SQL Project on domino’s pizza sales

Overview

In this project, we aim to analyze pizza sales data using SQL queries. By leveraging SQL's powerful data manipulation and querying capabilities, we will gain insights into various aspects of pizza sales at different levels, including overall sales performance, customer preferences, and more. This project will involve working with a structured dataset representing pizza sales transactions, which will include details such as order IDs, pizza IDs, order details IDs, pizza types, Category, order dates, order time, Size, price and quantity of the pizza.

Objectives

The primary objectives of this project are to:

Understand Sales Performance: Analyze overall sales trends and identify peak sales periods.

Product Analysis: Determine the best-selling pizzas and analyze customer preferences.

Customer Insights: Gain insights into customer buying patterns and behavior.

Operational Efficiency: Identify operational bottlenecks or areas for improvement in the sales process.

Data Description

The dataset for this project typically includes the following tables:

Orders: Details of order including order id, order date and order time.

Pizzas: Details of different pizzas available, including pizza ID, pizza type id, size and price

Order Details: Breaks down each order into individual items, specifying which pizzas were ordered and in what quantities which have details of each order, including order details id , order id , pizza id and quantity.

Pizza type: Details contain pizza type id, pizza name, category and ingrediants

To achieve our objectives, we will write and execute various SQL queries on below questions

Basic:

- Retrieve the total number of orders placed.
- Calculate the total revenue generated from pizza sales.
- Identify the highest-priced pizza.
- Identify the most common pizza size ordered.
- List the top 5 most ordered pizza types along with their quantities.

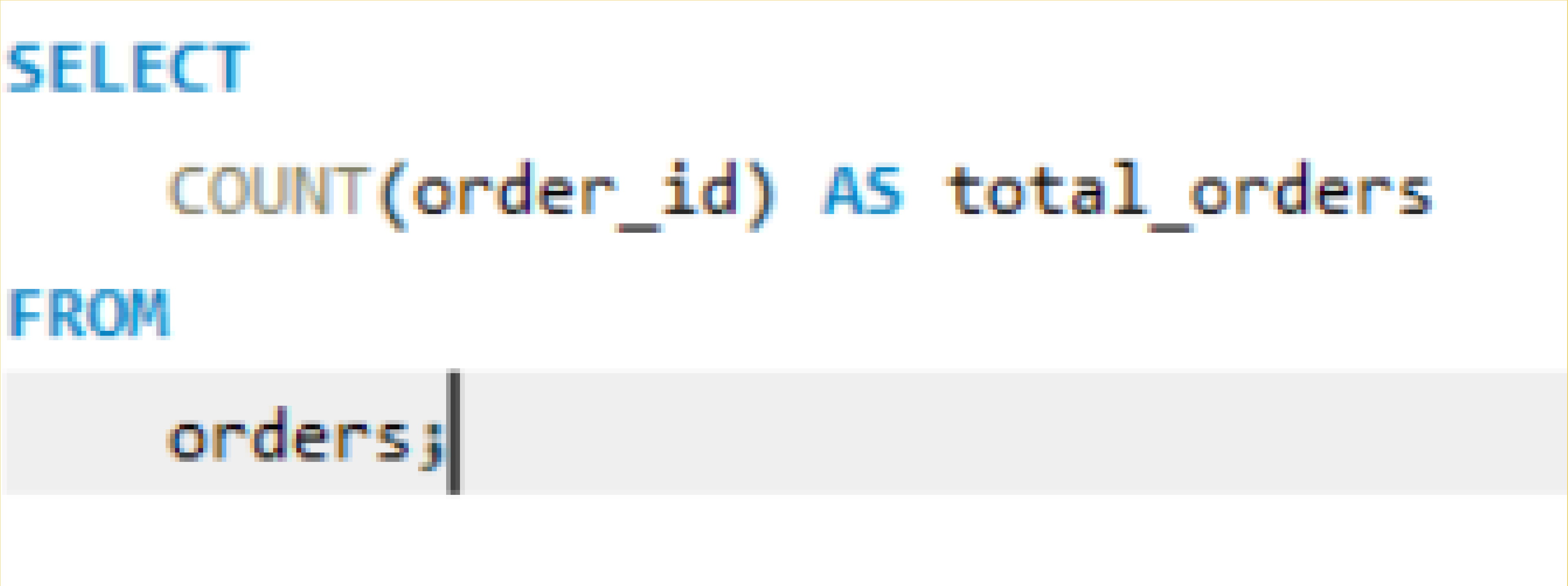
Intermediate:

- Join the necessary tables to find the total quantity of each pizza category ordered.
- Determine the distribution of orders by hour of the day.
- Join relevant tables to find the category-wise distribution of pizzas.
- Group the orders by date and calculate the average number of pizzas ordered per day.
- Determine the top 3 most ordered pizza types based on revenue.

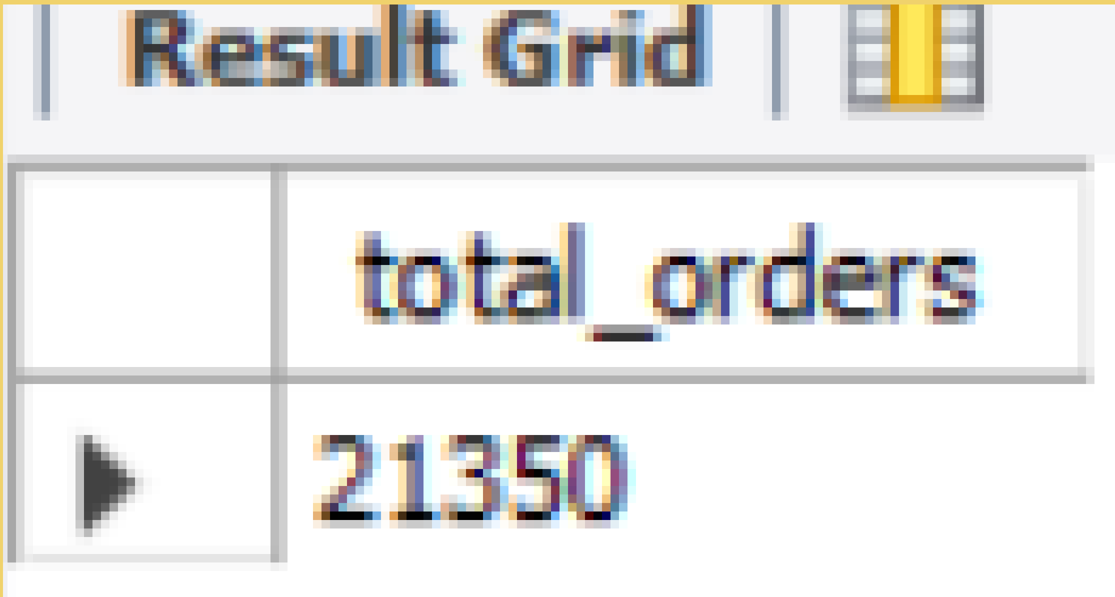
Advanced:

- Calculate the percentage contribution of each pizza type to total revenue.
- Analyze the cumulative revenue generated over time.
- Determine the top 3 most ordered pizza types based on revenue for each pizza category.

1.Retrieve the total number of orders placed

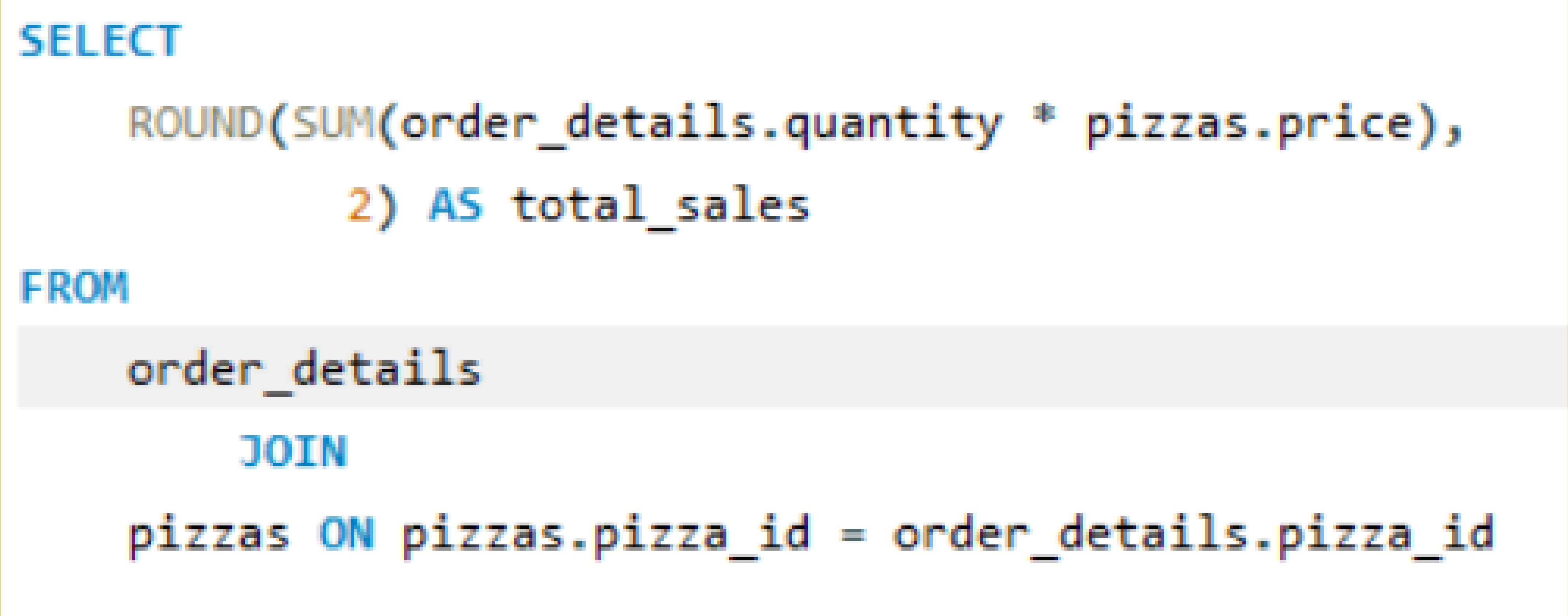


```
SELECT
    COUNT(order_id) AS total_orders
FROM
    orders;
```

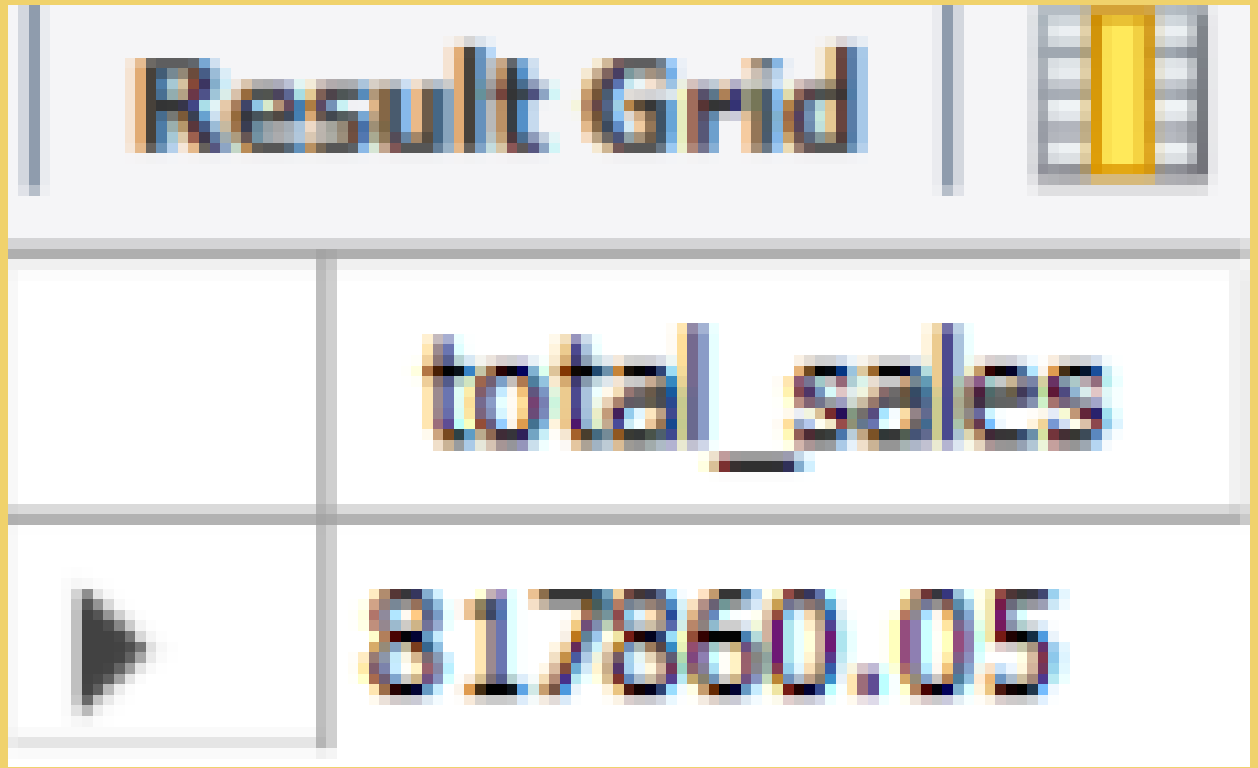


total_orders
21350

2.Calculate the total revenue generated from pizza sales

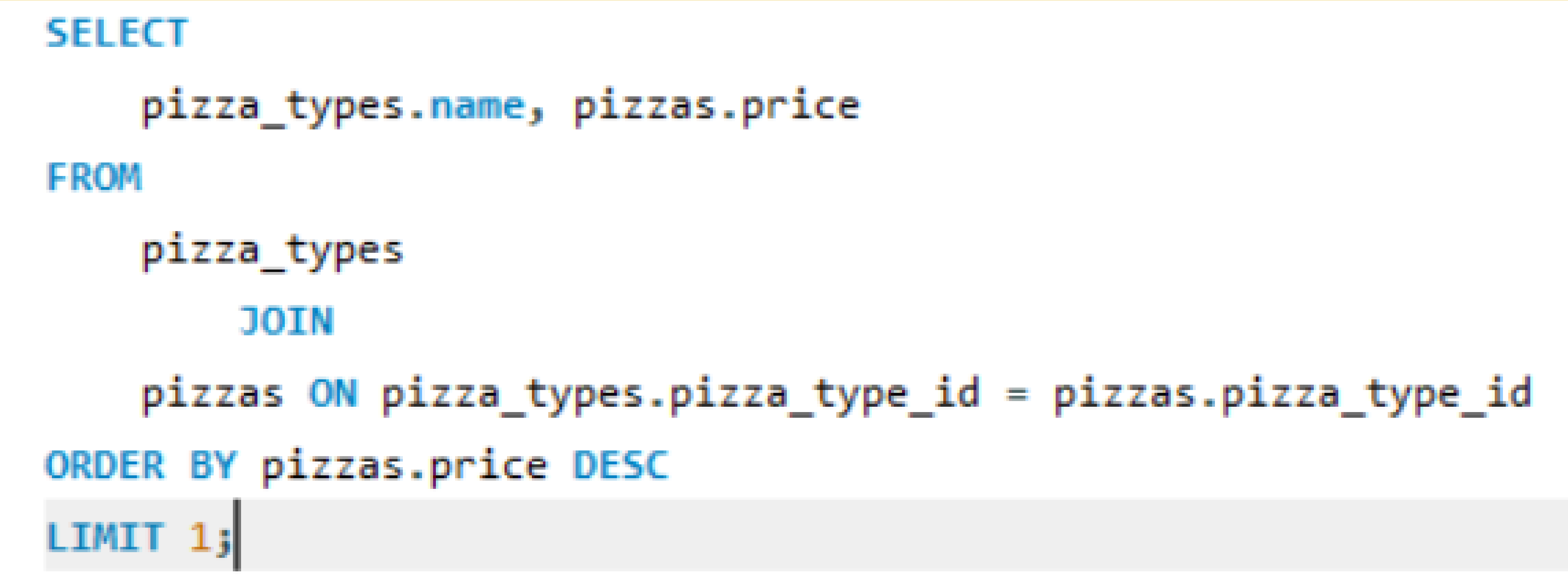


```
SELECT
    ROUND(SUM(order_details.quantity * pizzas.price),
            2) AS total_sales
FROM
    order_details
        JOIN
    pizzas ON pizzas.pizza_id = order_details.pizza_id
```

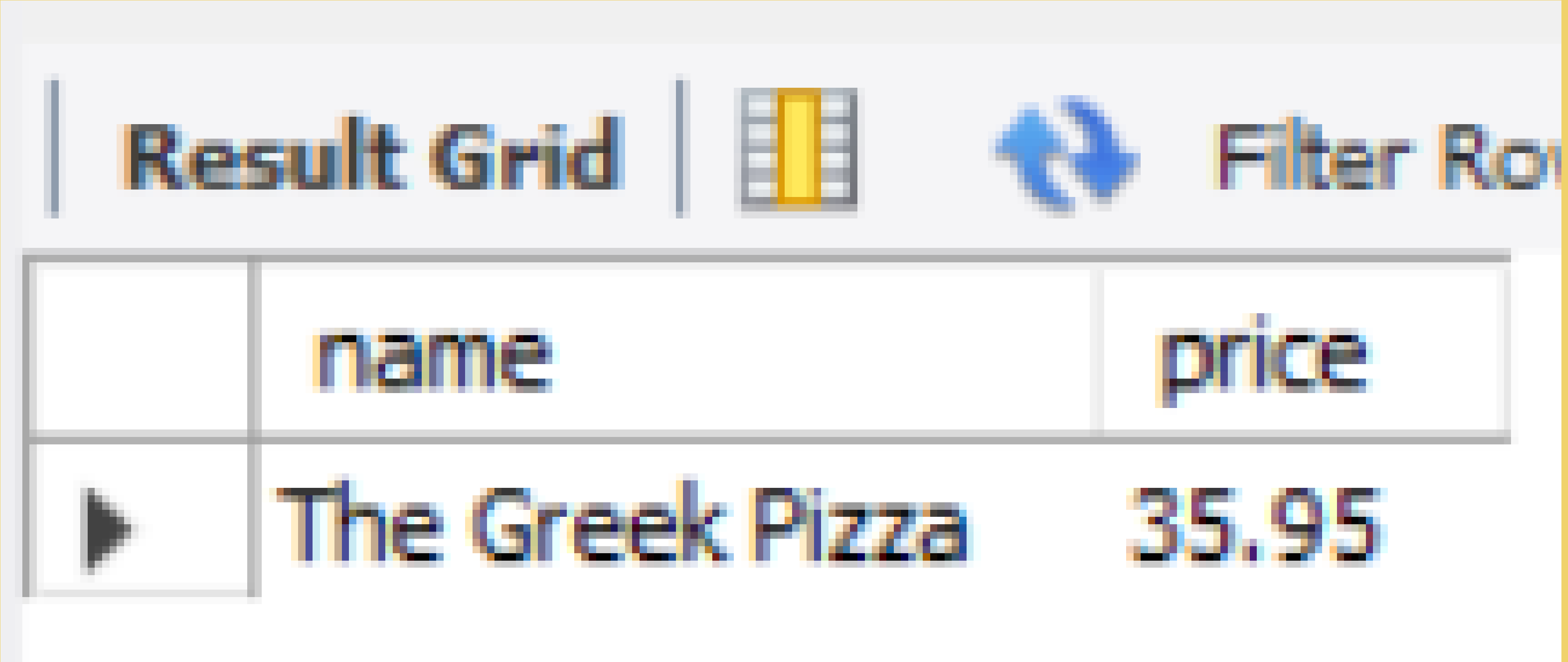


```
total_sales
817860.05
```

3.Identify the highest-priced pizza

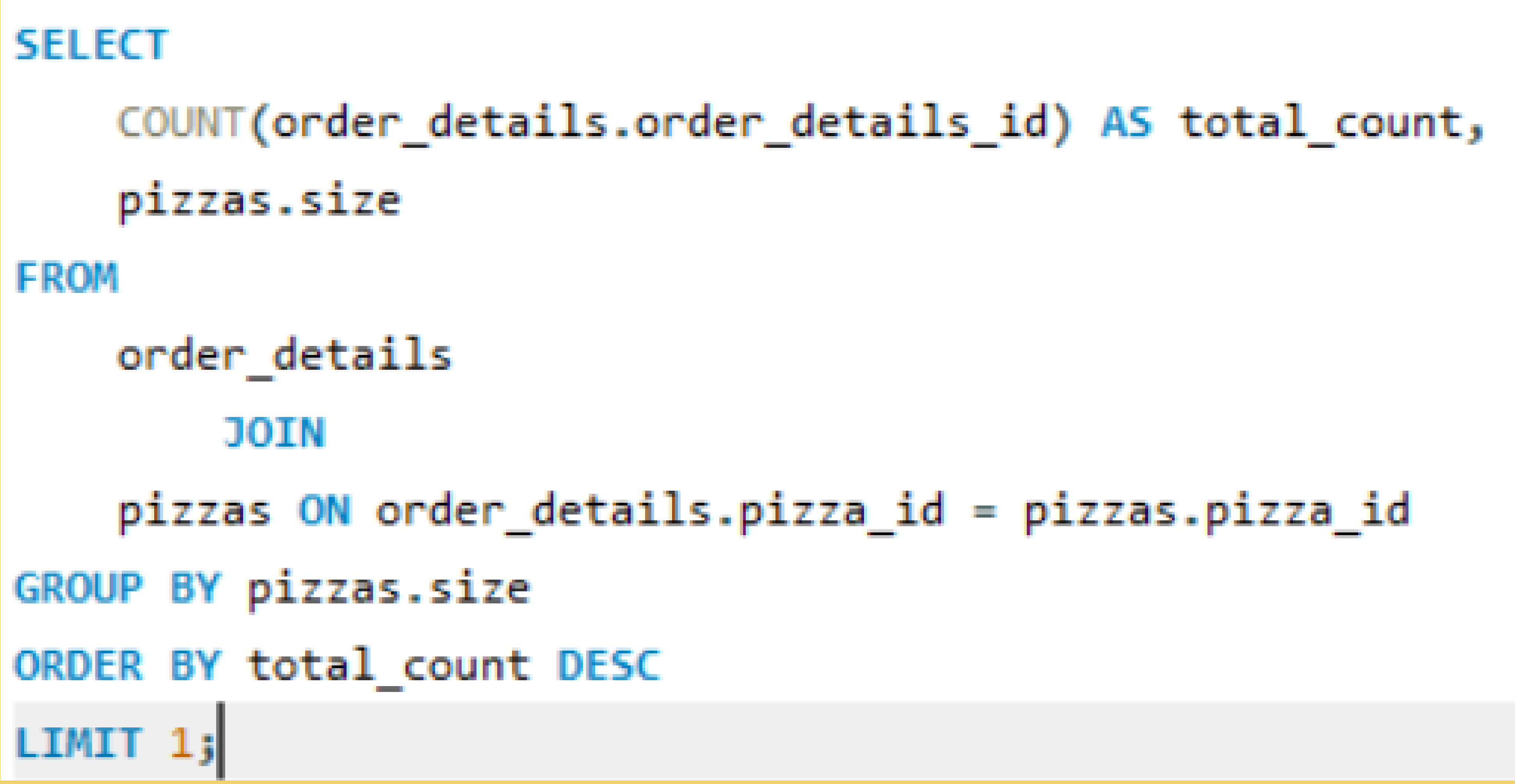


```
SELECT
    pizza_types.name, pizzas.price
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY pizzas.price DESC
LIMIT 1;
```

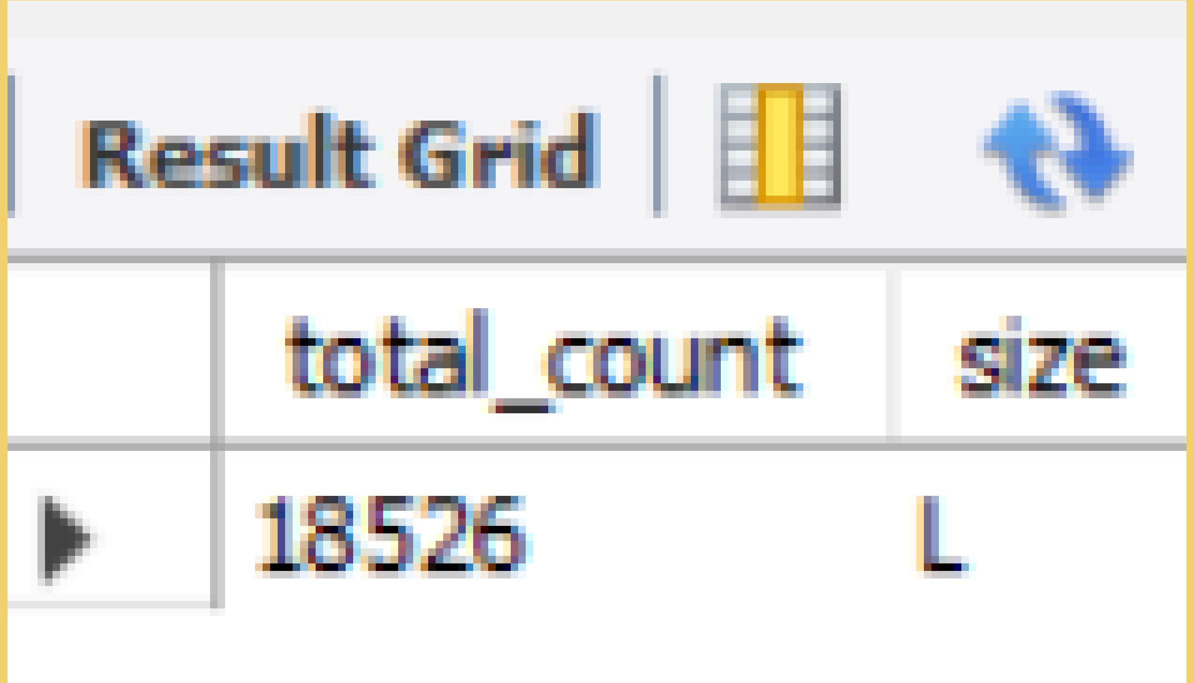


name	price
The Greek Pizza	35.95

4.Identify the most common pizza size ordered

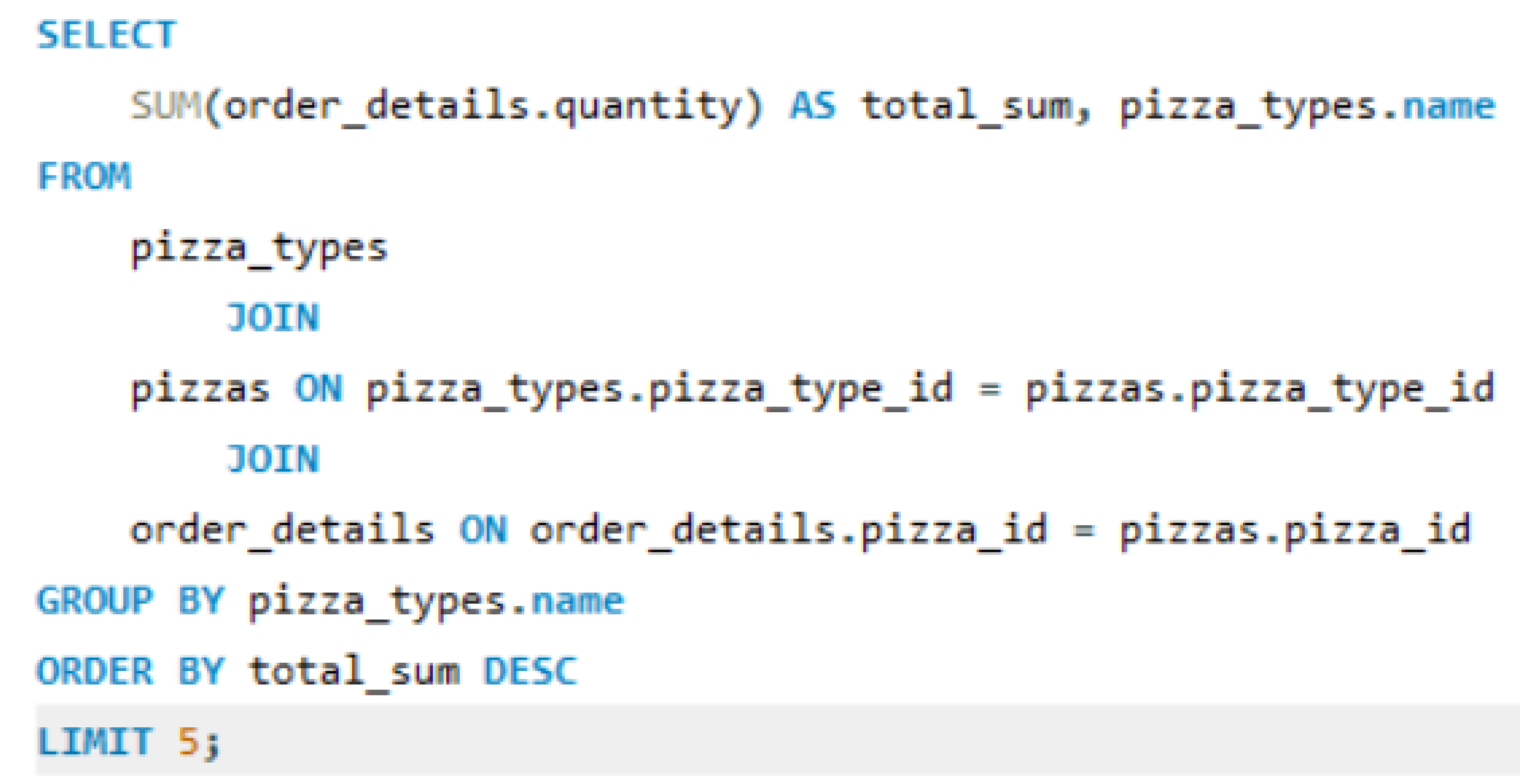


```
SELECT
    COUNT(order_details.order_details_id) AS total_count,
    pizzas.size
FROM
    order_details
        JOIN
    pizzas ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizzas.size
ORDER BY total_count DESC
LIMIT 1;
```

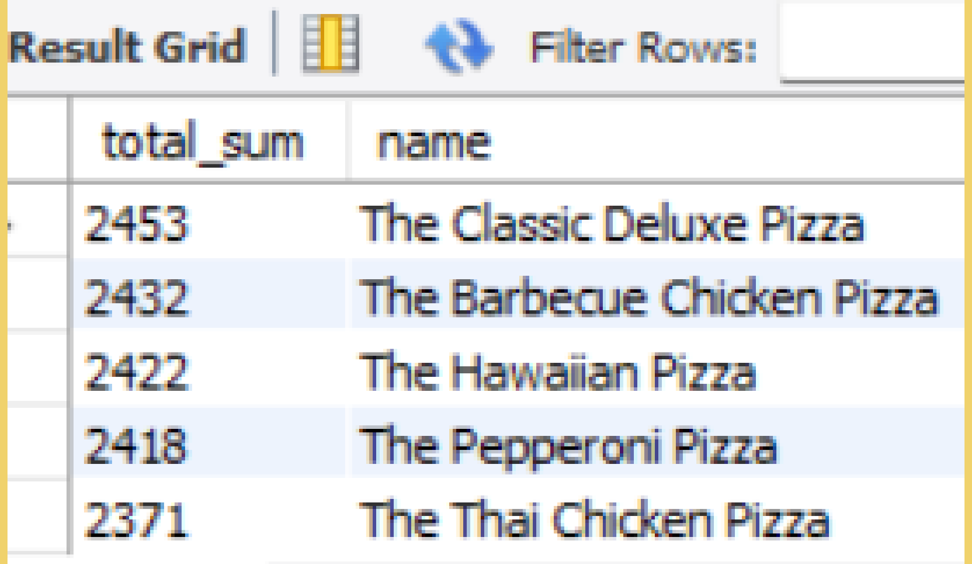


total_count	size
18526	L

5.List the top 5 most ordered pizza types along with their quantities

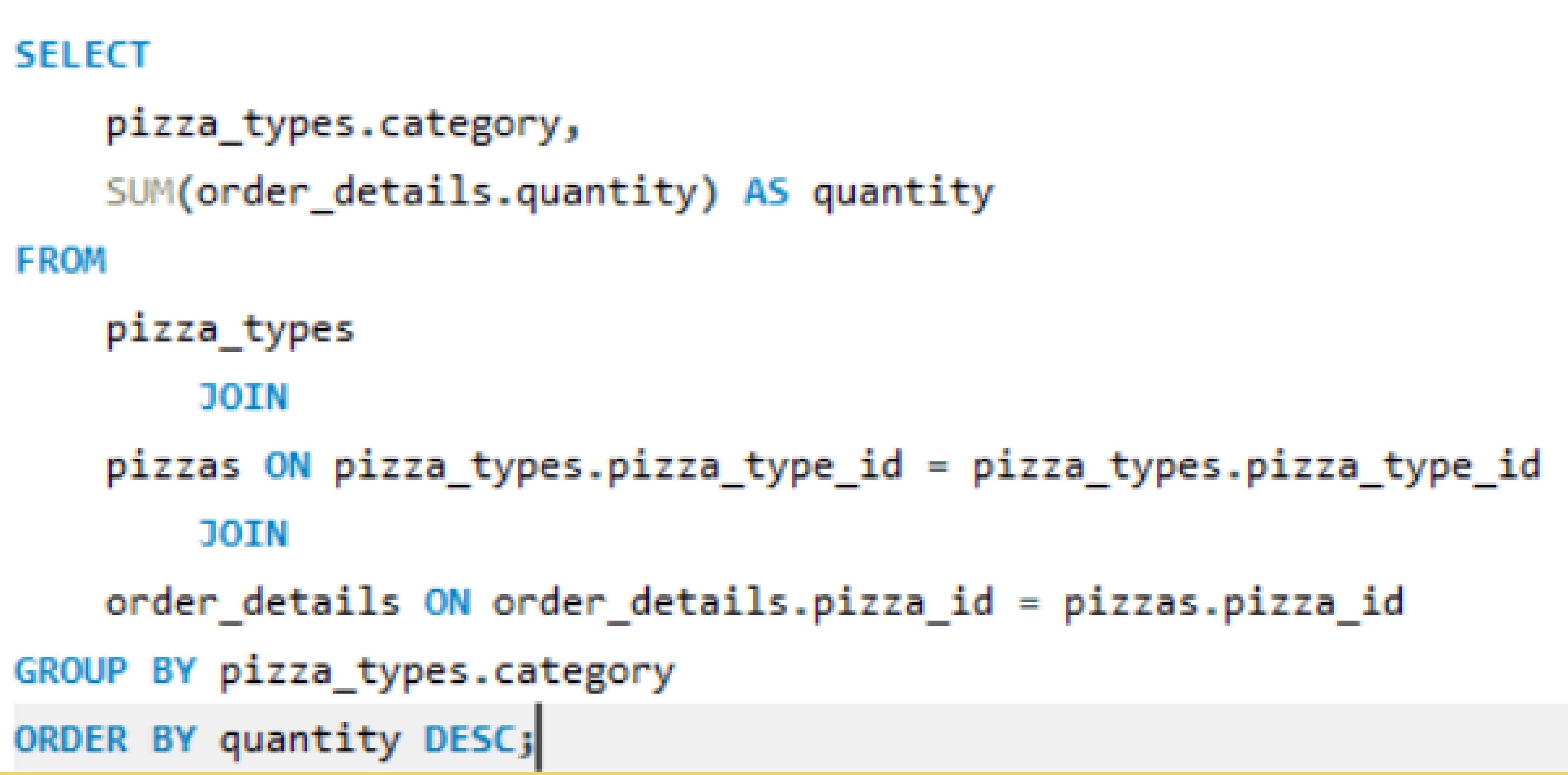


```
SELECT
    SUM(order_details.quantity) AS total_sum, pizza_types.name
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY total_sum DESC
LIMIT 5;
```

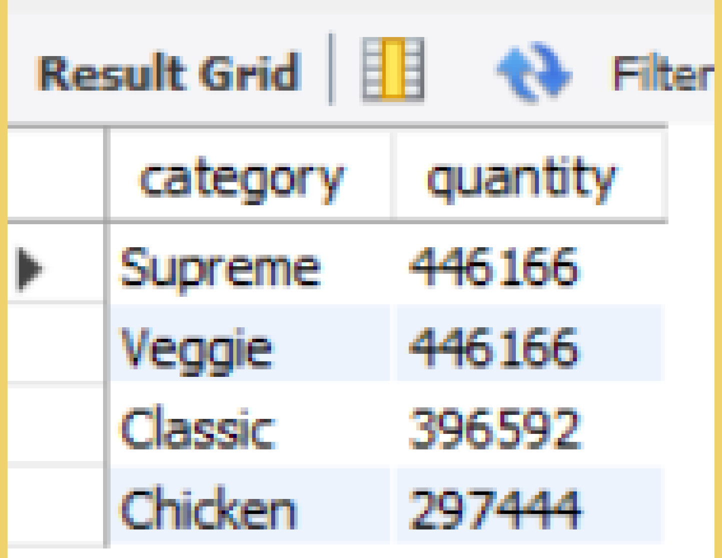


total_sum	name
2453	The Classic Deluxe Pizza
2432	The Barbecue Chicken Pizza
2422	The Hawaiian Pizza
2418	The Pepperoni Pizza
2371	The Thai Chicken Pizza

6.Join the necessary tables to find the total quantity of each pizza category ordered

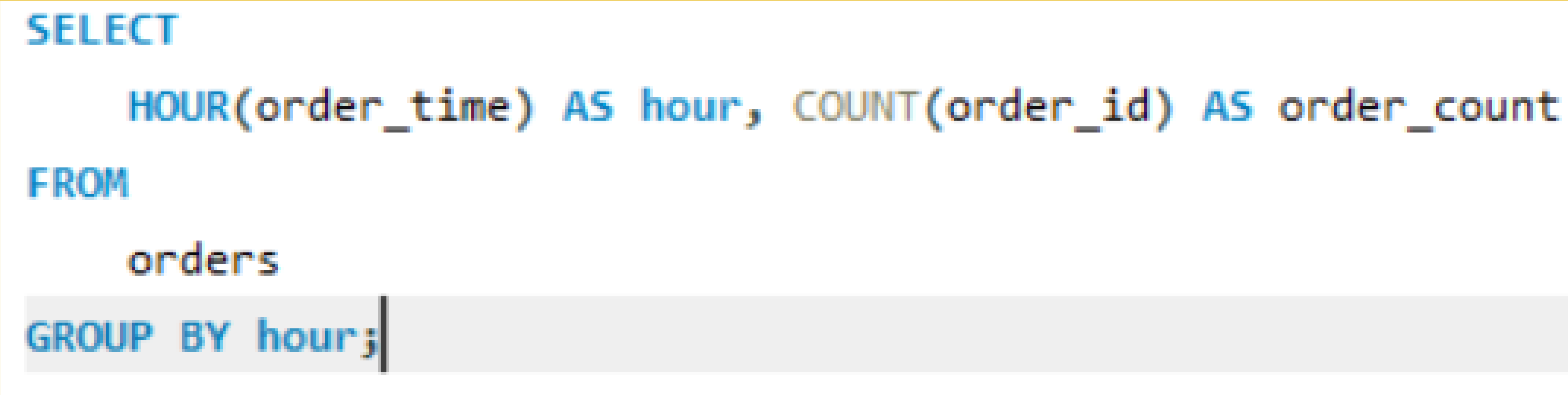


```
SELECT
    pizza_types.category,
    SUM(order_details.quantity) AS quantity
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizza_types.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER BY quantity DESC;
```

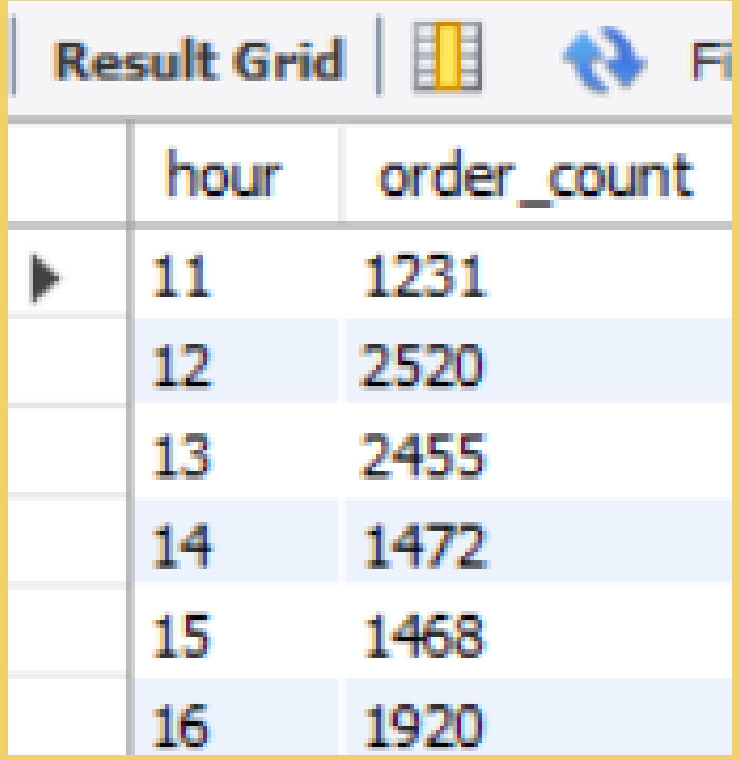


category	quantity
Supreme	446166
Veggie	446166
Classic	396592
Chicken	297444

7.Determine the distribution of orders by hour of the day

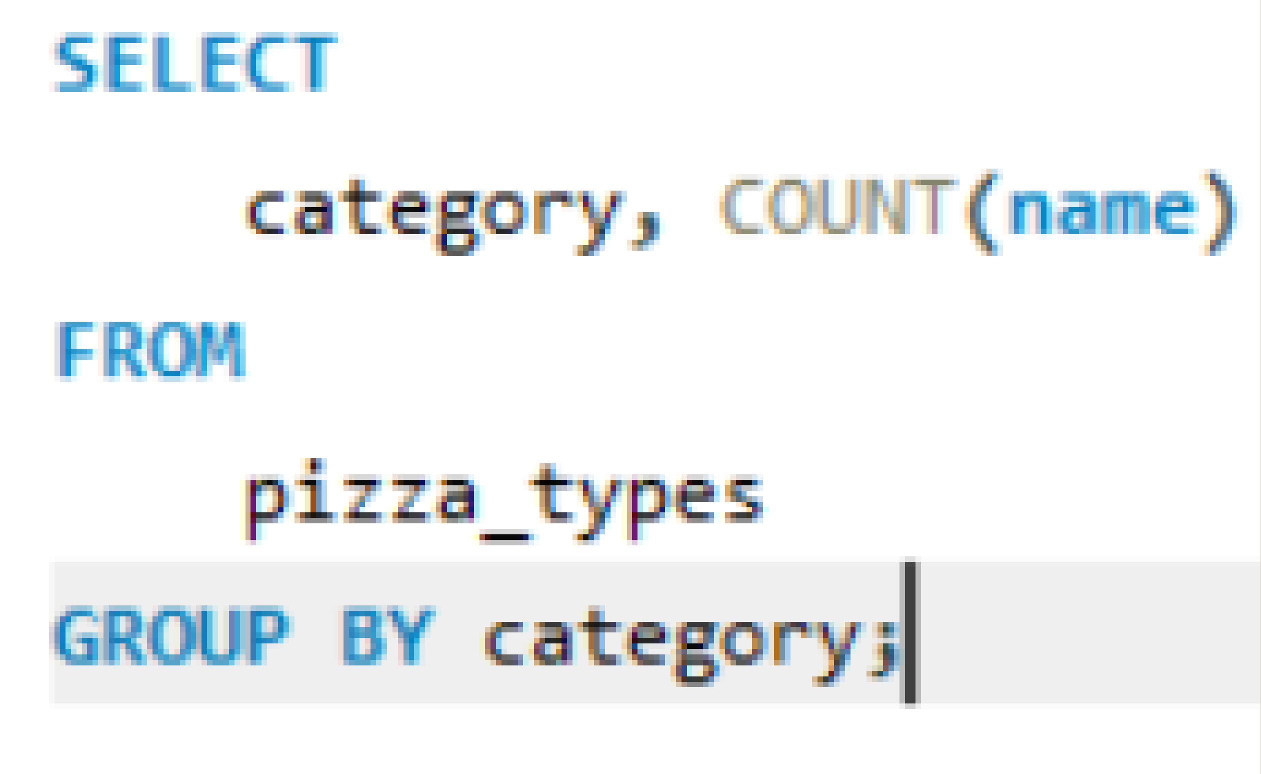


```
SELECT
    HOUR(order_time) AS hour, COUNT(order_id) AS order_count
FROM
    orders
GROUP BY hour;
```

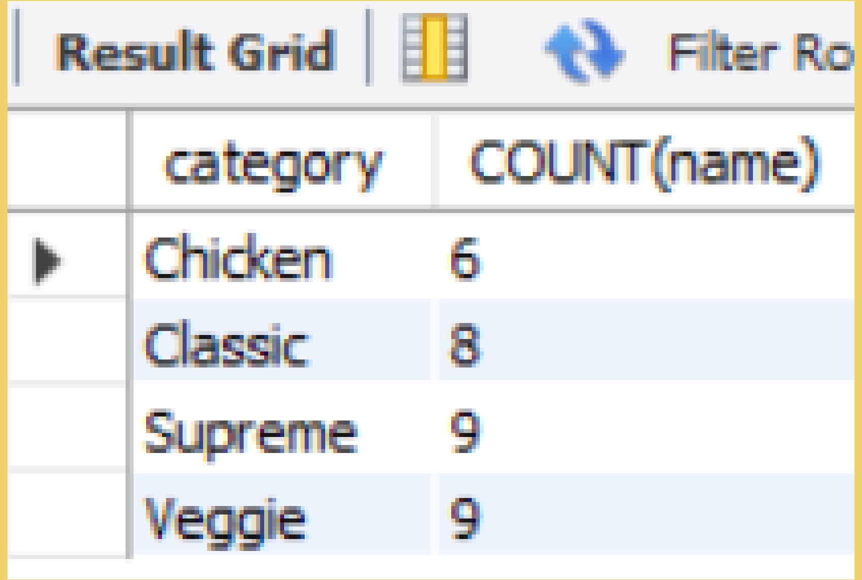


hour	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920

8.Join relevant tables to find the category-wise distribution of pizzas

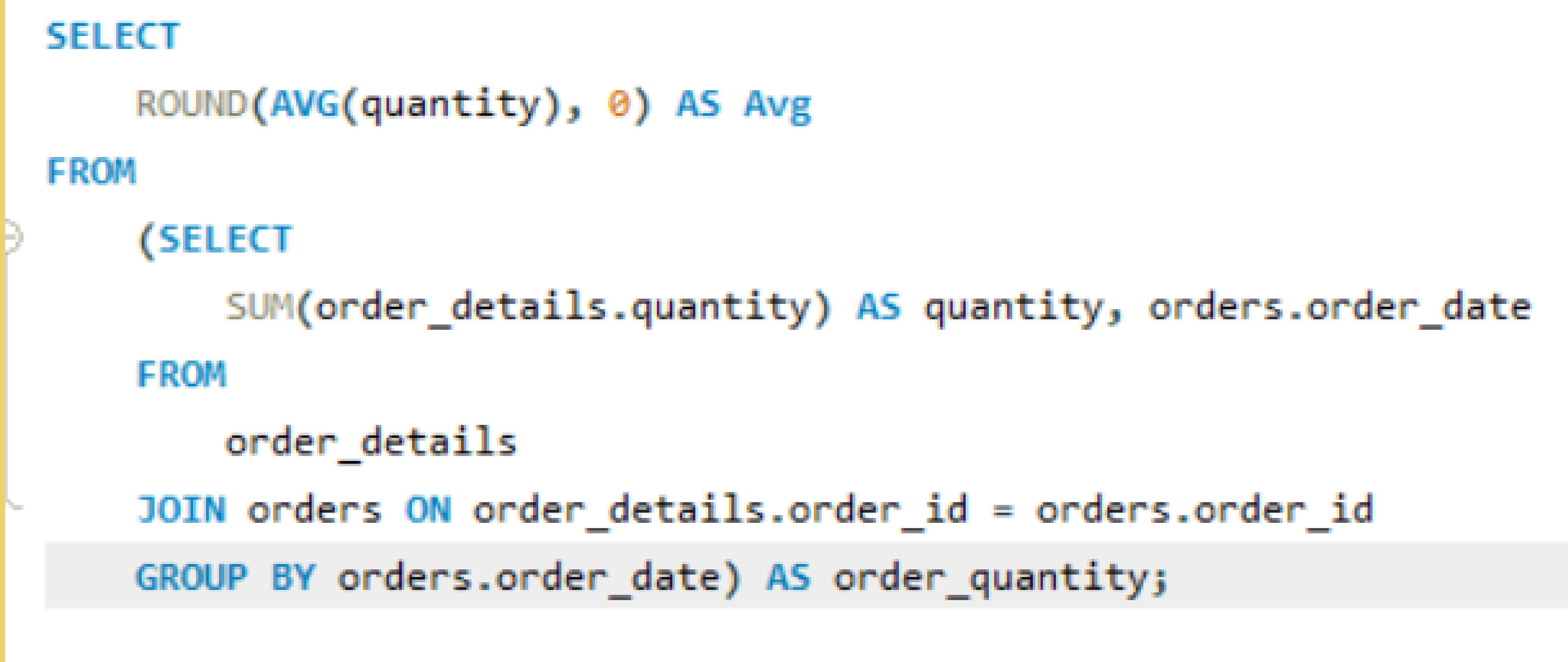


```
SELECT
    category, COUNT(name)
FROM
    pizza_types
GROUP BY category;
```

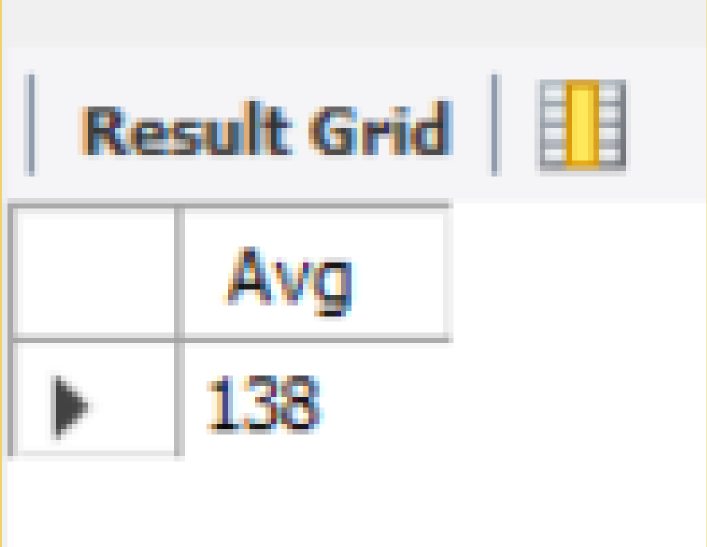


category	COUNT(name)
Chicken	6
Classic	8
Supreme	9
Veggie	9

9.Group the orders by date and calculate the average number of pizzas ordered per day

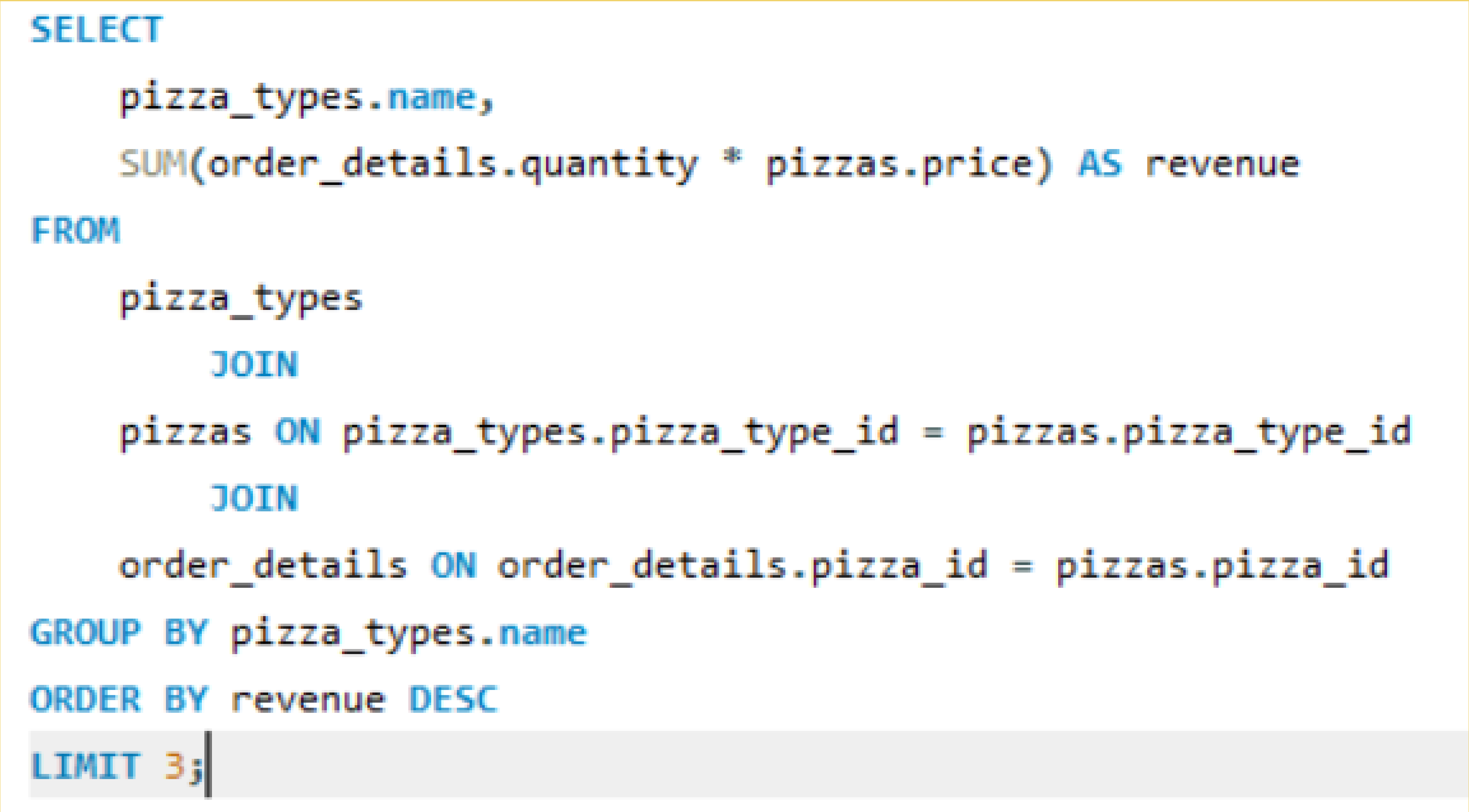


```
SELECT
    ROUND(AVG(quantity), 0) AS Avg
FROM
    (SELECT
        SUM(order_details.quantity) AS quantity, orders.order_date
    FROM
        order_details
    JOIN orders ON order_details.order_id = orders.order_id
    GROUP BY orders.order_date) AS order_quantity;
```

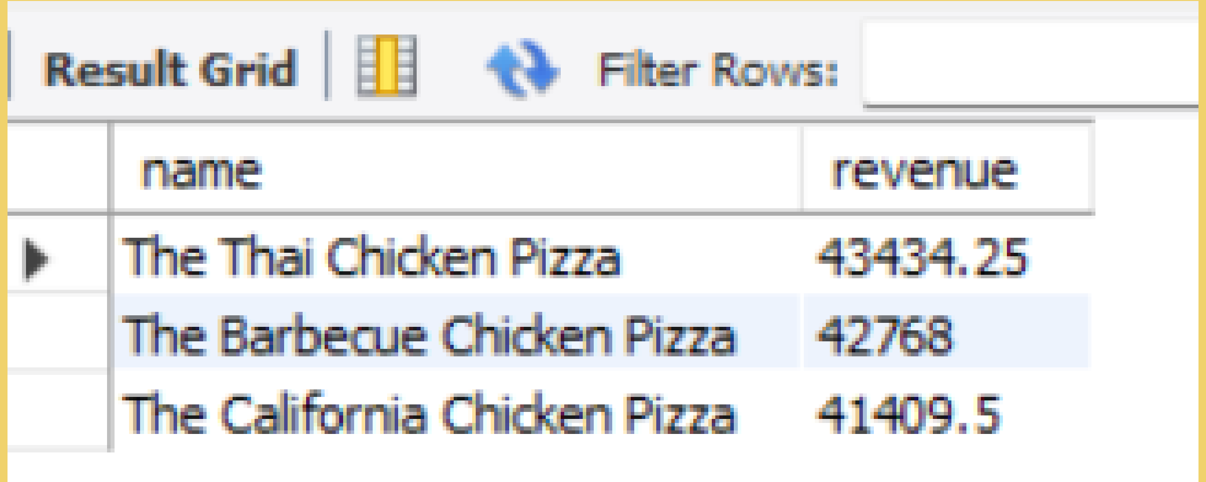


	Avg
▶	138

10.Determine the top 3 most ordered pizza types based on revenue

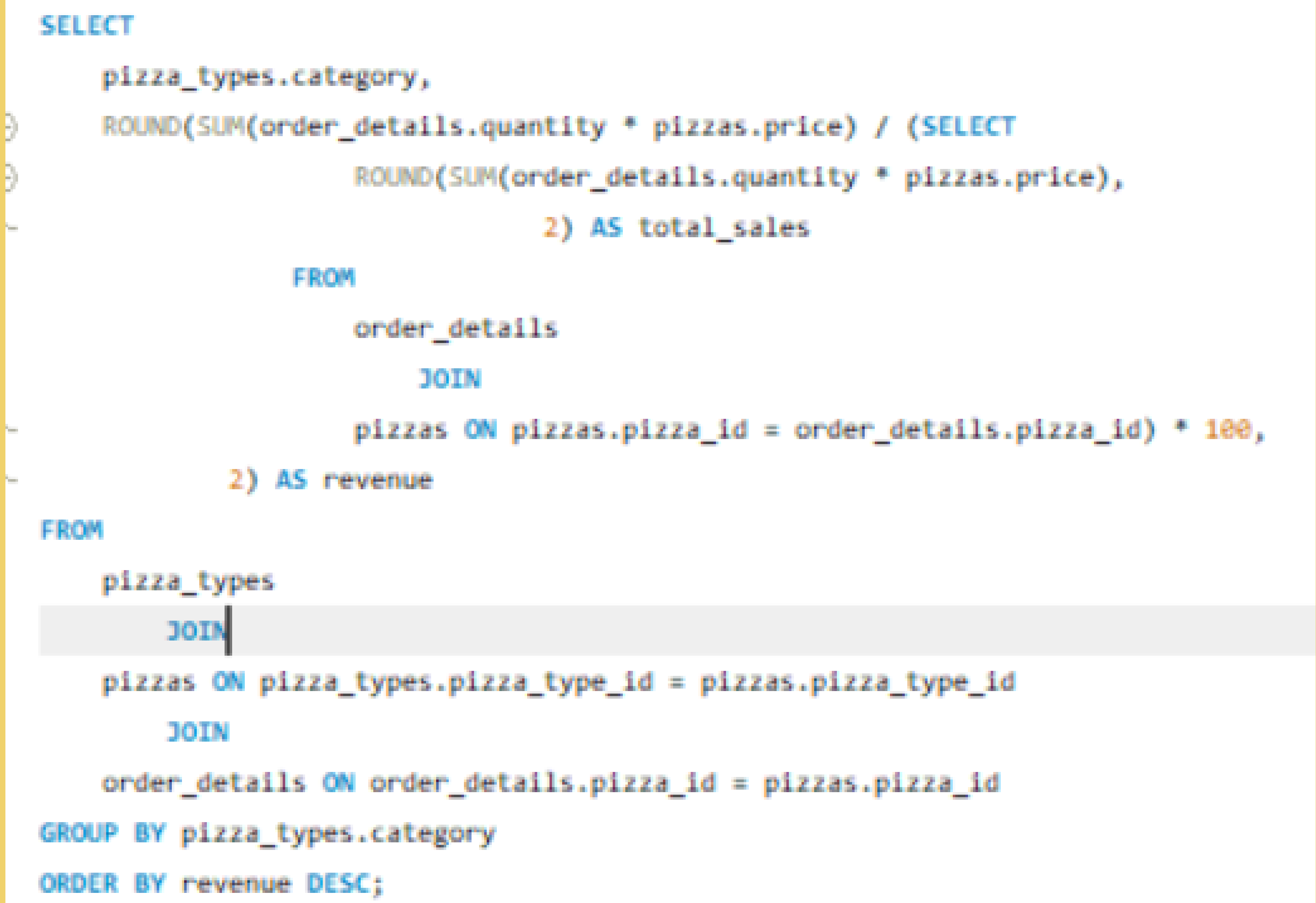


```
SELECT
    pizza_types.name,
    SUM(order_details.quantity * pizzas.price) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY revenue DESC
LIMIT 3;
```

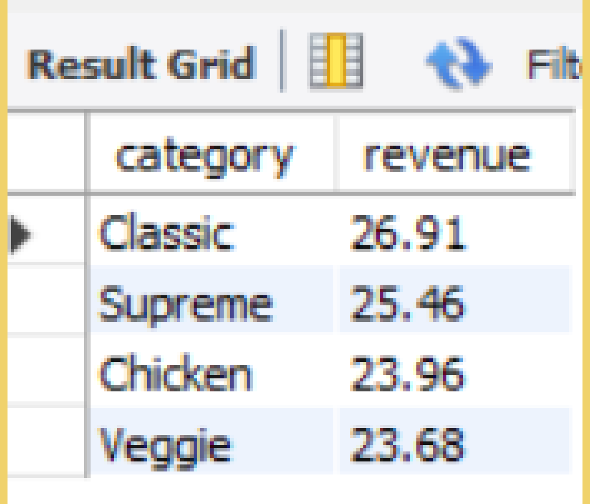


name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

11.Calculate the percentage contribution of each pizza type to total revenue

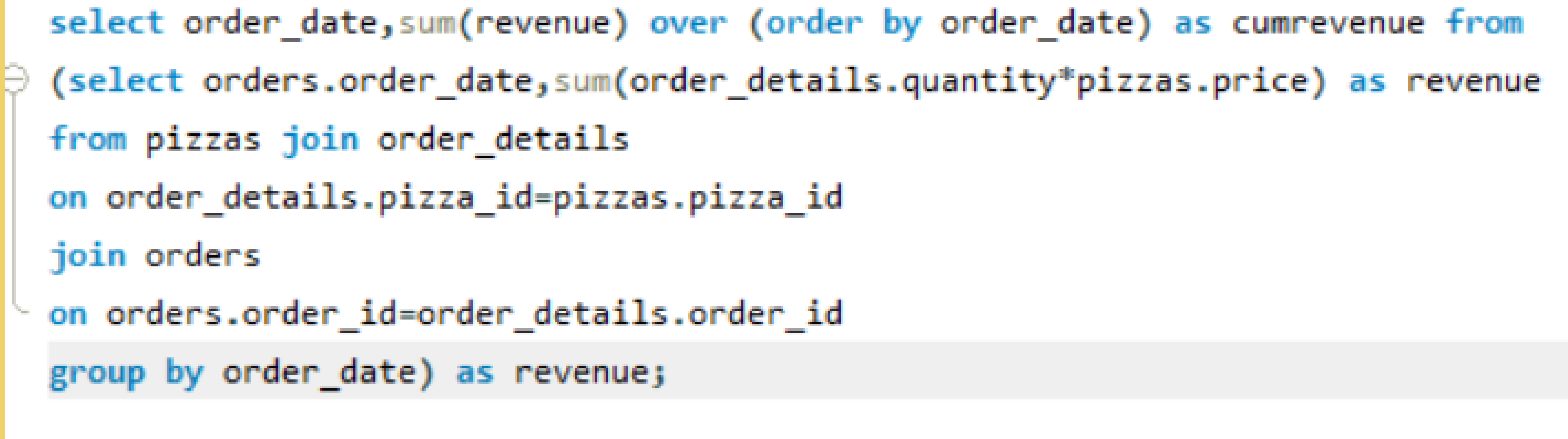


```
SELECT
    pizza_types.category,
    ROUND(SUM(order_details.quantity * pizzas.price) / (SELECT
                ROUND(SUM(order_details.quantity * pizzas.price),
                            2) AS total_sales
                FROM
                    order_details
                        JOIN
                    pizzas ON pizzas.pizza_id = order_details.pizza_id) * 100,
            2) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER BY revenue DESC;
```

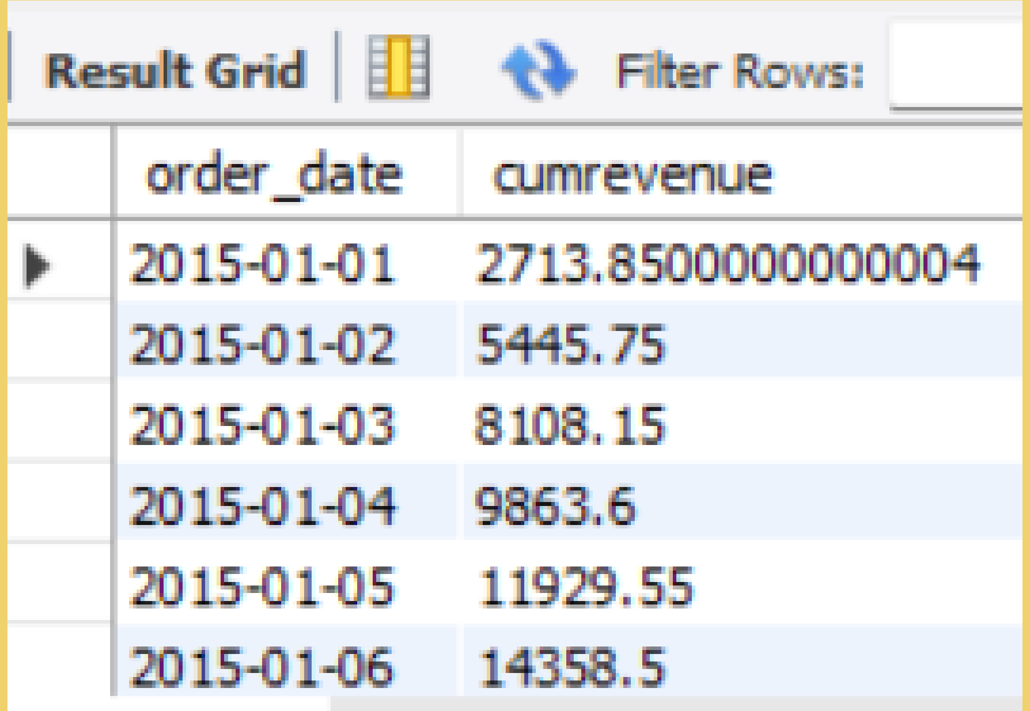


category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

12.Analyze the cumulative revenue generated over time

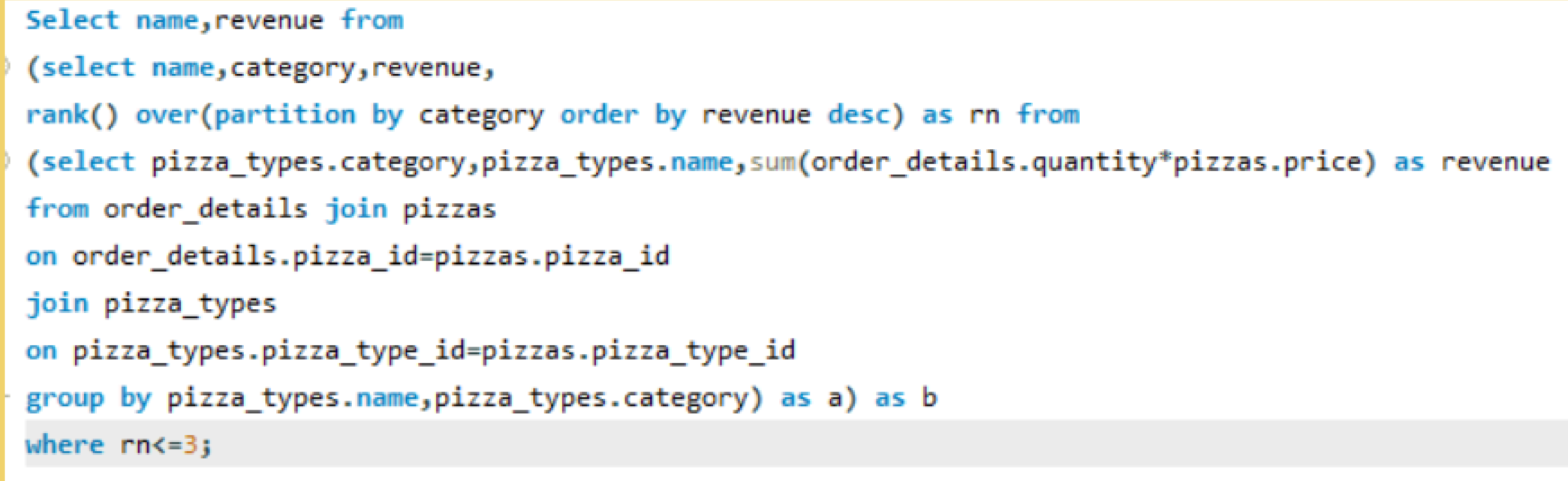


```
select order_date,sum(revenue) over (order by order_date) as cumrevenue from
(select orders.order_date,sum(order_details.quantity*pizzas.price) as revenue
from pizzas join order_details
on order_details.pizza_id=pizzas.pizza_id
join orders
on orders.order_id=order_details.order_id
group by order_date) as revenue;
```

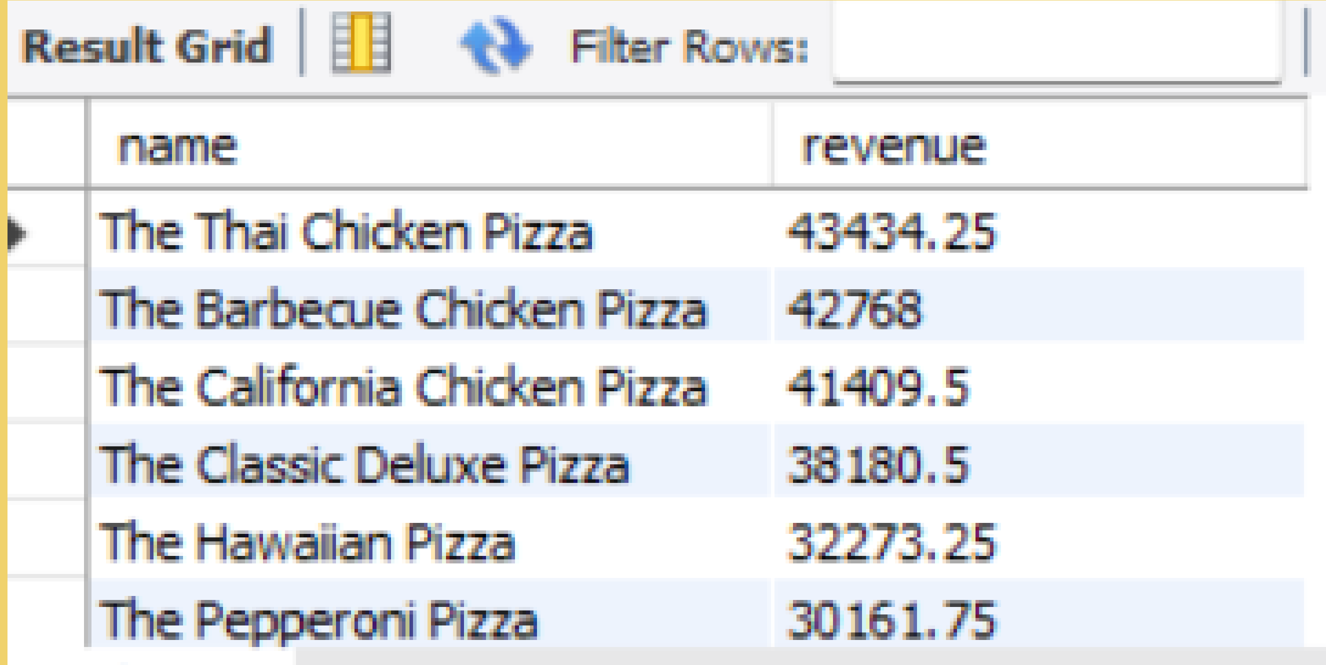


order_date	cumrevenue
2015-01-01	2713.8500000000004
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.6
2015-01-05	11929.55
2015-01-06	14358.5

13.Determine the top 3 most ordered pizza types based on revenue for each pizza category



```
Select name,revenue from
(select name,category,revenue,
rank() over(partition by category order by revenue desc) as rn from
(select pizza_types.category,pizza_types.name,sum(order_details.quantity*pizzas.price) as revenue
from order_details join pizzas
on order_details.pizza_id=pizzas.pizza_id
join pizza_types
on pizza_types.pizza_type_id=pizzas.pizza_type_id
group by pizza_types.name,pizza_types.category) as a) as b
where rn<=3;
```



name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5
The Classic Deluxe Pizza	38180.5
The Hawaiian Pizza	32273.25
The Pepperoni Pizza	30161.75

Conclusion

- By the end of this project, we have a comprehensive understanding of pizza sales dynamics, including trends, customer preferences, and operational insights.
- This analysis not only help in making informed business decisions but also in enhancing customer satisfaction and improving sales strategies.
- Through hands-on SQL queries and data analysis, we develop a robust skill set applicable to various domains and datasets.

Thankyou