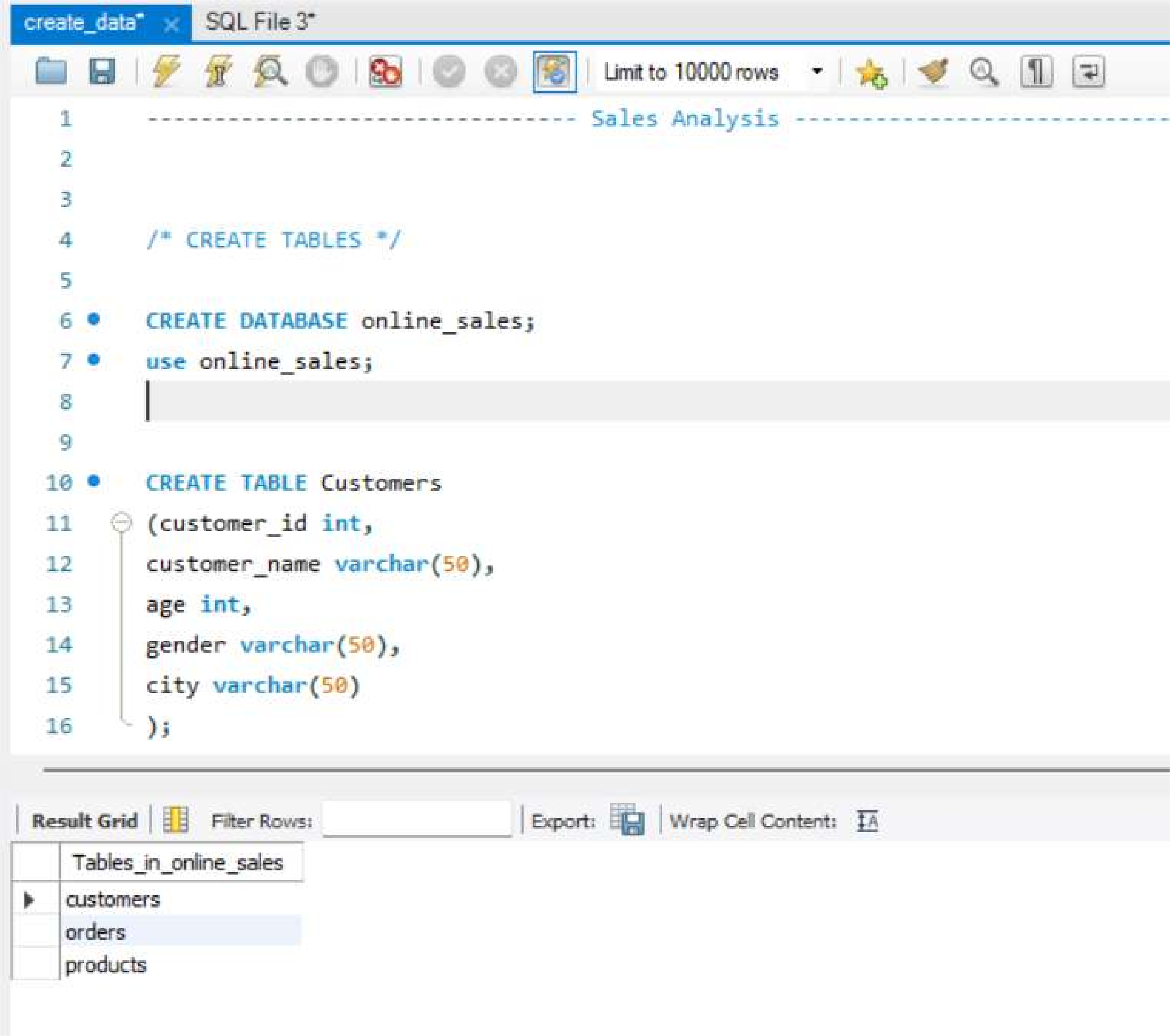
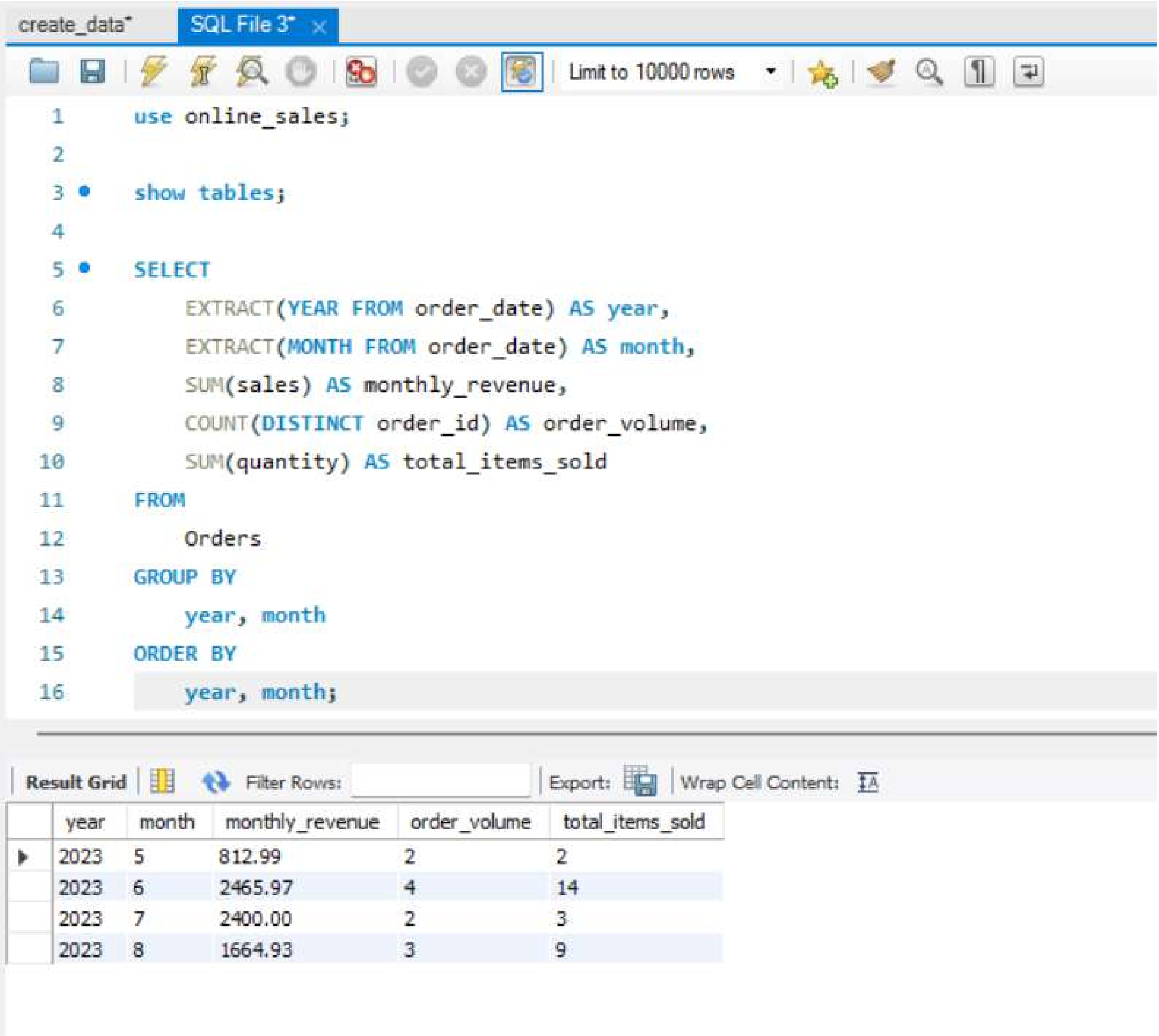


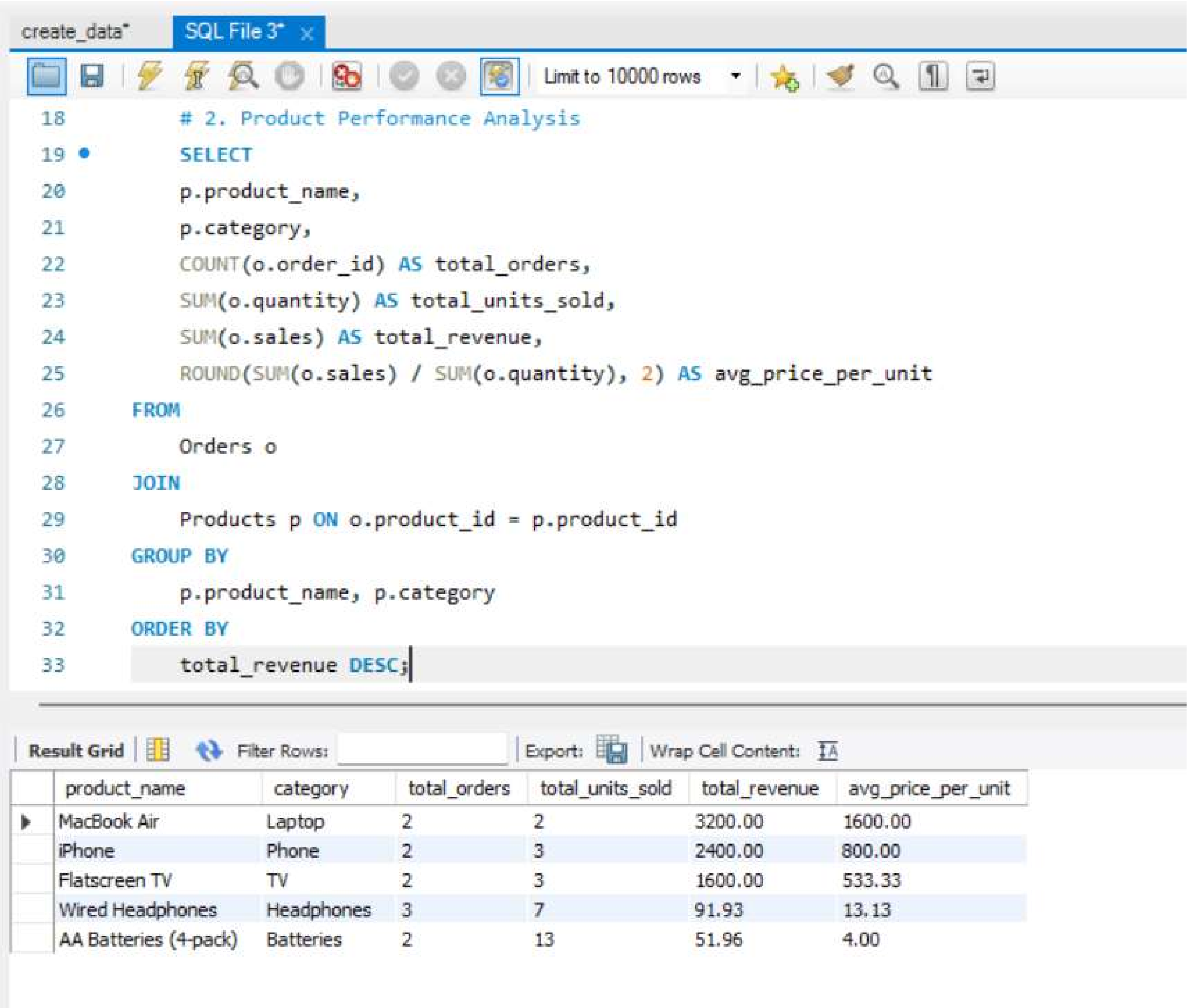
```sql
------------------------------ Sales Analysis ---------------------------


/* CREATE TABLES */

CREATE DATABASE online_sales;
use online_sales;


CREATE TABLE Customers
(customer_id int,
customer_name varchar(50),
age int,
gender varchar(50),
city varchar(50)
);
```

Tables_in_online_sales
customers
orders
products



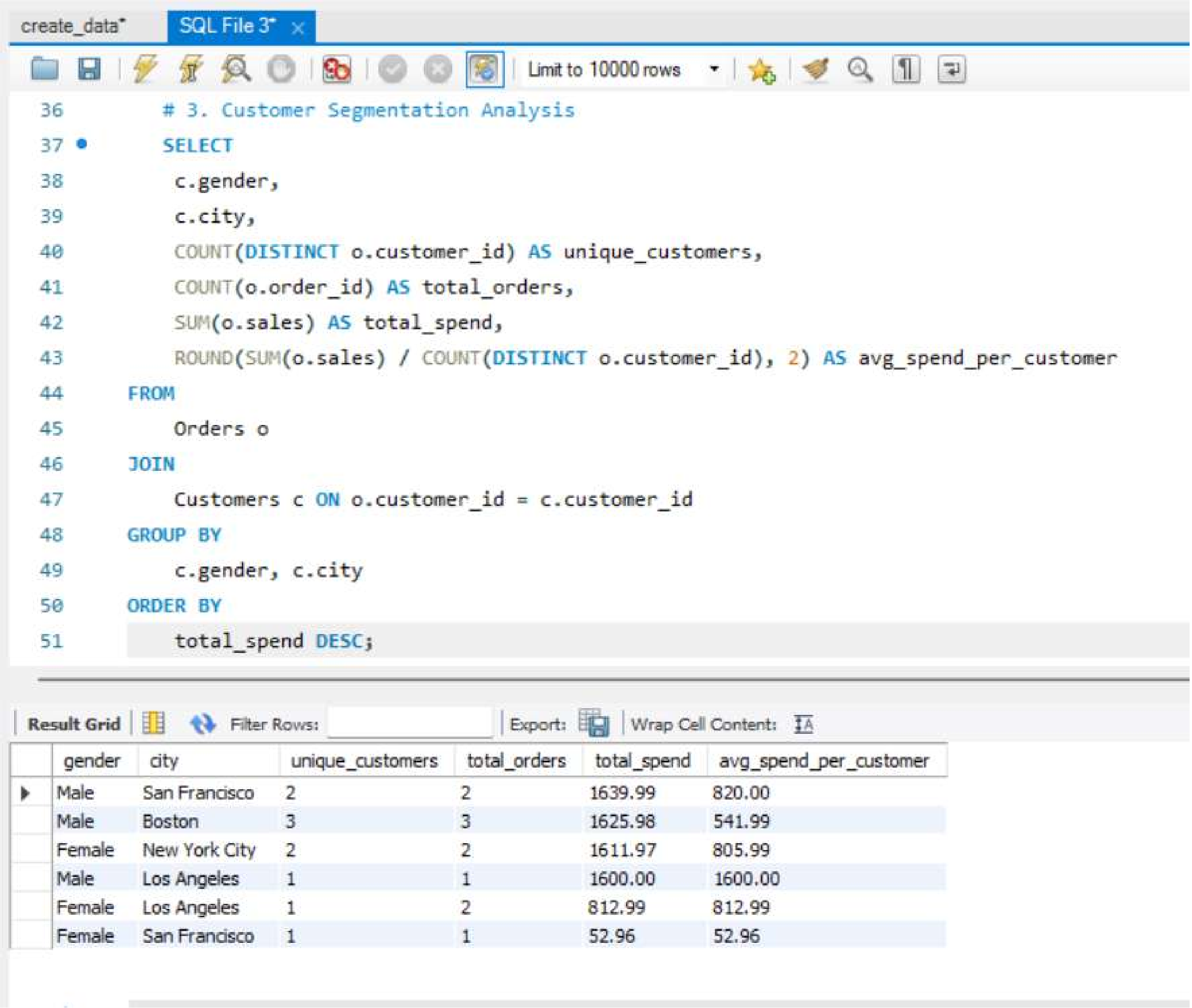
```sql
use online_sales;

show tables;

SELECT
    EXTRACT(YEAR FROM order_date) AS year,
    EXTRACT(MONTH FROM order_date) AS month,
    SUM(sales) AS monthly_revenue,
    COUNT(DISTINCT order_id) AS order_volume,
    SUM(quantity) AS total_items_sold
FROM
    Orders
GROUP BY
    year, month
ORDER BY
    year, month;
```

year	month	monthly_revenue	order_volume	total_items_sold
2023	5	812.99	2	2
2023	6	2465.97	4	14
2023	7	2400.00	2	3
2023	8	1664.93	3	9



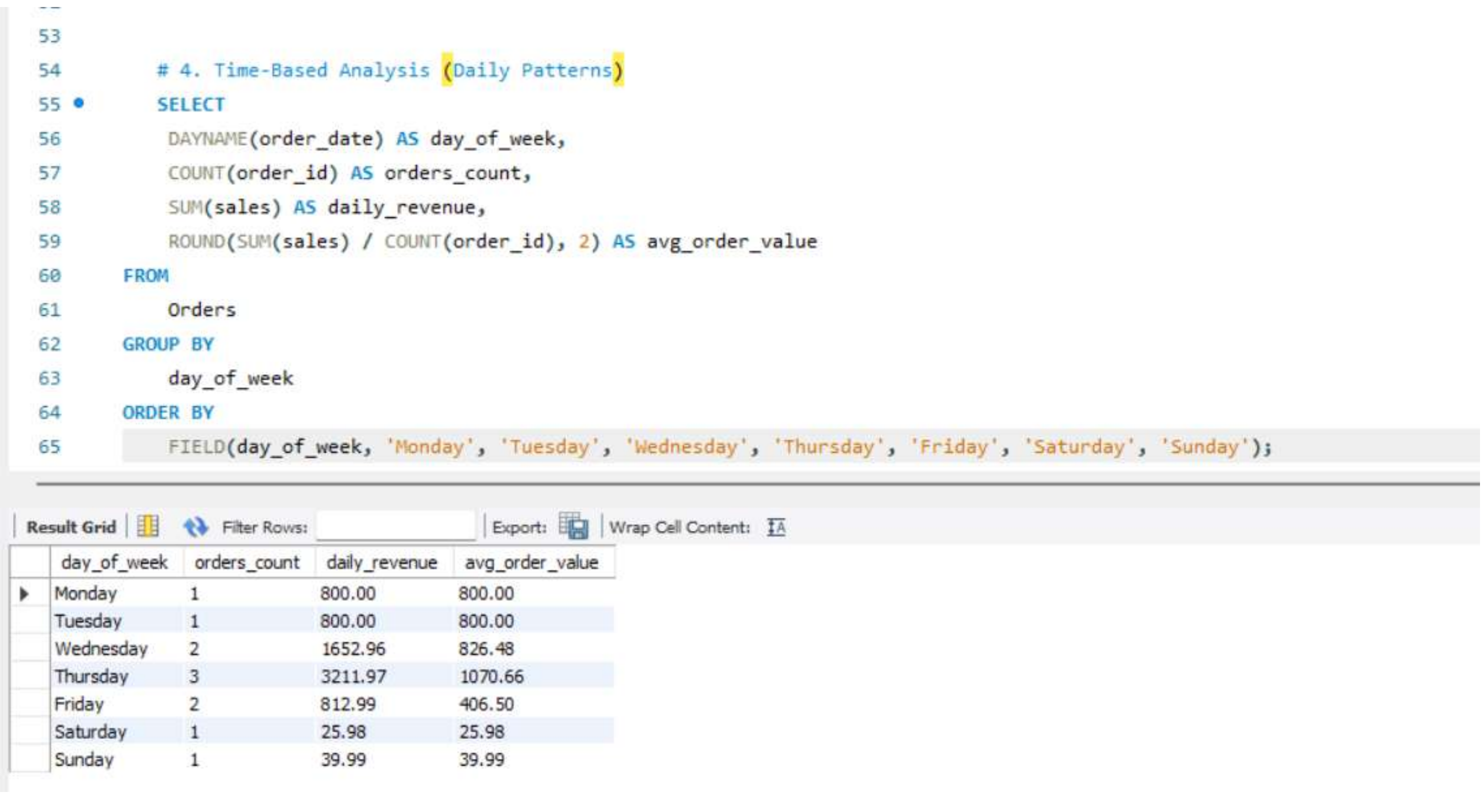
```sql
    # 2. Product Performance Analysis
    SELECT
    p.product_name,
    p.category,
    COUNT(o.order_id) AS total_orders,
    SUM(o.quantity) AS total_units_sold,
    SUM(o.sales) AS total_revenue,
    ROUND(SUM(o.sales) / SUM(o.quantity), 2) AS avg_price_per_unit
FROM
    Orders o
JOIN
    Products p ON o.product_id = p.product_id
GROUP BY
    p.product_name, p.category
ORDER BY
    total_revenue DESC;
```

product_name	category	total_orders	total_units_sold	total_revenue	avg_price_per_unit
MacBook Air	Laptop	2	2	3200.00	1600.00
iPhone	Phone	2	3	2400.00	800.00
Flatscreen TV	TV	2	3	1600.00	533.33
Wired Headphones	Headphones	3	7	91.93	13.13
AA Batteries (4-pack)	Batteries	2	13	51.96	4.00



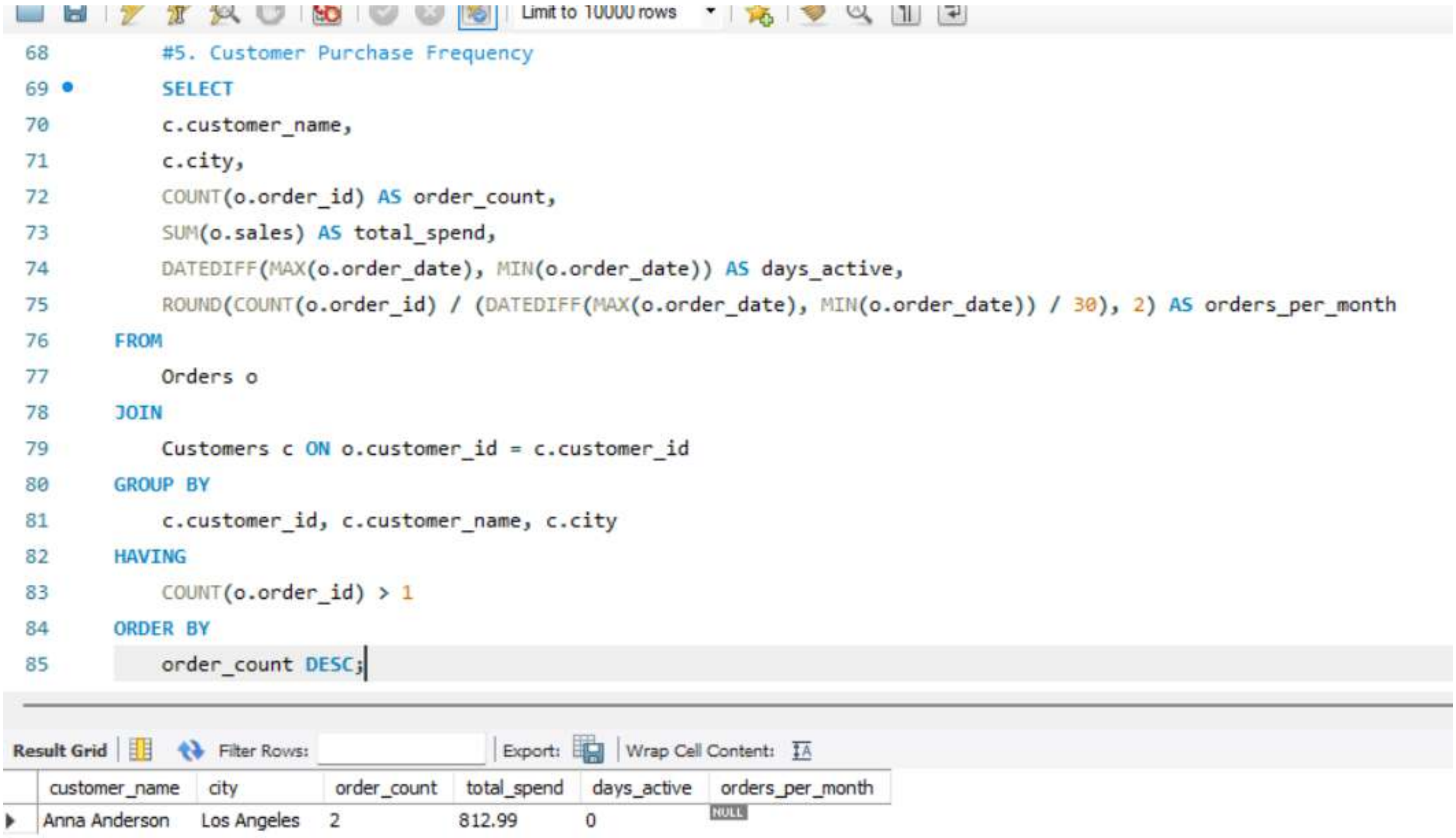
```sql
   # 3. Customer Segmentation Analysis
   SELECT
    c.gender,
    c.city,
    COUNT(DISTINCT o.customer_id) AS unique_customers,
    COUNT(o.order_id) AS total_orders,
    SUM(o.sales) AS total_spend,
    ROUND(SUM(o.sales) / COUNT(DISTINCT o.customer_id), 2) AS avg_spend_per_customer
FROM
    Orders o
JOIN
    Customers c ON o.customer_id = c.customer_id
GROUP BY
    c.gender, c.city
ORDER BY
    total_spend DESC;
```

gender	city	unique_customers	total_orders	total_spend	avg_spend_per_customer
Male	San Francisco	2	2	1639.99	820.00
Male	Boston	3	3	1625.98	541.99
Female	New York City	2	2	1611.97	805.99
Male	Los Angeles	1	1	1600.00	1600.00
Female	Los Angeles	1	2	812.99	812.99
Female	San Francisco	1	1	52.96	52.96



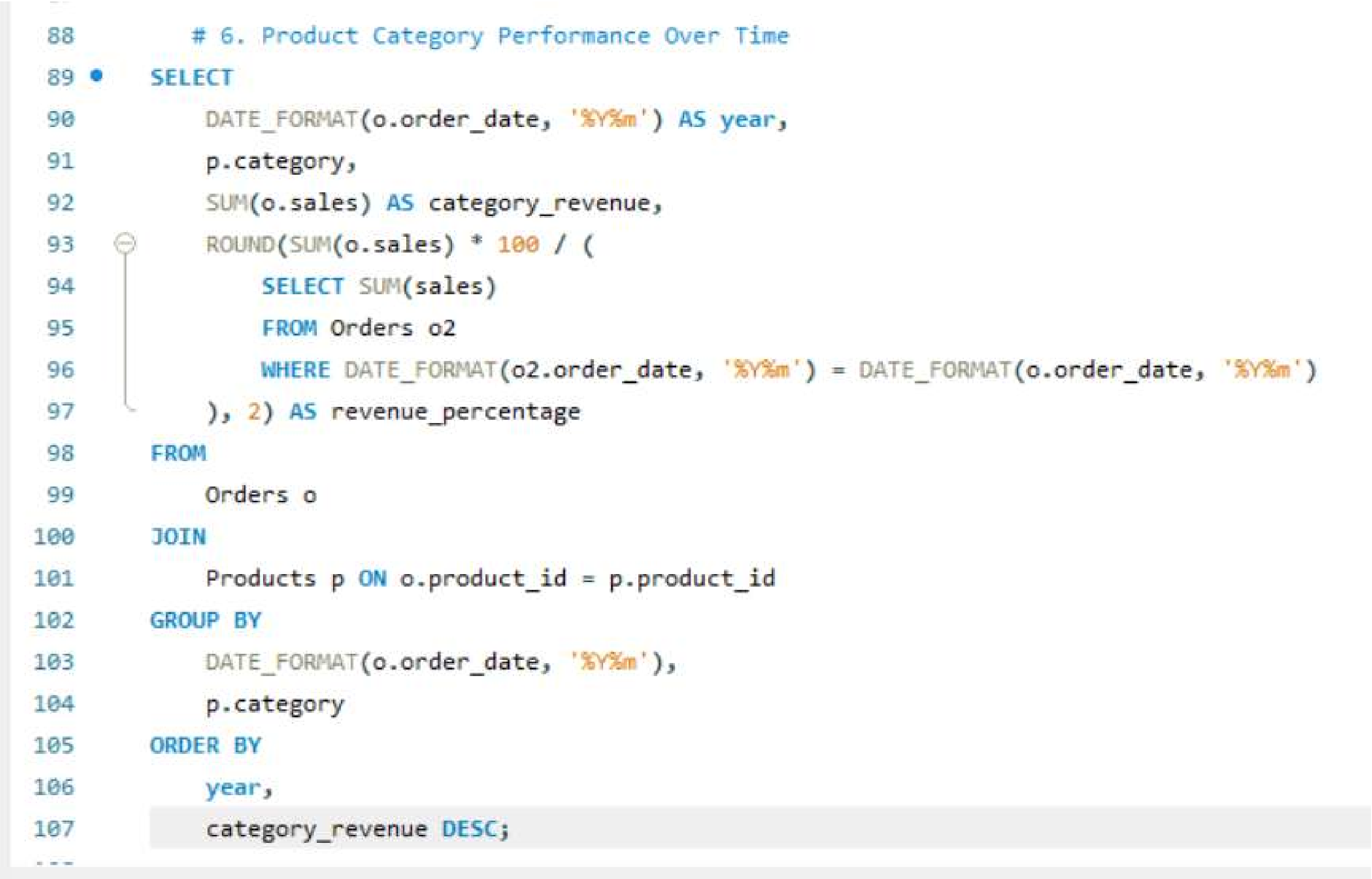
```
  # 4. Time-Based Analysis (Daily Patterns)
  SELECT
   DAYNAME(order_date) AS day_of_week,
   COUNT(order_id) AS orders_count,
   SUM(sales) AS daily_revenue,
   ROUND(SUM(sales) / COUNT(order_id), 2) AS avg_order_value
FROM
   Orders
GROUP BY
   day_of_week
ORDER BY
   FIELD(day_of_week, 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday', 'Sunday');
```

day_of_week	orders_count	daily_revenue	avg_order_value
Monday	1	800.00	800.00
Tuesday	1	800.00	800.00
Wednesday	2	1652.96	826.48
Thursday	3	3211.97	1070.66
Friday	2	812.99	406.50
Saturday	1	25.98	25.98
Sunday	1	39.99	39.99



```
    #5. Customer Purchase Frequency
    SELECT
    c.customer_name,
    c.city,
    COUNT(o.order_id) AS order_count,
    SUM(o.sales) AS total_spend,
    DATEDIFF(MAX(o.order_date), MIN(o.order_date)) AS days_active,
    ROUND(COUNT(o.order_id) / (DATEDIFF(MAX(o.order_date), MIN(o.order_date)) / 30), 2) AS orders_per_month
FROM
    Orders o
JOIN
    Customers c ON o.customer_id = c.customer_id
GROUP BY
    c.customer_id, c.customer_name, c.city
HAVING
    COUNT(o.order_id) > 1
ORDER BY
    order_count DESC;
```

customer_name	city	order_count	total_spend	days_active	orders_per_month
Anna Anderson	Los Angeles	2	812.99	0	NULL



```
   # 6. Product Category Performance Over Time
SELECT
    DATE_FORMAT(o.order_date, '%Y%m') AS year,
    p.category,
    SUM(o.sales) AS category_revenue,
    ROUND(SUM(o.sales) * 100 / (
        SELECT SUM(sales)
        FROM Orders o2
        WHERE DATE_FORMAT(o2.order_date, '%Y%m') = DATE_FORMAT(o.order_date, '%Y%m')
    ), 2) AS revenue_percentage
FROM
    Orders o
JOIN
    Products p ON o.product_id = p.product_id
GROUP BY
    DATE_FORMAT(o.order_date, '%Y%m'),
    p.category
ORDER BY
    year,
    category_revenue DESC;
```