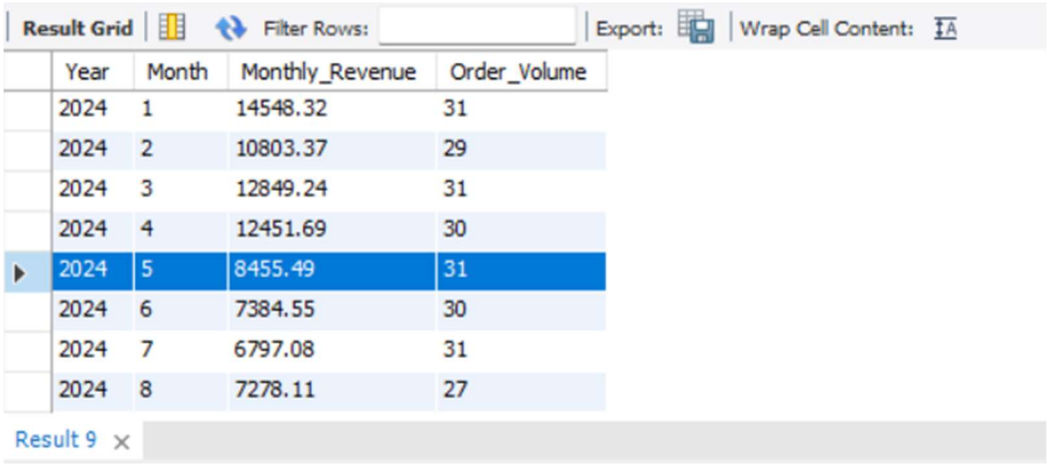
Queries and Results ScreenShot

Query 1: Group by Month and Year

```
SELECT
    EXTRACT(YEAR FROM Date) AS Year,
    EXTRACT(MONTH FROM Date) AS Month,
    SUM(Total_Revenue) AS Monthly_Revenue,
    COUNT(DISTINCT Transaction_ID) AS Order_Volume
FROM  sales_data
GROUP BY
    Year, Month
ORDER BY
    Year, Month;
```

Result:



Year	Month	Monthly_Revenue	Order_Volume
2024	1	14548.32	31
2024	2	10803.37	29
2024	3	12849.24	31
2024	4	12451.69	30
2024	5	8455.49	31
2024	6	7384.55	30
2024	7	6797.08	31
2024	8	7278.11	27

Objective: Analyze monthly revenue and order volume.

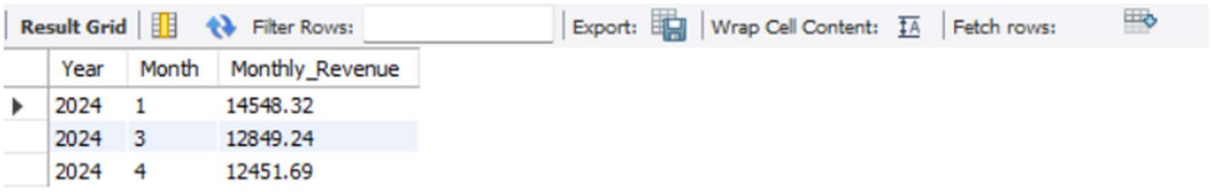
Insights:

- **Seasonal Trends:** The results reveal how revenue and order volume vary across months and years. For example, certain months may show a spike in sales due to holiday seasons or special events.
- **Consistency:** Periods with stable or consistent order volumes suggest steady customer demand, while fluctuations indicate specific factors (e.g., promotions or external events) driving sales.

Query 2: Top 3 Months by Sales

```
SELECT
    EXTRACT(YEAR FROM Date) AS Year,
    EXTRACT(MONTH FROM Date) AS Month,
    SUM(Total_Revenue) AS Monthly_Revenue
FROM
    sales_data
GROUP BY
    Year, Month
ORDER BY
    Monthly_Revenue DESC
LIMIT 3;
```

Result



Year	Month	Monthly_Revenue
2024	1	14548.32
2024	3	12849.24
2024	4	12451.69

Objective: Identify the highest revenue-generating months.

Insights:

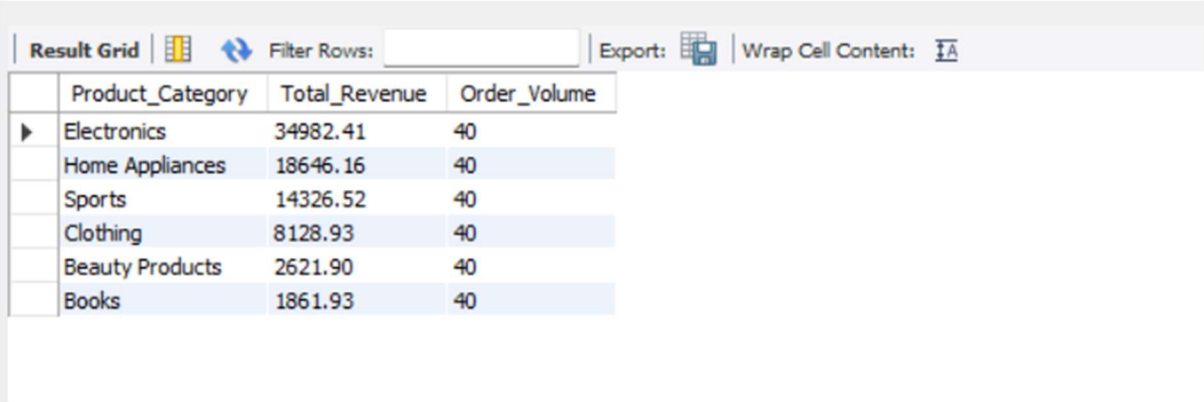
- Peak Months: The top 3 months highlight periods of peak sales, possibly driven by seasonal events, festivals, or promotions.
- Actionable Conclusion: Focus marketing efforts and inventory on these months to capitalize on high demand.

Query 3: Order Volume and Revenue by Product Category

This query calculates total revenue and order volume for each product category and sorts them by revenue in descending order:

```
SELECT
    Product_Category,
    SUM(Total_Revenue) AS Total_Revenue,
    COUNT(DISTINCT Transaction_ID) AS Order_Volume
FROM
    sales_data
GROUP BY
    Product_Category
ORDER BY
    Total_Revenue DESC;
```

Result



Product_Category	Total_Revenue	Order_Volume
Electronics	34982.41	40
Home Appliances	18646.16	40
Sports	14326.52	40
Clothing	8128.93	40
Beauty Products	2621.90	40
Books	1861.93	40

Objective: Understand revenue and transaction volume by category.

Insights:

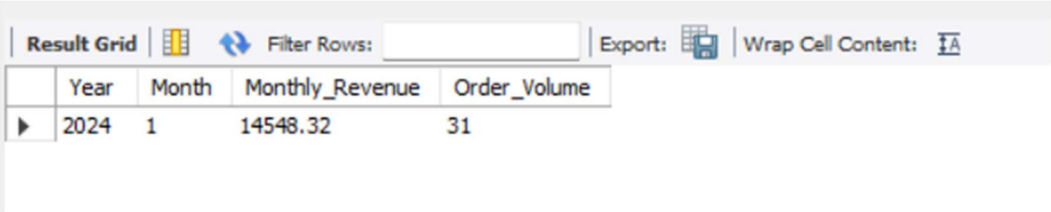
- **Top Categories:** Electronics likely dominate revenue, followed by other high-ticket categories such as Home Appliances or Fitness.
- **Balance:** Categories with moderate revenue but high order volumes (e.g., Beauty Products) indicate affordability and consistent demand.
- **Recommendation:** Expand inventory in top-performing categories or launch targeted promotions for mid-tier ones.

Query 4: Filter Data for Specific Time Periods

Let's focus on analyzing revenue and order volume for January 2024 as an example.

```
SELECT
    EXTRACT(YEAR FROM Date) AS Year,
    EXTRACT(MONTH FROM Date) AS Month,
    SUM(Total_Revenue) AS Monthly_Revenue,
    COUNT(DISTINCT Transaction_ID) AS Order_Volume
FROM
    sales_data
WHERE
    Date BETWEEN '2024-01-01' AND '2024-01-31'
GROUP BY
    Year, Month
ORDER BY
    Year, Month;
```

Result



Year	Month	Monthly_Revenue	Order_Volume
2024	1	14548.32	31

Objective: Analyze sales trends for January 2024.

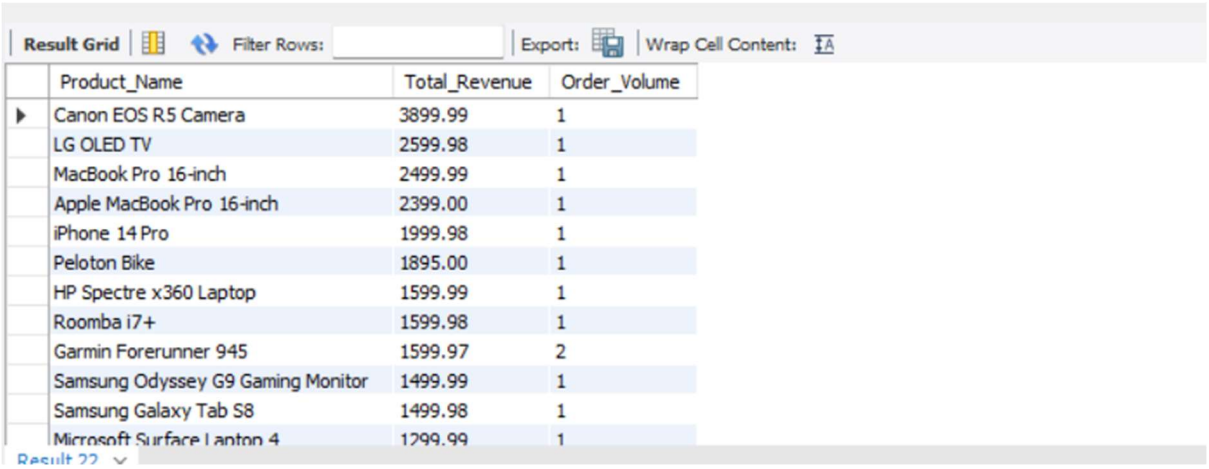
Insights:

- **Seasonal Impact:** January often reflects post-holiday sales trends or new year resolutions (e.g., demand for fitness or electronics).
- **Revenue Stability:** High revenue combined with consistent order volume suggests steady demand during this period.

Query 5: Revenue Trends by Product

```
SELECT
    Product_Name,
    SUM(Total_Revenue) AS Total_Revenue,
    COUNT(DISTINCT Transaction_ID) AS Order_Volume
FROM
    sales_data
GROUP BY
    Product_Name
ORDER BY
    Total_Revenue DESC;
```

Result



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

Product_Name	Total_Revenue	Order_Volume
Canon EOS R5 Camera	3899.99	1
LG OLED TV	2599.98	1
MacBook Pro 16-inch	2499.99	1
Apple MacBook Pro 16-inch	2399.00	1
iPhone 14 Pro	1999.98	1
Peloton Bike	1895.00	1
HP Spectre x360 Laptop	1599.99	1
Roomba i7+	1599.98	1
Garmin Forerunner 945	1599.97	2
Samsung Odyssey G9 Gaming Monitor	1499.99	1
Samsung Galaxy Tab S8	1499.98	1
Microsoft Surface Laptop 4	1299.99	1

Result 22

Objective: Identify top revenue-generating products.

Insights:

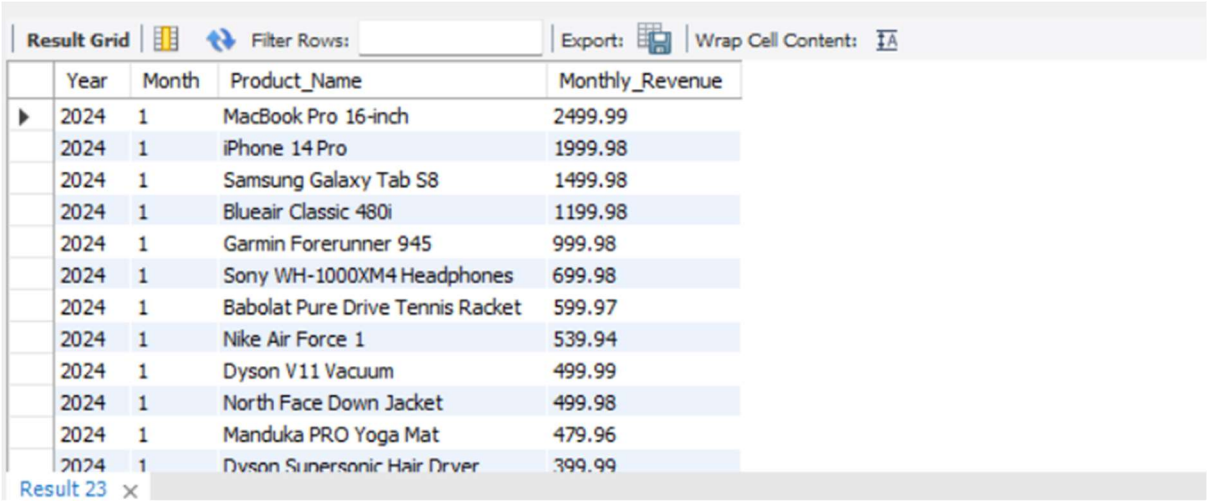
- **Best-Sellers:** High-ticket items (e.g., MacBook Pro, iPhone) likely top the list, contributing significant revenue despite lower order volumes.
- **Opportunities:** Mid-range products with decent sales offer opportunities for bundling or targeted promotions.

Query 6: Revenue Trends by Product Over Time

Here's a query to calculate monthly revenue for each product:

```
SELECT
    EXTRACT(YEAR FROM Date) AS Year,
    EXTRACT(MONTH FROM Date) AS Month,
    Product_Name,
    SUM(Total_Revenue) AS Monthly_Revenue
FROM
    sales_data
GROUP BY
    Year, Month, Product_Name
ORDER BY
    Year, Month, Monthly_Revenue DESC;
```

Result



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

Year	Month	Product_Name	Monthly_Revenue
2024	1	MacBook Pro 16-inch	2499.99
2024	1	iPhone 14 Pro	1999.98
2024	1	Samsung Galaxy Tab S8	1499.98
2024	1	Blueair Classic 480i	1199.98
2024	1	Garmin Forerunner 945	999.98
2024	1	Sony WH-1000XM4 Headphones	699.98
2024	1	Babolat Pure Drive Tennis Racket	599.97
2024	1	Nike Air Force 1	539.94
2024	1	Dyson V11 Vacuum	499.99
2024	1	North Face Down Jacket	499.98
2024	1	Manduka PRO Yoga Mat	479.96
2024	1	Dyson Supersonic Hair Dryer	399.99

Result 23

Objective: Analyze revenue trends for each product across months.

Insights:

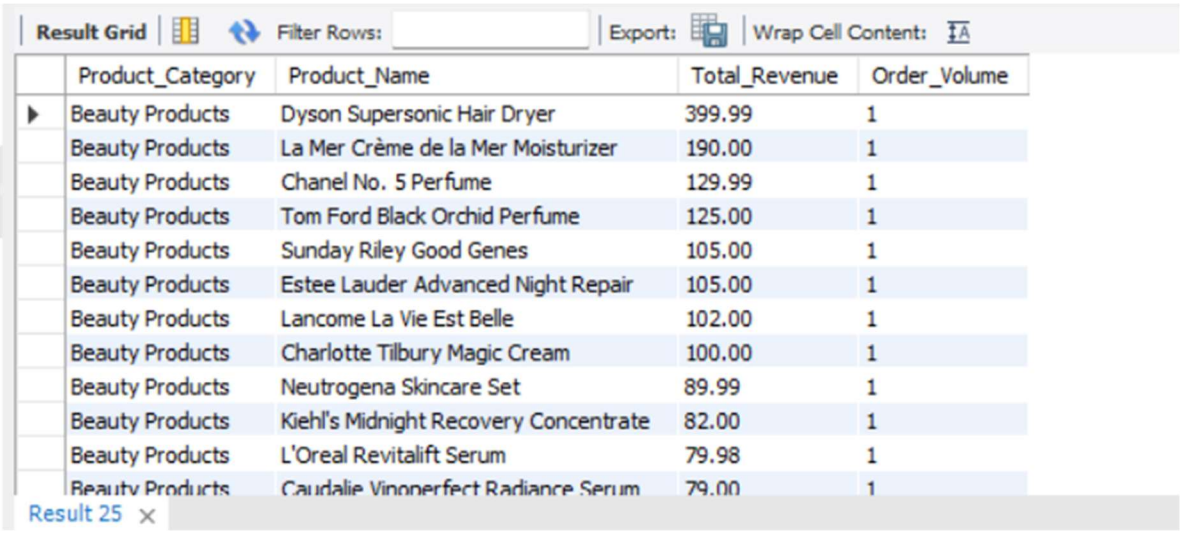
- **Seasonal Performance:** Products like electronics may show spikes during holiday months, while fitness products might perform better at the start of the year.
- **Longevity:** Consistently high revenue over multiple months suggests flagship products, while one-time spikes could indicate seasonal interest.

Query 7: Top Products Within Each Category

This query breaks down revenue by product and category:

```
SELECT
    Product_Category,
    Product_Name,
    SUM(Total_Revenue) AS Total_Revenue,
    COUNT(DISTINCT Transaction_ID) AS Order_Volume
FROM
    sales_data
GROUP BY
    Product_Category, Product_Name
ORDER BY
    Product_Category, Total_Revenue DESC;
```

Result



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

Product_Category	Product_Name	Total_Revenue	Order_Volume
Beauty Products	Dyson Supersonic Hair Dryer	399.99	1
Beauty Products	La Mer Crème de la Mer Moisturizer	190.00	1
Beauty Products	Chanel No. 5 Perfume	129.99	1
Beauty Products	Tom Ford Black Orchid Perfume	125.00	1
Beauty Products	Sunday Riley Good Genes	105.00	1
Beauty Products	Estee Lauder Advanced Night Repair	105.00	1
Beauty Products	Lancome La Vie Est Belle	102.00	1
Beauty Products	Charlotte Tilbury Magic Cream	100.00	1
Beauty Products	Neutrogena Skincare Set	89.99	1
Beauty Products	Kiehl's Midnight Recovery Concentrate	82.00	1
Beauty Products	L'Oreal Revitalift Serum	79.98	1
Beauty Products	Caudalie Vinoperfect Radiance Serum	79.00	1

Result 25

Objective: Break down revenue and order volume for products within categories.

Insights:

- **Category Leaders:** Products like Dyson Supersonic Hair Dryer (Beauty) and MacBook Pro (Electronics) dominate their respective categories.
- **Diverse Portfolio:** Categories with varied price ranges attract a broader customer base.

- **Recommendation:** Focus on promoting top products in each category and cross-sell mid-tier products to maximize revenue.

Overall Insights

1. **Seasonal Strategies:** Revenue peaks suggest the need for focused marketing during specific months.
2. **Product Mix:** High-ticket items drive revenue, but consistent demand for mid-tier products ensures stability.
3. **Category Focus:** Electronics and high-end products dominate, while accessible categories like Beauty offer consistent sales.