

# Global E-Commerce Sales Analysis(SQL Project)

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Tools Used: MySQL, GitHub

Power BI

# Introduction

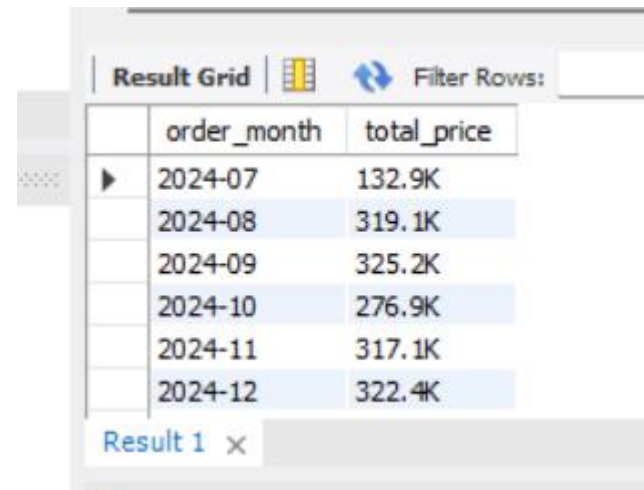
- Objective: Analyze global e-commerce sales data to extract key business insights.
- Goal: Identify top-selling products, track monthly trends, and understand customer behavior.

# Business Questions

1. What is the total sales amount for each month?
2. How many total orders were placed each month?
3. What is the average order value (AOV) per month?
4. What are the top 10 best-selling products based on quantity sold?
5. What is the total sales amount generated by each product category?
6. What is the average selling price per category?
7. Which countries had the highest total sales?
8. What is the number of customers and orders from each country?
9. How many new vs repeat customers placed orders?
10. Who are the top 5 customers based on total spending?
11. What is the average number of orders per customer?
12. What is the month-over-month sales growth rate?
13. On which weekdays are most orders placed?
14. Which product category is growing the fastest in monthly sales?

# What is the total sales amount for each month?

```
16  
17 • SELECT  
18     DATE_FORMAT(order_date, '%Y-%m') AS order_month,  
19     CONCAT(ROUND(SUM(quantity * price) / 1000, 1),  
20             'K') AS total_price  
21 FROM  
22     global_ecommerce  
23 GROUP BY order_month  
24 ORDER BY order_month;  
25
```

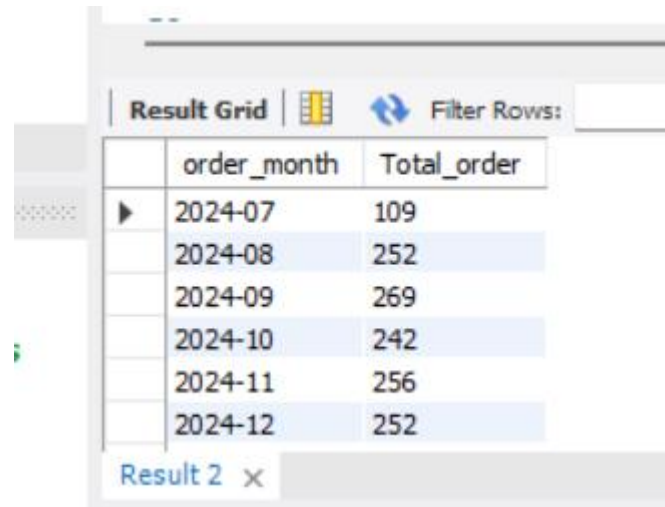


The screenshot shows a database interface with a 'Result Grid' tab. It displays the results of the SQL query, showing the order month and the total price in thousands (K). The data is sorted by order month. A 'Filter Rows' button is visible at the top right of the grid. Below the grid, there is a tab labeled 'Result 1' with a close button (X).

	order_month	total_price
▶	2024-07	132.9K
	2024-08	319.1K
	2024-09	325.2K
	2024-10	276.9K
	2024-11	317.1K
	2024-12	322.4K

# How many total orders were placed each month?

```
37 • SELECT
38     DATE_FORMAT(order_date, '%Y-%m') AS order_month,
39     COUNT(order_date) AS Total_order
40 FROM
41     global_ecommerce
42 GROUP BY order_month
43 ORDER BY order_month;
44
```



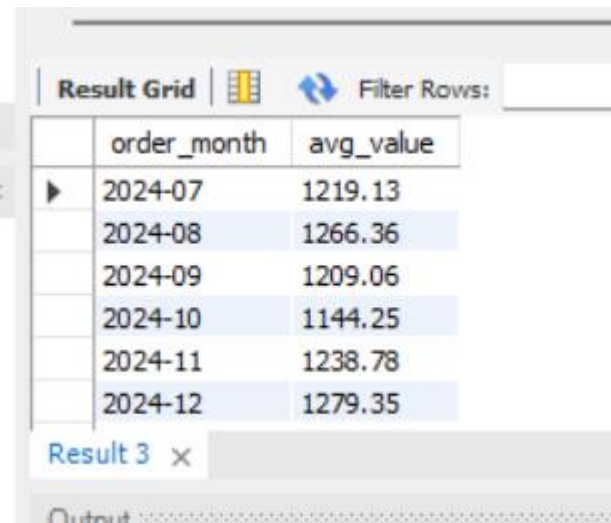
The screenshot shows a database interface with a 'Result Grid' tab. The grid displays the results of the SQL query, showing the month and the total number of orders for each month in 2024. The columns are 'order\_month' and 'Total\_order'. The rows are sorted by month, from July to December.

	order_month	Total_order
▶	2024-07	109
	2024-08	252
	2024-09	269
	2024-10	242
	2024-11	256
	2024-12	252

Result 2 x

# What is the average order value (AOV) per month?

```
--  
53 • SELECT  
54     DATE_FORMAT(order_date, '%Y-%m') AS order_month,  
55     ROUND(SUM(order_amount) / COUNT(i»order_id),  
56           2) AS avg_value  
57 FROM  
58     global_ecommerce  
59 GROUP BY order_month  
60 ORDER BY order_month;  
61
```

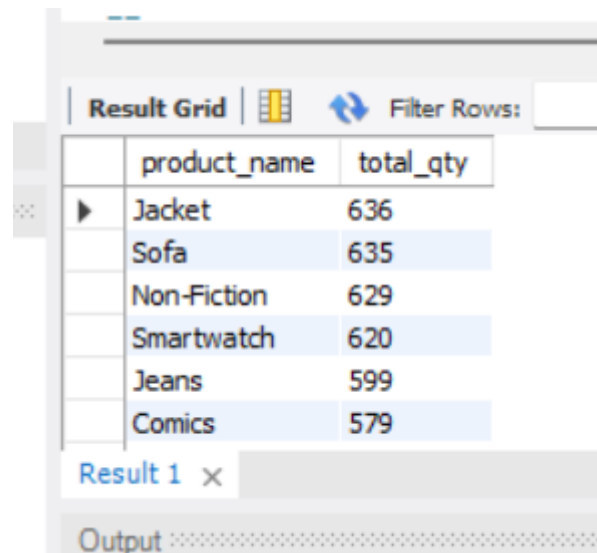


The screenshot shows a database interface with a 'Result Grid' tab. It displays the results of the SQL query, showing the average order value (AOV) for each month from 2024-07 to 2024-12. The columns are 'order\_month' and 'avg\_value'. The values are: 2024-07 (1219.13), 2024-08 (1266.36), 2024-09 (1209.06), 2024-10 (1144.25), 2024-11 (1238.78), and 2024-12 (1279.35). Below the grid, there is a tab labeled 'Result 3' and an 'Output' section.

order_month	avg_value
2024-07	1219.13
2024-08	1266.36
2024-09	1209.06
2024-10	1144.25
2024-11	1238.78
2024-12	1279.35

# What are the top 10 best-selling products based on quantity sold?

```
56
57 • SELECT
58     product_name, SUM(quantity) AS total_qty
59 FROM
60     global_ecommerce
61 GROUP BY product_name
62 ORDER BY total_qty DESC
63 LIMIT 10;
64
```



The screenshot shows a database interface with a 'Result Grid' tab. It displays the results of the SQL query, showing the top 10 products by total quantity sold. The table has two columns: 'product\_name' and 'total\_qty'. The products are listed in descending order of total quantity sold.

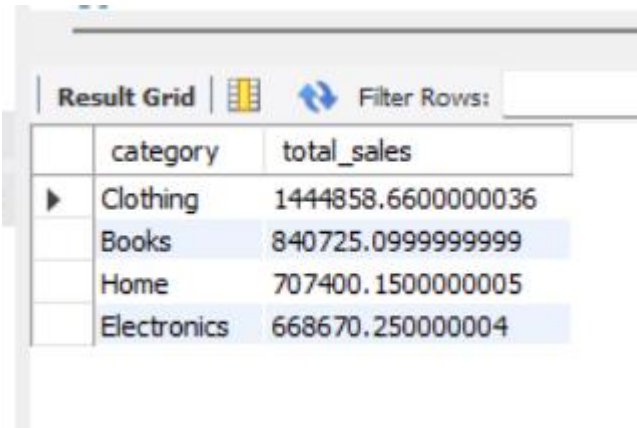
	product_name	total_qty
▶	Jacket	636
	Sofa	635
	Non-Fiction	629
	Smartwatch	620
	Jeans	599
	Comics	579

Result 1 ×

Output

# What is the total sales amount generated by each product category?

```
• SELECT
    category, SUM(order_amount) AS total_sales
FROM
    global_ecommerce
GROUP BY category
ORDER BY total_sales DESC;
```



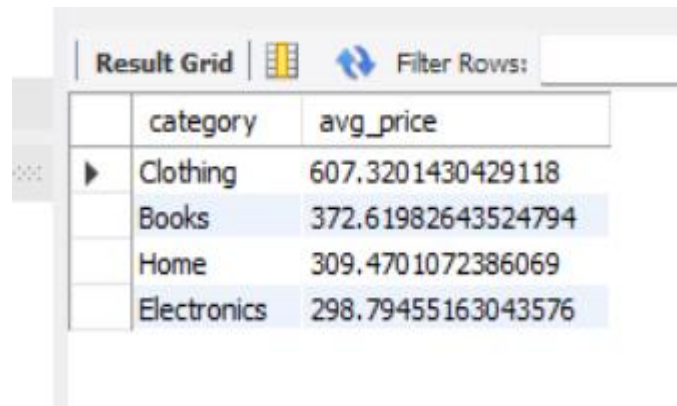
The screenshot shows a database interface with a 'Result Grid' tab. It contains a table with two columns: 'category' and 'total\_sales'. The data is sorted in descending order of total sales. The categories and their corresponding total sales are: Clothing (1444858.66000000036), Books (840725.09999999999), Home (707400.15000000005), and Electronics (668670.25000000004).

	category	total_sales
▶	Clothing	1444858.66000000036
	Books	840725.09999999999
	Home	707400.15000000005
	Electronics	668670.25000000004



# What is the average selling price per category?

- ```
SELECT
    category, AVG(price) AS avg_price
FROM
    global_ecommerce
GROUP BY category
ORDER BY avg_price DESC;
```

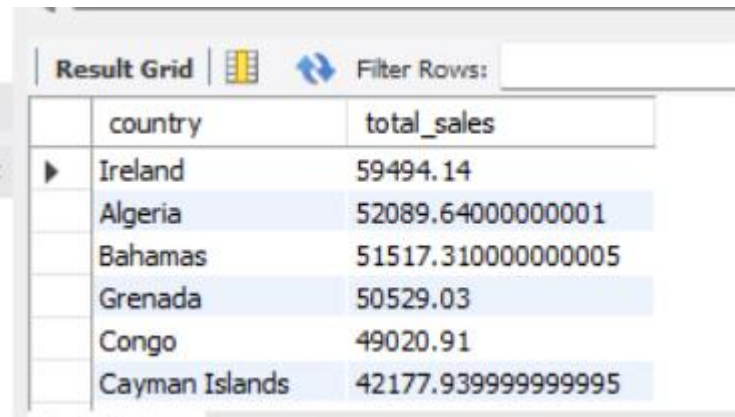


The screenshot shows a database interface with a 'Result Grid' tab. It contains a table with two columns: 'category' and 'avg\_price'. The data is sorted in descending order of average price. The categories and their corresponding average prices are: Clothing (607.3201430429118), Books (372.61982643524794), Home (309.4701072386069), and Electronics (298.79455163043576).

|   | category    | avg_price          |
|---|-------------|--------------------|
| ▶ | Clothing    | 607.3201430429118  |
|   | Books       | 372.61982643524794 |
|   | Home        | 309.4701072386069  |
|   | Electronics | 298.79455163043576 |

# Which countries had the highest total sales?

```
98 • SELECT
99     country, SUM(quantity * price) AS total_sales
100 FROM
101     global_ecommerce
102 GROUP BY country
103 ORDER BY total_sales DESC
104 LIMIT 10;
```

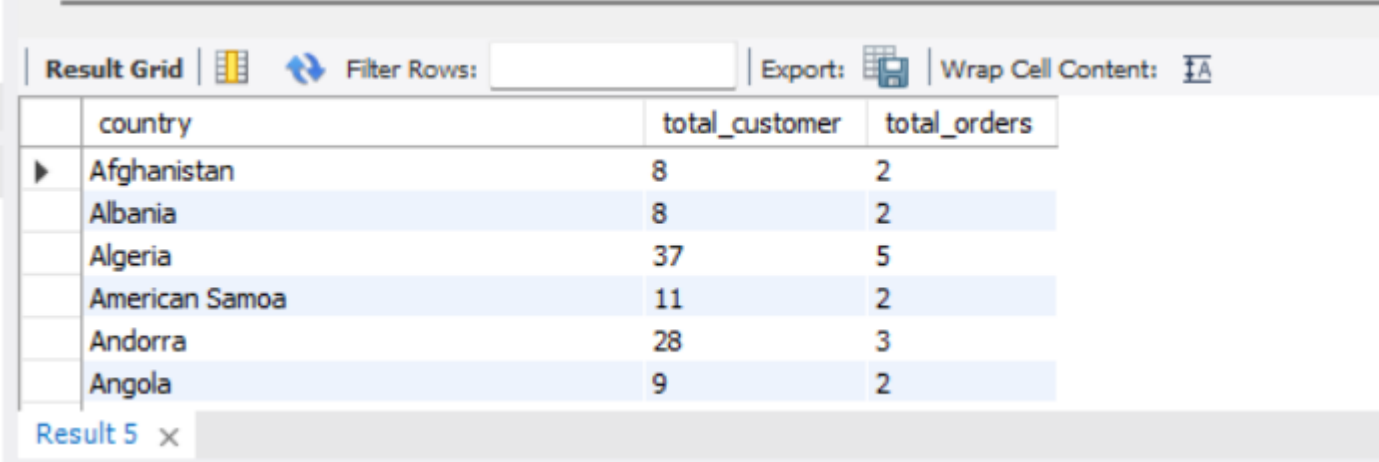






The screenshot shows a 'Result Grid' window with a table of query results. The table has two columns: 'country' and 'total\_sales'. The results are ordered by total sales in descending order. The first row is Ireland with a total sales of 59494.14. The second row is Algeria with a total sales of 52089.640000000001. The third row is Bahamas with a total sales of 51517.3100000000005. The fourth row is Grenada with a total sales of 50529.03. The fifth row is Congo with a total sales of 49020.91. The sixth row is Cayman Islands with a total sales of 42177.939999999995. The table is displayed with alternating light blue and white rows.

|   | country        | total_sales         |
|---|----------------|---------------------|
| ▶ | Ireland        | 59494.14            |
|   | Algeria        | 52089.640000000001  |
|   | Bahamas        | 51517.3100000000005 |
|   | Grenada        | 50529.03            |
|   | Congo          | 49020.91            |
|   | Cayman Islands | 42177.939999999995  |

# What is the number of customers and orders from each country?

```
108 • SELECT
109     country,
110     COUNT(ï»¿order_id) AS total_customer,
111     COUNT(DISTINCT customer_id) AS total_orders
112 FROM
113     global_ecommerce
114 GROUP BY country;
115
```



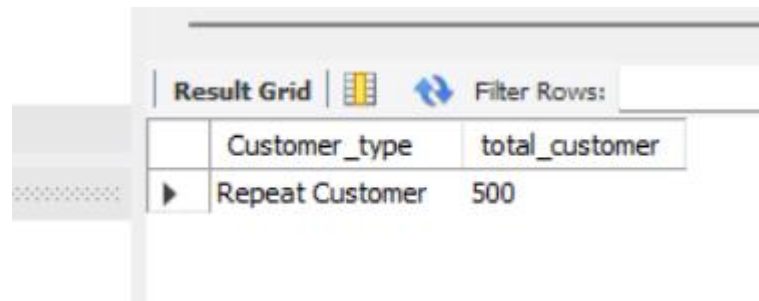
Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

|   | country        | total_customer | total_orders |
|---|----------------|----------------|--------------|
| ▶ | Afghanistan    | 8              | 2            |
|   | Albania        | 8              | 2            |
|   | Algeria        | 37             | 5            |
|   | American Samoa | 11             | 2            |
|   | Andorra        | 28             | 3            |
|   | Angola         | 9              | 2            |

Result 5 x

# How many new vs repeat customers placed orders?

```
121 • SELECT
122     CASE
123         WHEN DATE(order_date) = DATE(registration_date) THEN "New Customer"
124         ELSE "Repeat Customer"
125     END AS Customer_type,
126     COUNT(DISTINCT customer_id) AS total_customer
127 FROM global_ecommerce
128 GROUP BY Customer_type;
129
```

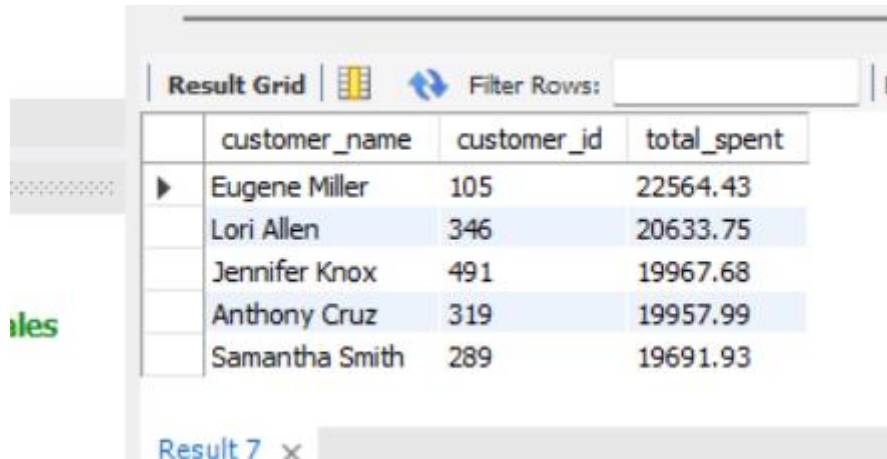


The screenshot shows a database interface with a 'Result Grid' tab. The grid contains one row of data. The first column is 'Customer\_type' and the second column is 'total\_customer'. The data in the row is 'Repeat Customer' and '500'.

| Customer_type   | total_customer |
|-----------------|----------------|
| Repeat Customer | 500            |

# Who are the top 5 customers based on total spending?

```
132
133 • SELECT
134     customer_name,
135     customer_id,
136     ROUND(SUM(order_amount), 2) AS total_spent
137 FROM
138     global_ecommerce
139 GROUP BY customer_name , customer_id
140 ORDER BY total_spent DESC
141 LIMIT 5;
```



The screenshot shows a database interface with a 'Result Grid' tab. The grid displays the results of the SQL query, listing the top 5 customers by total spending. The columns are 'customer\_name', 'customer\_id', and 'total\_spent'. The rows are ordered from highest to lowest total spending. A 'Filter Rows' input field is visible at the top right of the grid. Below the grid, there is a tab labeled 'Result 7'.

|   | customer_name  | customer_id | total_spent |
|---|----------------|-------------|-------------|
| ▶ | Eugene Miller  | 105         | 22564.43    |
|   | Lori Allen     | 346         | 20633.75    |
|   | Jennifer Knox  | 491         | 19967.68    |
|   | Anthony Cruz   | 319         | 19957.99    |
|   | Samantha Smith | 289         | 19691.93    |

Result 7 ×

# What is the average number of orders per customer?

```
146  
147 • SELECT  
148     COUNT(*) / COUNT(DISTINCT customer_id) order_per_customer  
149 FROM  
150     global_ecommerce;  
151
```

| Result Grid |                    | Filter Rows: |
|-------------|--------------------|--------------|
|             | order_per_customer |              |
| ▶           | 1.0000             |              |

# .What is the month-over-month sales growth rate?

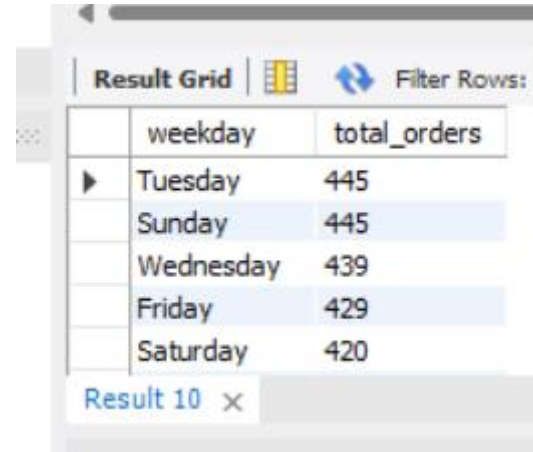
```
155 • WITH monthly_sales AS (  
156     SELECT  
157         DATE_FORMAT(order_date, '%Y-%m') AS order_month,  
158         SUM(order_amount) AS total_sales  
159     FROM global_ecommerce  
160     GROUP BY order_month  
161 )  
162 SELECT  
163     order_month,  
164     total_sales,  
165     ROUND(  
166         ((total_sales - LAG(total_sales) OVER (ORDER BY order_month)) /  
167          LAG(total_sales) OVER (ORDER BY order_month)) * 100, 2  
168     ) AS growth_rate_percent  
169 FROM monthly_sales;  
170
```

| Result Grid  |             |                    |                     |
|--------------|-------------|--------------------|---------------------|
| Filter Rows: |             | Export:            | Wrap C              |
|              | order_month | total_sales        | growth_rate_percent |
| ▶            | 2024-07     | 132885.43999999997 | NULL                |
|              | 2024-08     | 319121.54000000004 | 140.15              |
|              | 2024-09     | 325236.58999999998 | 1.92                |
|              | 2024-10     | 276908.42999999999 | -14.86              |
|              | 2024-11     | 317128.24999999998 | 14.52               |

Result 9 x

# On which weekdays are most orders placed?

```
173
174 • SELECT
175     DAYNAME(order_date) AS weekday, COUNT(*) AS total_orders
176 FROM
177     global_ecommerce
178 GROUP BY weekday
179 ORDER BY total_orders DESC;
180
```



Result Grid | Filter Rows:

|   | weekday   | total_orders |
|---|-----------|--------------|
| ▶ | Tuesday   | 445          |
|   | Sunday    | 445          |
|   | Wednesday | 439          |
|   | Friday    | 429          |
|   | Saturday  | 420          |

Result 10 x