average discount for each sub-category in every region to identify which ones receive the highest discounts.

### Query:

```
SELECT    Region,    Sub_Category,    AVG(Discount) AS Avg_discount  
FROM superstore  
GROUP BY Region, Sub_Category  
ORDER BY Region, Avg_discount DESC;
```

### Output:

The screenshot shows a database interface with a results grid and a message log.

	Region	Sub_Category	Avg_Discount
▶	Central	Binders	0.5092896174863402
	Central	Appliances	0.44878048780487767
	Central	Furnishings	0.4039024390243899
	Central	Machines	0.3285714285714286
	Central	Tables	0.2625000000000002

Result 38 ×

Output

Action Output

#	Time	Action	Message
1	12:48:45	SELECT Region, Sub_Category, AVG(Discount) AS Avg_Discount FROM superstore ...	68 row(s) returned

## 22. City Performance vs. Regional Average

- This query shows total sales for each city within every region to compare city performance.

### Query:

```
SELECT Region, City, SUM(Sales) AS Total_sales  
FROM Superstore  
GROUP BY Region, City;
```

### Output:

	Region	City	Total_Sales
▶	South	Henderson	15661.01
	West	Los Angeles	175851.341
	South	Fort Lauderdale	4929.5325000000001
	South	Concord	5111.844
	West	Seattle	119540.742

Result 41 ×

Output

Action Output

#	Time	Action	Message
1	12:58:05	SELECT Region, City, SUM(Sales) AS Total_Sales FROM Superstore GROUP BY Region, City...	583 row(s) returned

## 23. Detect Loss-Making Sub-Categories.

- This query identifies sub-categories with negative average profit, showing their total sales, total discount, and average profit to highlight loss-making areas.

### Query:

```
SELECT Sub_Category, SUM(Sales) AS Total_sales, SUM(Discount) AS Total_discount, AVG(Profit) AS Avg_profit  
FROM superstore  
GROUP BY Sub_Category  
HAVING AVG(Profit) < 0  
ORDER BY Avg_profit ASC;
```

### Output:

	Sub_Category	Total_Sales	Total_Discount	Avg_Profit
▶	Tables	206965.5320000001	83.35000000000007	-55.56577147335426
	Bookcases	114879.9962999997	48.14	-15.230508771929815
	Supplies	46673.538000000015	14.59999999999998	-6.258418421052624

Result 43 ×

Output

Action Output

#	Time	Action	Message
✓	1 13:05:19	SELECT Sub_Category, SUM(Sales) AS Total_Sales, SUM(Discount) AS Total_Discount, ...	3 row(s) returned

## 24. State with maximum total sales to overall sales.

- Finds the state with the highest sales and its share of total sales.

### Query:

```
SELECT State, SUM(Sales) AS Total_sales  
FROM Superstore  
GROUP BY State  
ORDER BY Total_sales DESC  
LIMIT 1;
```

### Output:

	State	Total_Sales
▶	California	457687.631500001

Result 47 x

Output

Action Output

#	Time	Action	Message
1	13:18:37	SELECT State, SUM(Sales) AS Total_Sales FROM Superstore GROUP BY State ORDER BY ...	1 row(s) returned

## 25. Cities that have more than 50 orders but an average discount greater than 0.2.

- This query lists cities with more than 50 orders and an average discount greater than 0.2.

### Query:

```
SELECT City,      COUNT(*) AS Order_Count,      AVG(Discount) AS Avg_Discount  
FROM Superstore  
GROUP BY City  
HAVING COUNT(*) > 50  
AND AVG(Discount) > 0.2;
```

### Output:

	City	Order_Count	Avg_Discount
▶	Philadelphia	537	0.32681564245810024
	Houston	377	0.37968169761273207
	Chicago	314	0.38375796178343974
	Aurora	68	0.3529411764705879
	Charlotte	52	0.294230769230769

Result 50 ×

Output

Action Output

#	Time	Action	Message
1	13:21:02	SELECT City,      COUNT(*) AS Order_Count,      AVG(Discount) AS Avg_Discount FROM Superstore GROUP BY City HAVING COUNT(*) > 50 AND AVG(Discount) > 0.2;	10 row(s) returned

## **Insights:**

1. Reduce **over-discounting** in loss-making sub-categories and specific cities to recover margins.
2. Promote **high-profit categories like Technology**, especially in the West region where customer response is strong.
3. **Revamp pricing and sales strategy in the South region**, focusing on targeted promotions and customer acquisition.
4. **Optimize inventory for top cities** with high sales but low profits by adjusting discounts, shipping choice, or product mix.
5. **Enhance logistics strategy** by encouraging customers toward shipping modes with higher profit percentages.
6. Leverage **bulk-purchase cities** with loyalty offers, bundle pricing, and corporate partnerships to increase repeat high-value sales.

## **Recommendations:**

1. Control discounts.
2. Focus on high-profit products.
3. Improve sales in the South region.