Pizza Sales Database Management System

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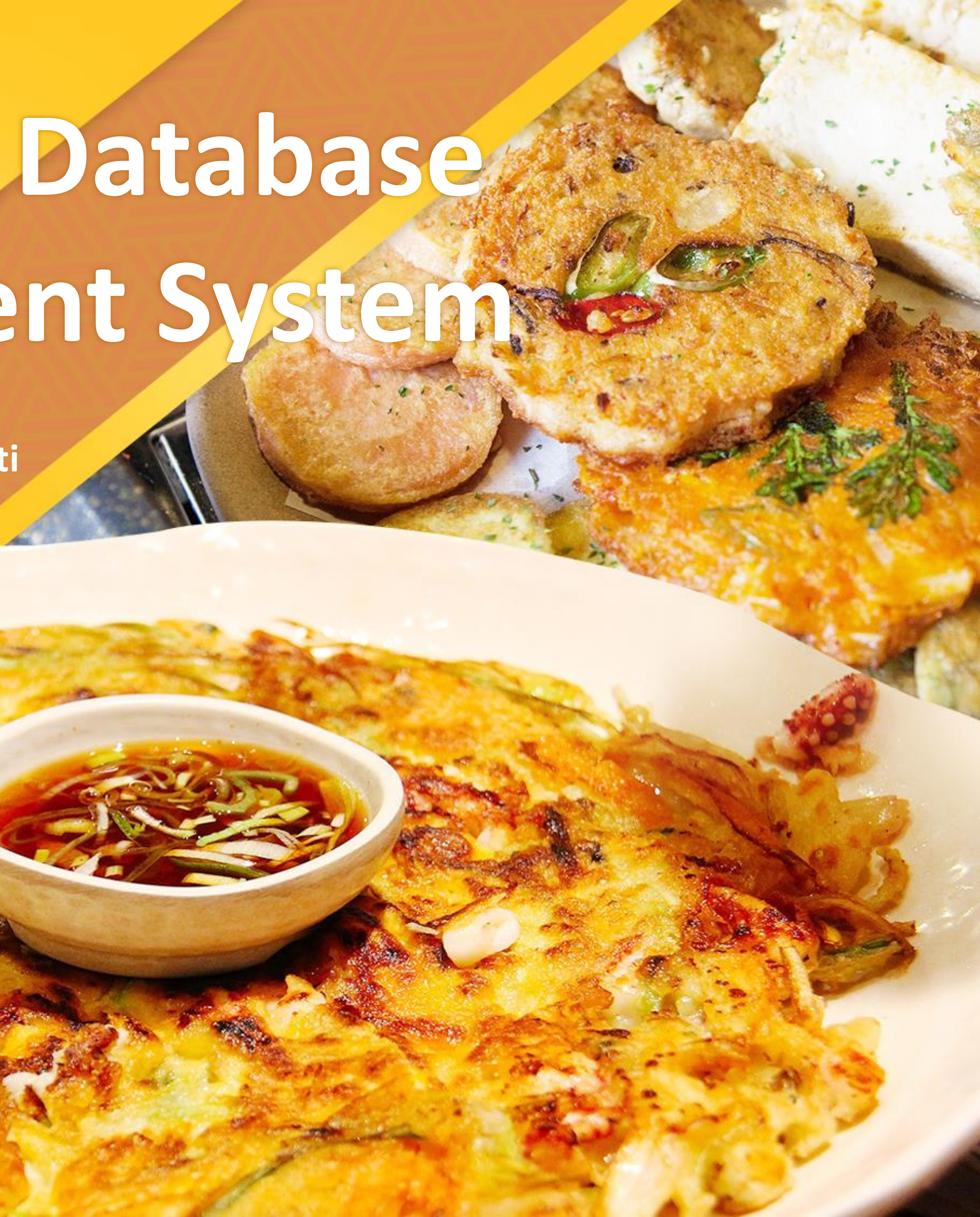


CONTENTS

01

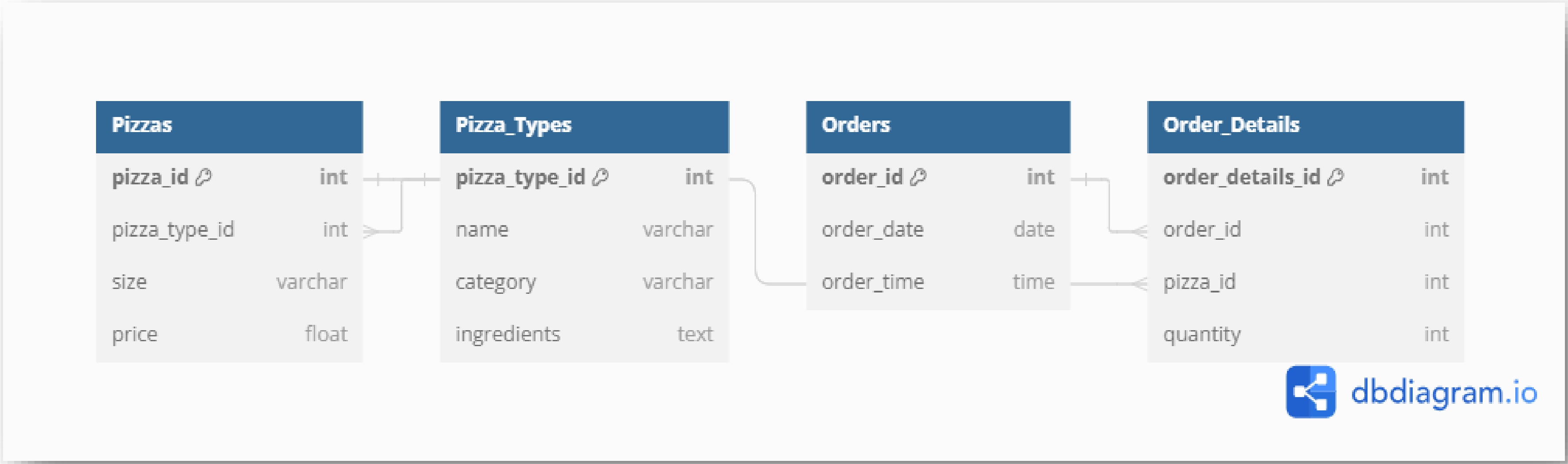
Introduction

This project involves creating a MySQL database to manage and analyze pizza sales data, focusing on customer orders, sales trends, and inventory management.

The objective is to streamline sales data management and provide insights into sal es trends, popular pizzas, and customer preferences.

Database Design

Entity Relationship (ER) Diagram:



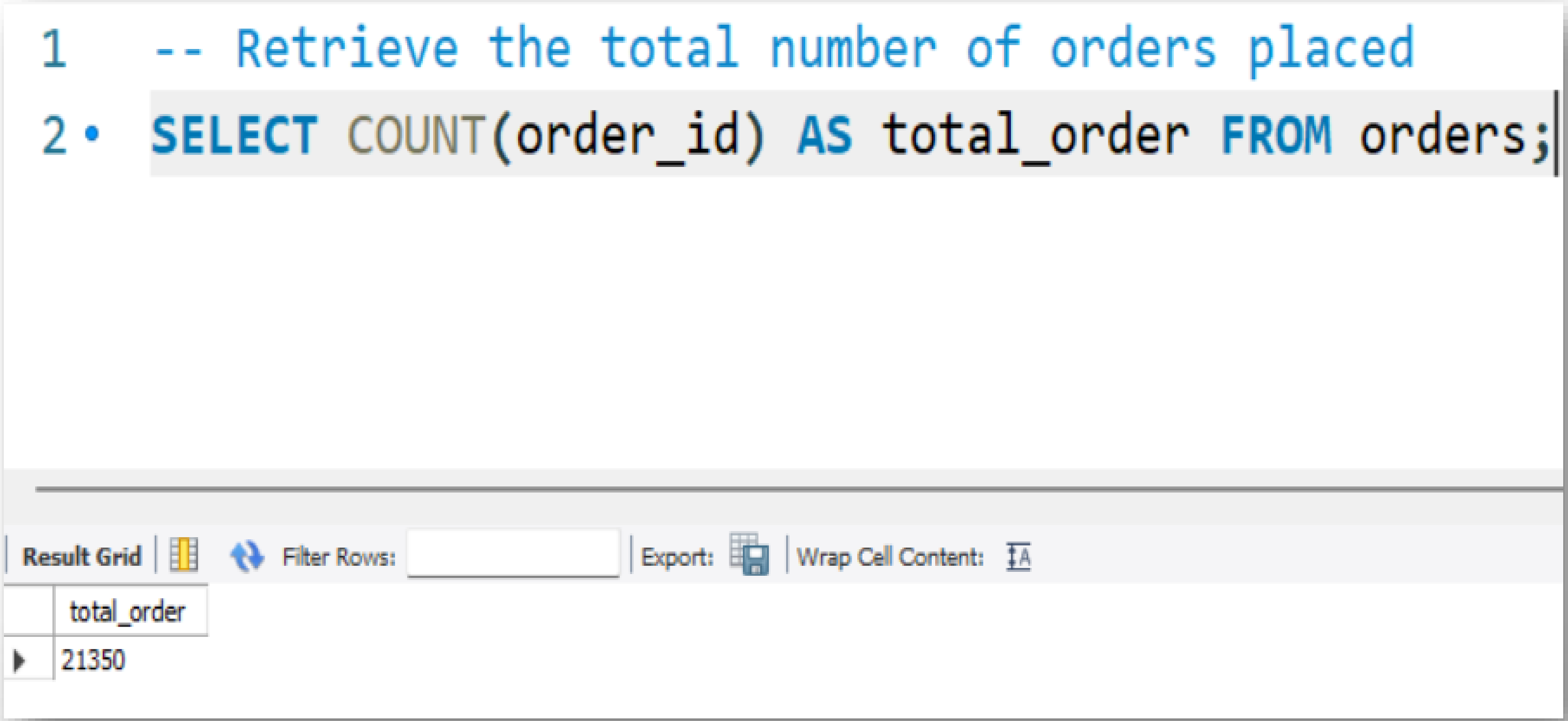
The ER diagram illustrates the relationships between four tables: Pizzas, Pizza_Types, Orders, and Order_Details. Pizzas are categorized by Pizza_Types, Orders contain multiple Order_Details, and each Order_Detail links a specific pizza to an order. This structure ensures efficient data management for tracking pizza sales and order details. Primary keys are shown as 🔧

Database Schema

- *pizzas (pizza_id : text, pizza_type_id : text, size : text, price : double)*
- *pizza_types (pizza_type_id : text, name : text , category : text, ingredients : text)*
- *orders (order_id : int , order_date : date , order_time : time)*
- *orders_details (order_details_id : int ,order_id : int , pizza_id : text ,quantity : int)*

Key Queries & Codes

Retrieve the total number of orders placed.

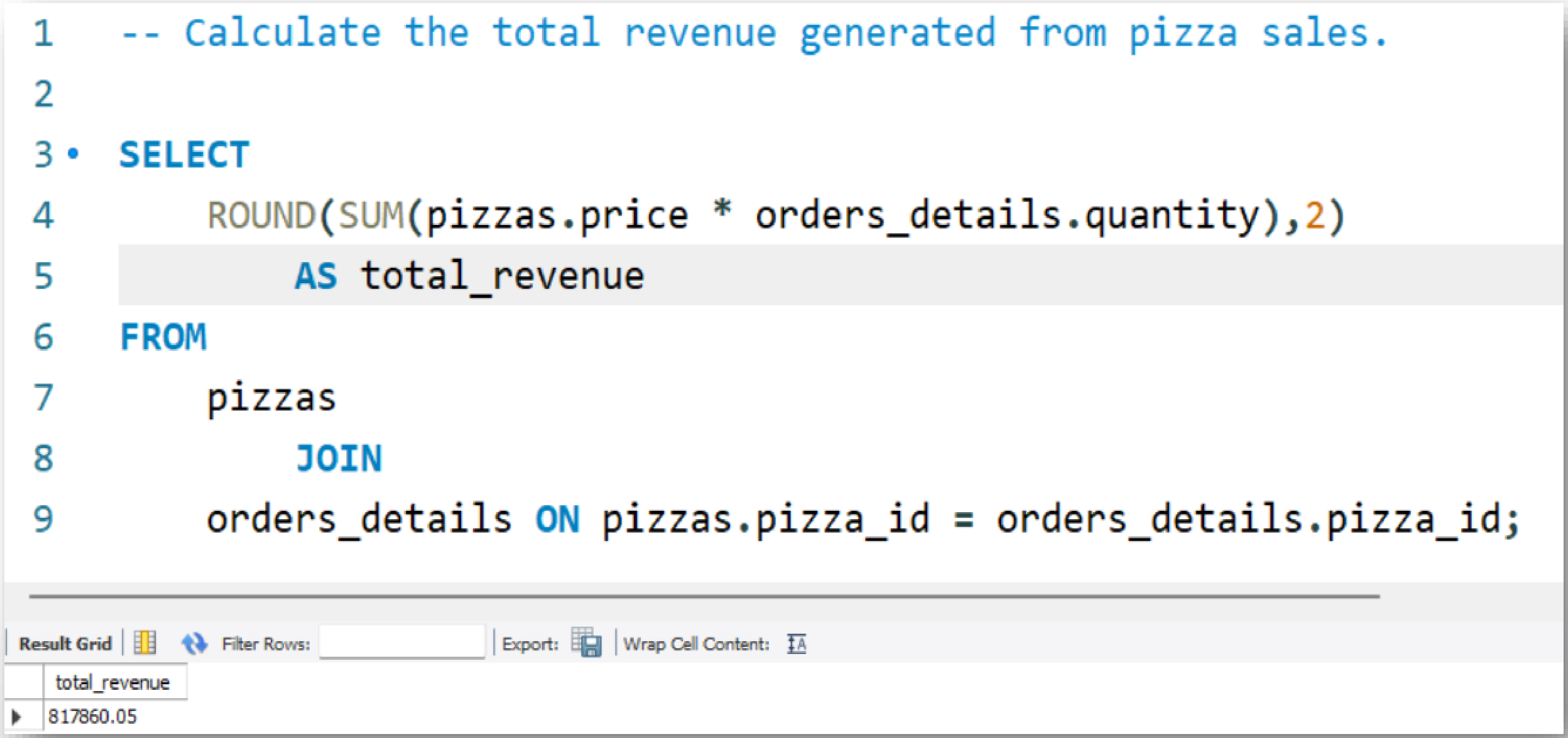


```
-- Retrieve the total number of orders placed
SELECT COUNT(order_id) AS total_order FROM orders;
```

```
total_order
21350
```

Key Queries & Codes

Calculate the total revenue generated from pizza sales.



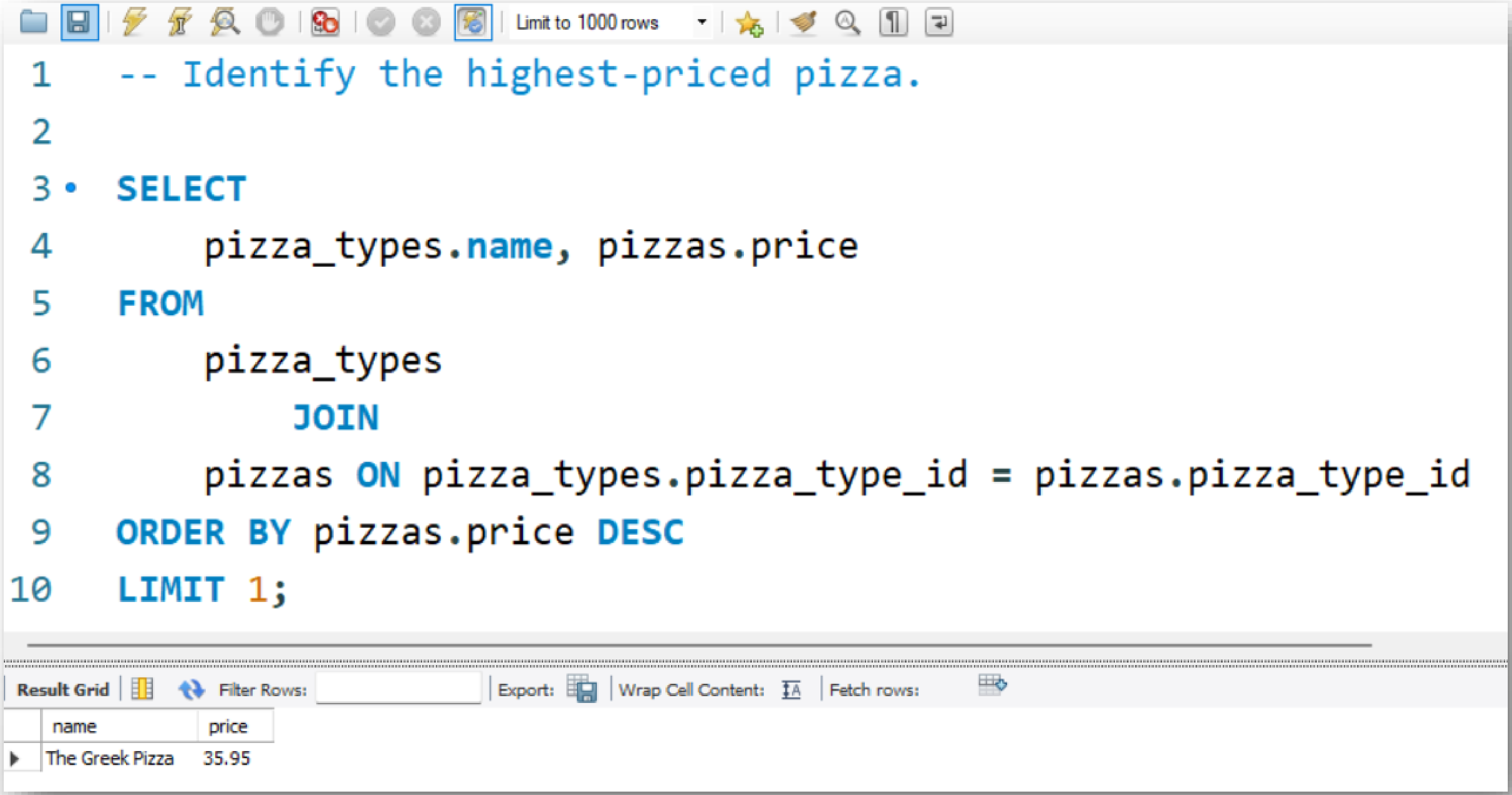
```
-- Calculate the total revenue generated from pizza sales.

SELECT
    ROUND(SUM(pizzas.price * orders_details.quantity),2)
        AS total_revenue
FROM
    pizzas
        JOIN
    orders_details ON pizzas.pizza_id = orders_details.pizza_id;
```

```
total_revenue
817860.05
```

Key Queries & Codes

Identify the highest-priced pizza.



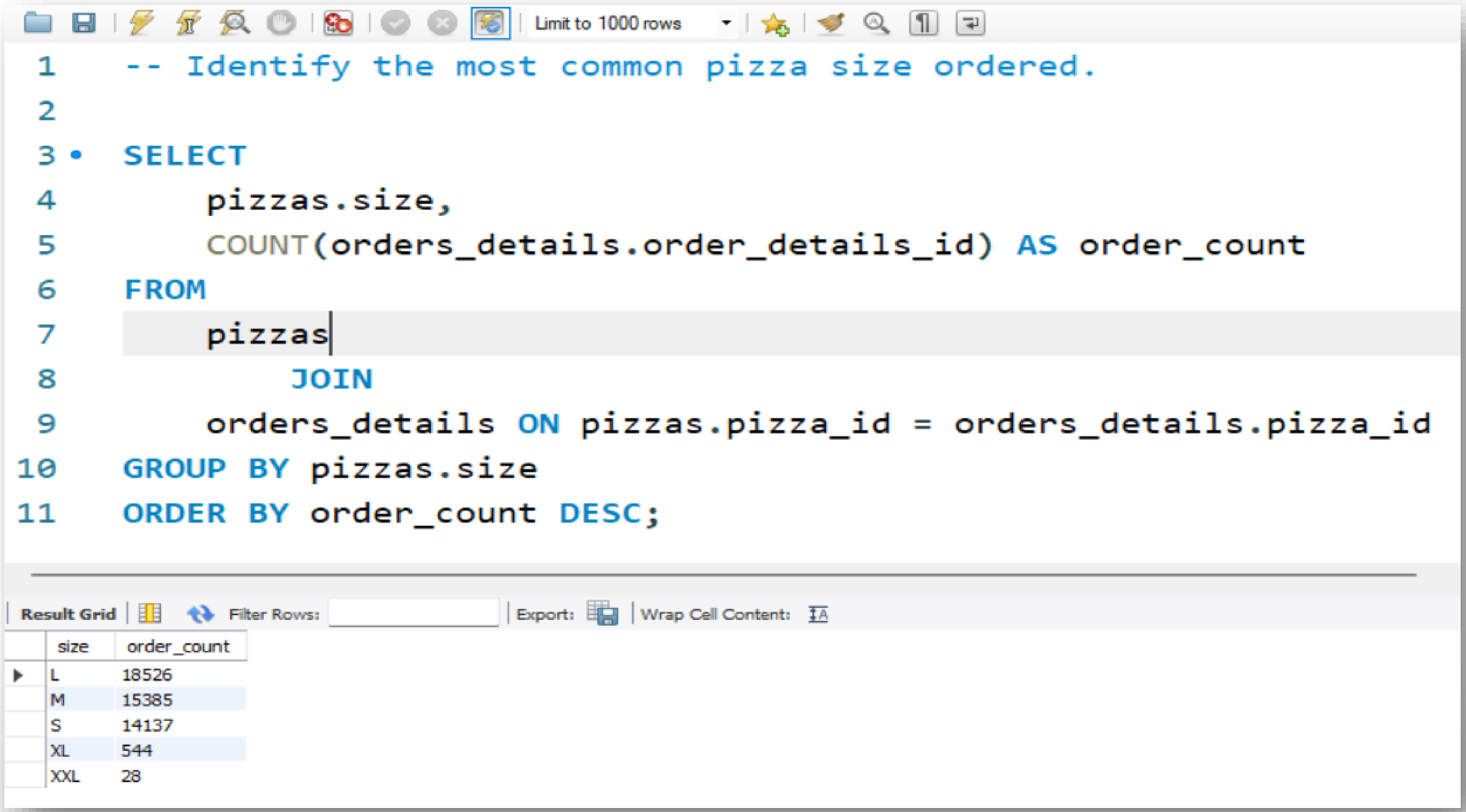
```sql
-- Identify the highest-priced pizza.

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
```

Key Queries & Codes

Identify the most common pizza size ordered.



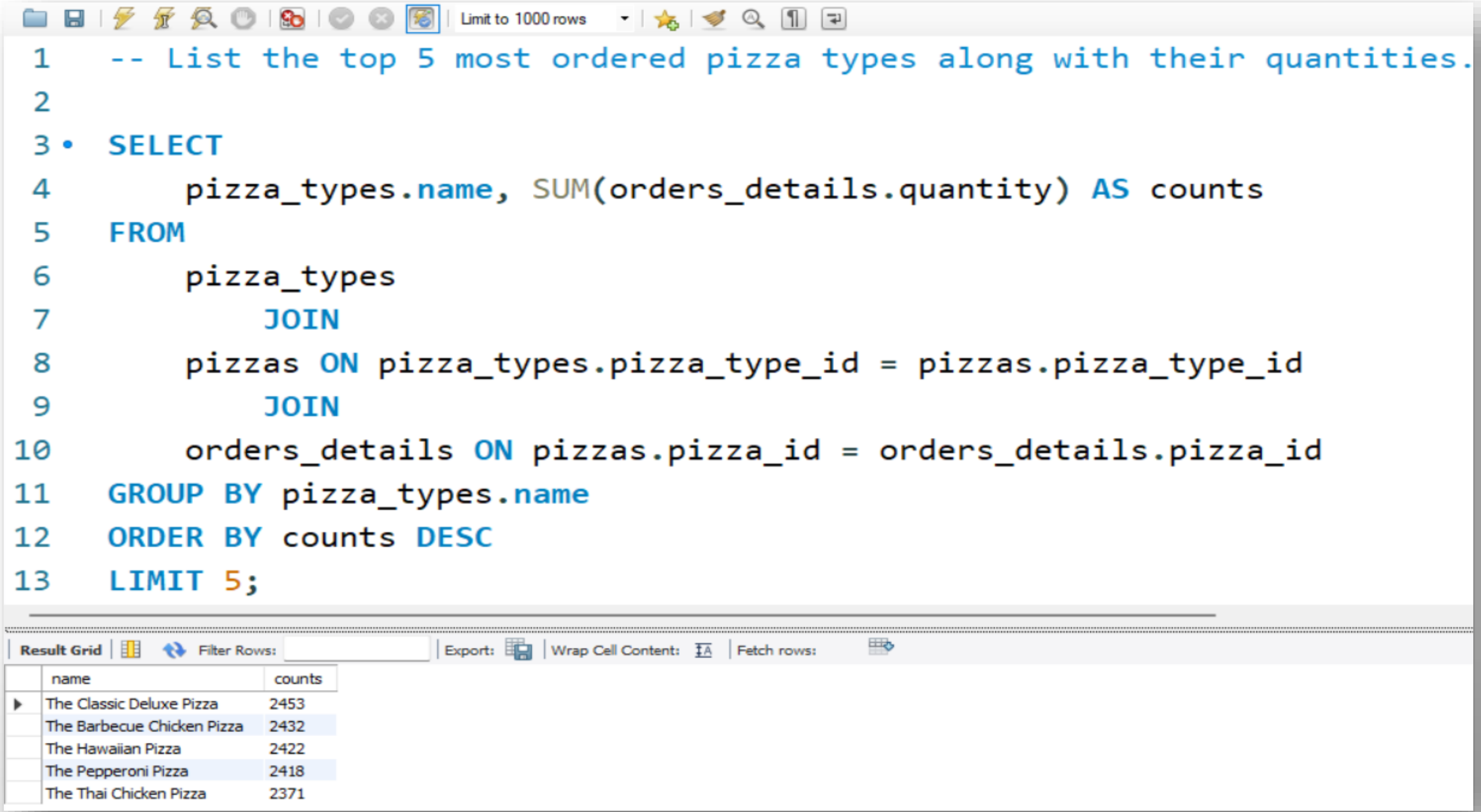
```sql
-- Identify the most common pizza size ordered.

SELECT
    pizzas.size,
    COUNT(orders_details.order_details_id) AS order_count
FROM
    pizzas
        JOIN
    orders_details ON pizzas.pizza_id = orders_details.pizza_id
GROUP BY pizzas.size
ORDER BY order_count DESC;
```

size	order_count
L	18526
M	15385
S	14137
XL	544
XXL	28

Key Queries & Codes

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



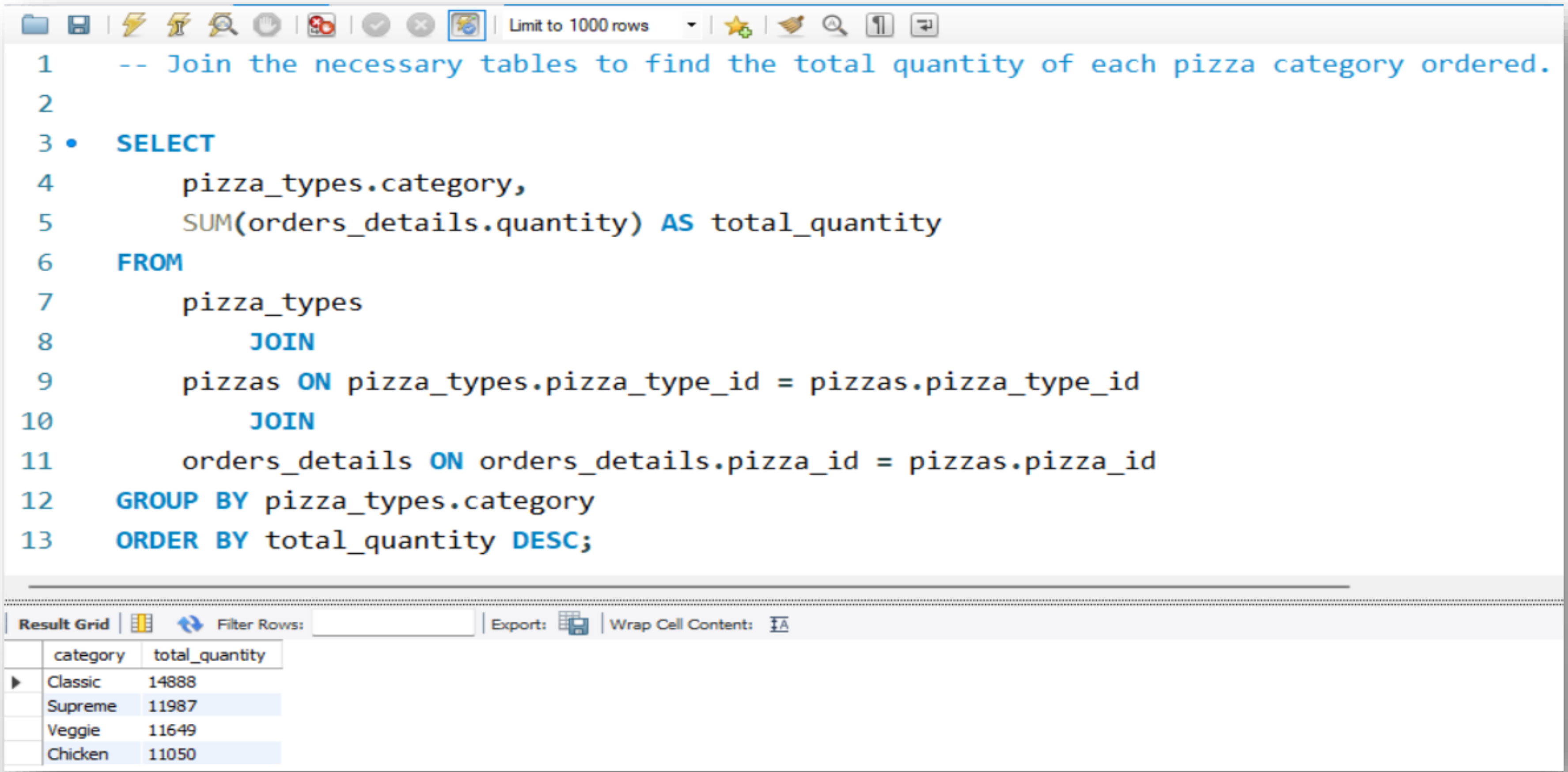
```sql
-- List the top 5 most ordered pizza types along with their quantities.

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

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

Key Queries & Codes

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



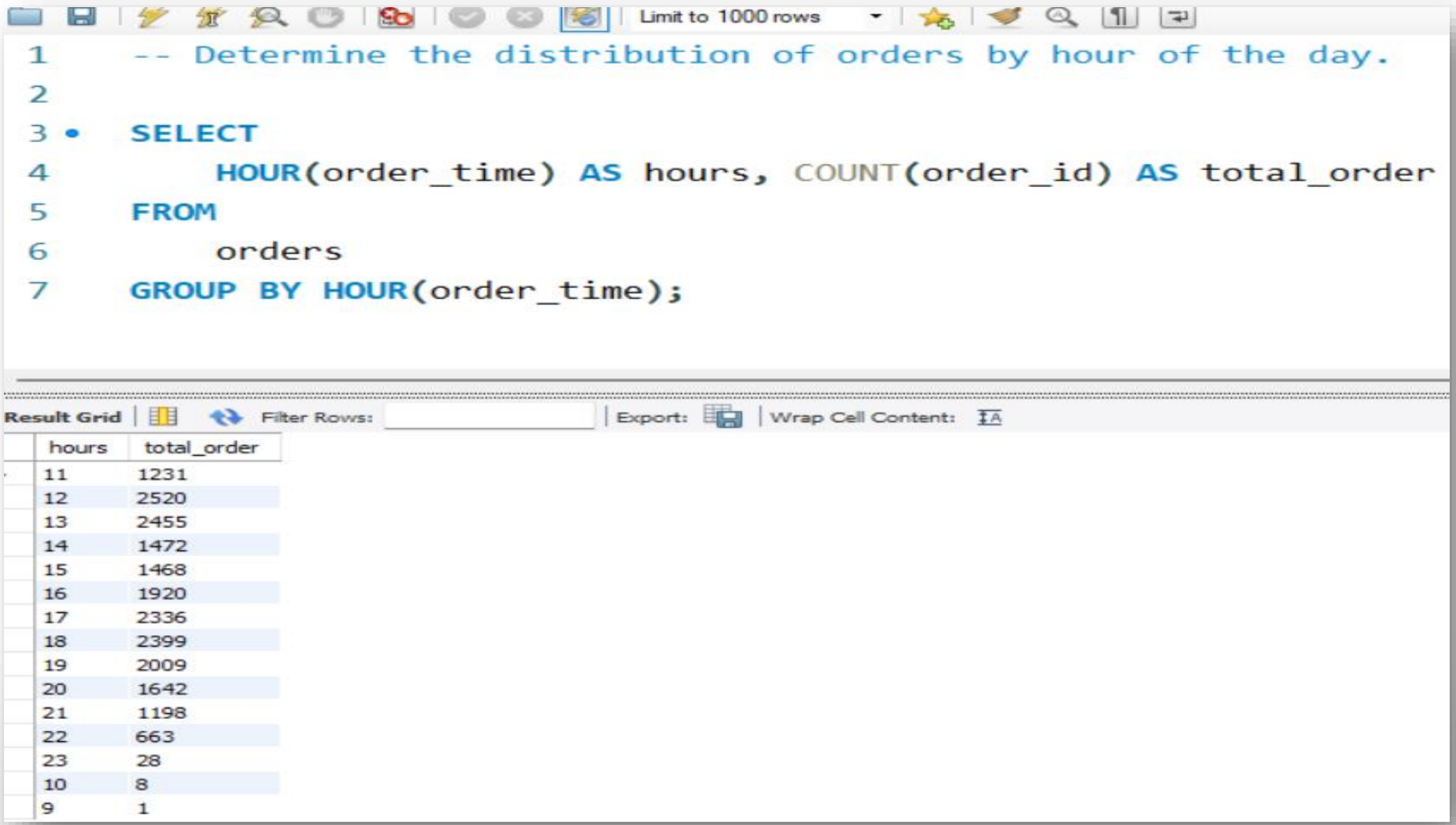
```
-- Join the necessary tables to find the total quantity of each pizza category ordered.

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

category	total_quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Key Queries & Codes

Determine the distribution of orders by hour of the day.



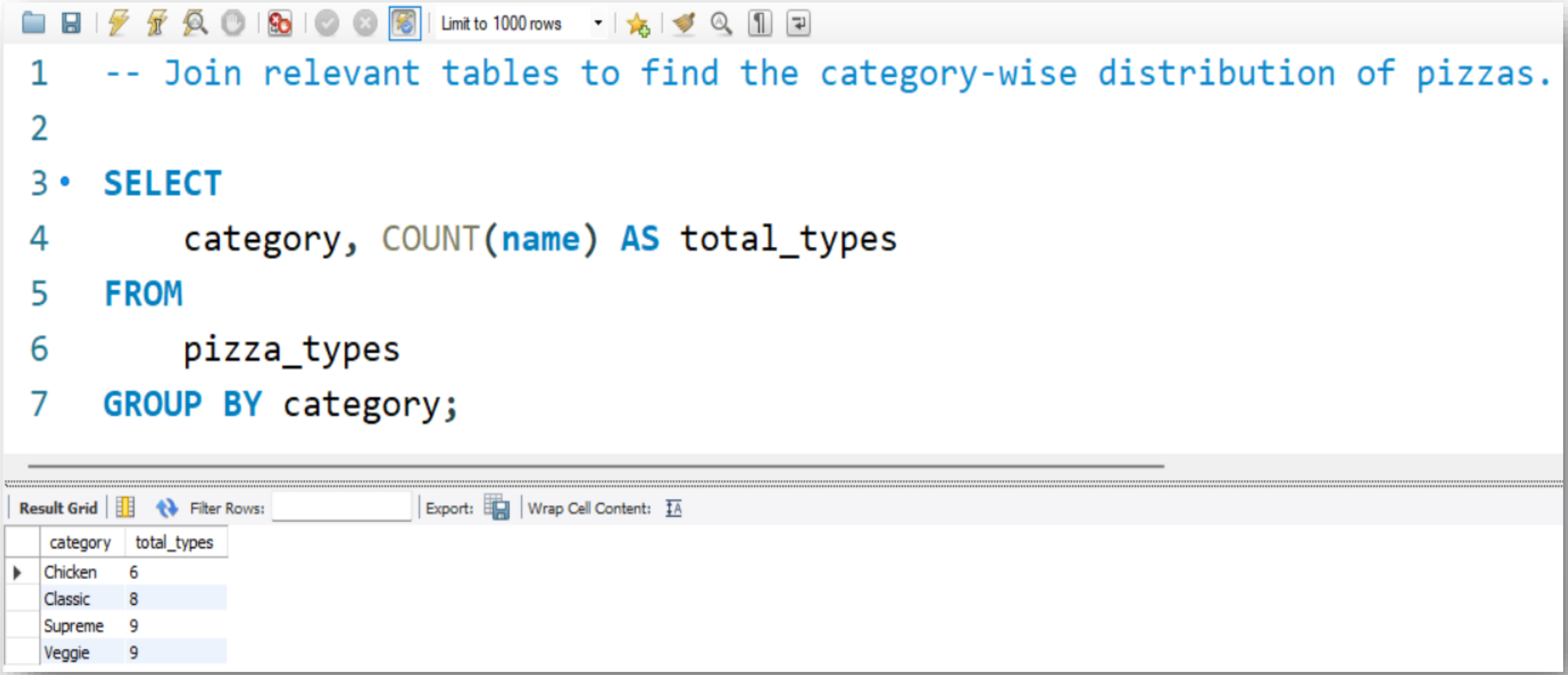
```
-- Determine the distribution of orders by hour of the day.

SELECT
    HOUR(order_time) AS hours, COUNT(order_id) AS total_order
FROM
    orders
GROUP BY HOUR(order_time);
```

hours	total_order
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
21	1198
22	663
23	28
10	8
9	1

Key Queries & Codes

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



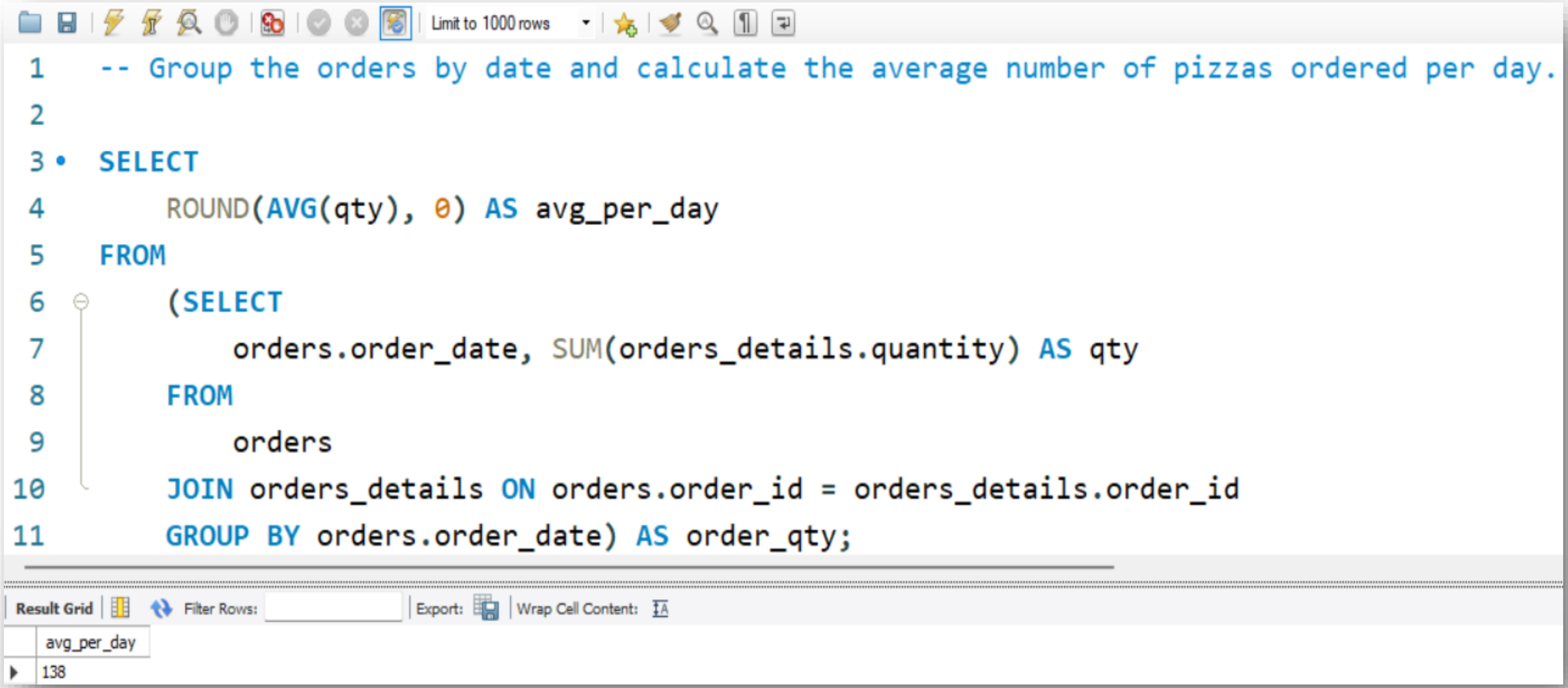
```
-- Join relevant tables to find the category-wise distribution of pizzas.

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

category	total_types
Chicken	6
Classic	8
Supreme	9
Veggie	9

Key Queries & Codes

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



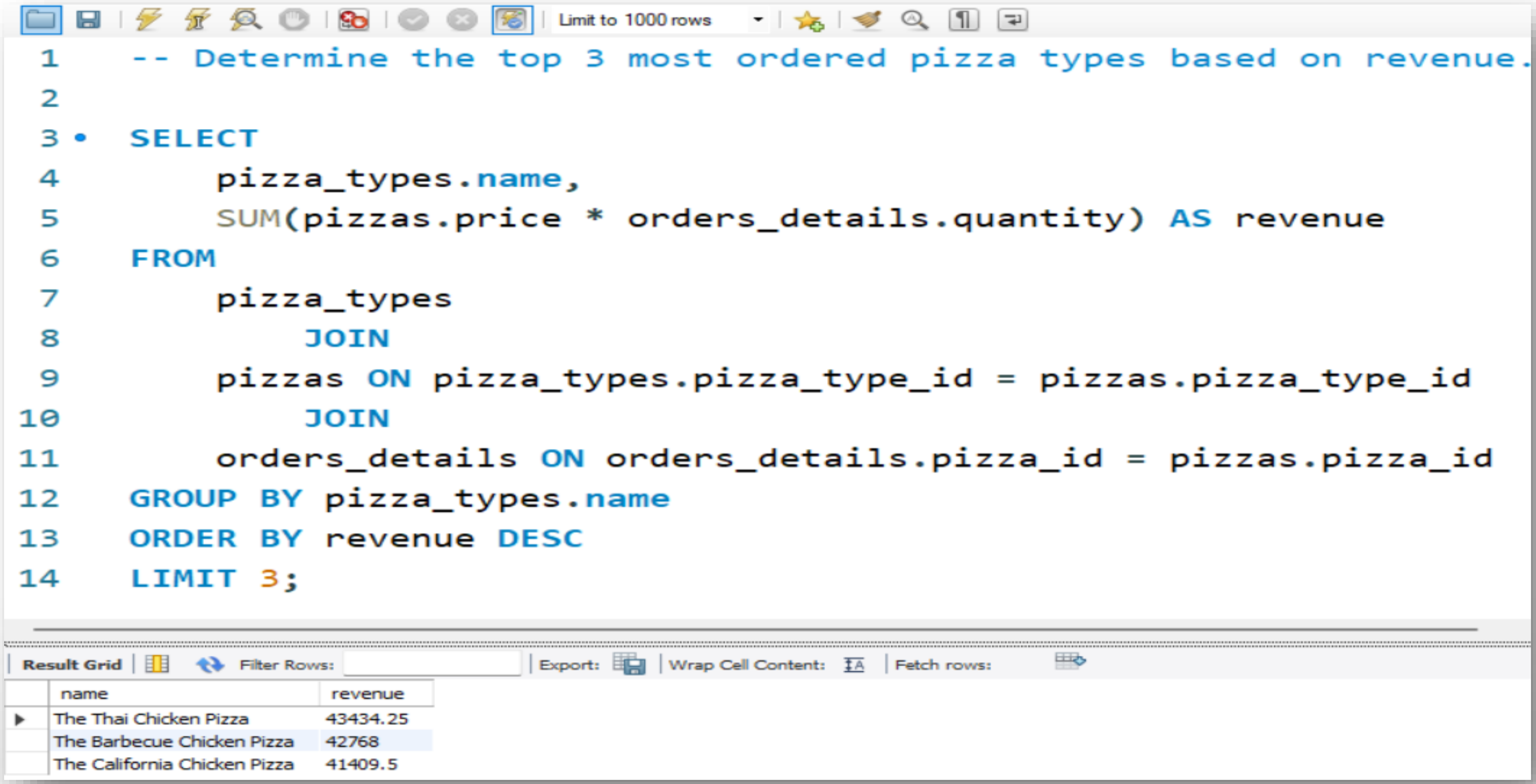
```
-- Group the orders by date and calculate the average number of pizzas ordered per day.

SELECT
    ROUND(AVG(qty), 0) AS avg_per_day
FROM
    (SELECT
        orders.order_date, SUM(orders_details.quantity) AS qty
    FROM
        orders
    JOIN orders_details ON orders.order_id = orders_details.order_id
    GROUP BY orders.order_date) AS order_qty;
```

```
avg_per_day
138
```

Key Queries & Codes

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



```sql
-- Determine the top 3 most ordered pizza types based on revenue.

SELECT
    pizza_types.name,
    SUM(pizzas.price * orders_details.quantity) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    orders_details ON orders_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

Data Analysis Summary

- ***Total Number of Orders Placed**: 21,350*
- ***Total Revenue**: $817,860.05*
- ***Highest Priced Pizza**: The Greek Pizza at $35.95*
- ***Most Ordered Pizza Size**: Large (L) size is the most ordered, while XXL size is the least ordered.*
- ***Most Ordered Pizza**: The Classic Deluxe Pizza*
- ***Most Popular Pizza Category**: Classic category*
- ***Peak Ordering Times**: Most pizzas are ordered between 12:00 PM to 1:00 PM and 5:00 PM to 7:00 PM.*
- ***Liked Pizza Type**: Chicken pizzas are the most popular among customers*
- ***Average Number of Pizzas Ordered Per Day**: 138*
- ***Top 3 Ordered Pizzas**:*
  I. *The Thai Chicken Pizza*
  II. *The Barbecue Chicken Pizza*
  III. *The California Chicken Pizza*

Conclusion:

- *I successfully created a MySQL database to manage and analyze pizza sales.*
- *The database design captures important details about pizzas, orders, and sales.*
- *SQL queries helped us understand which pizzas a re most popular and when sales are highest.*
- *Future improvements could include adding custo mer feedback and real-time data analysis.*

THANK YOU