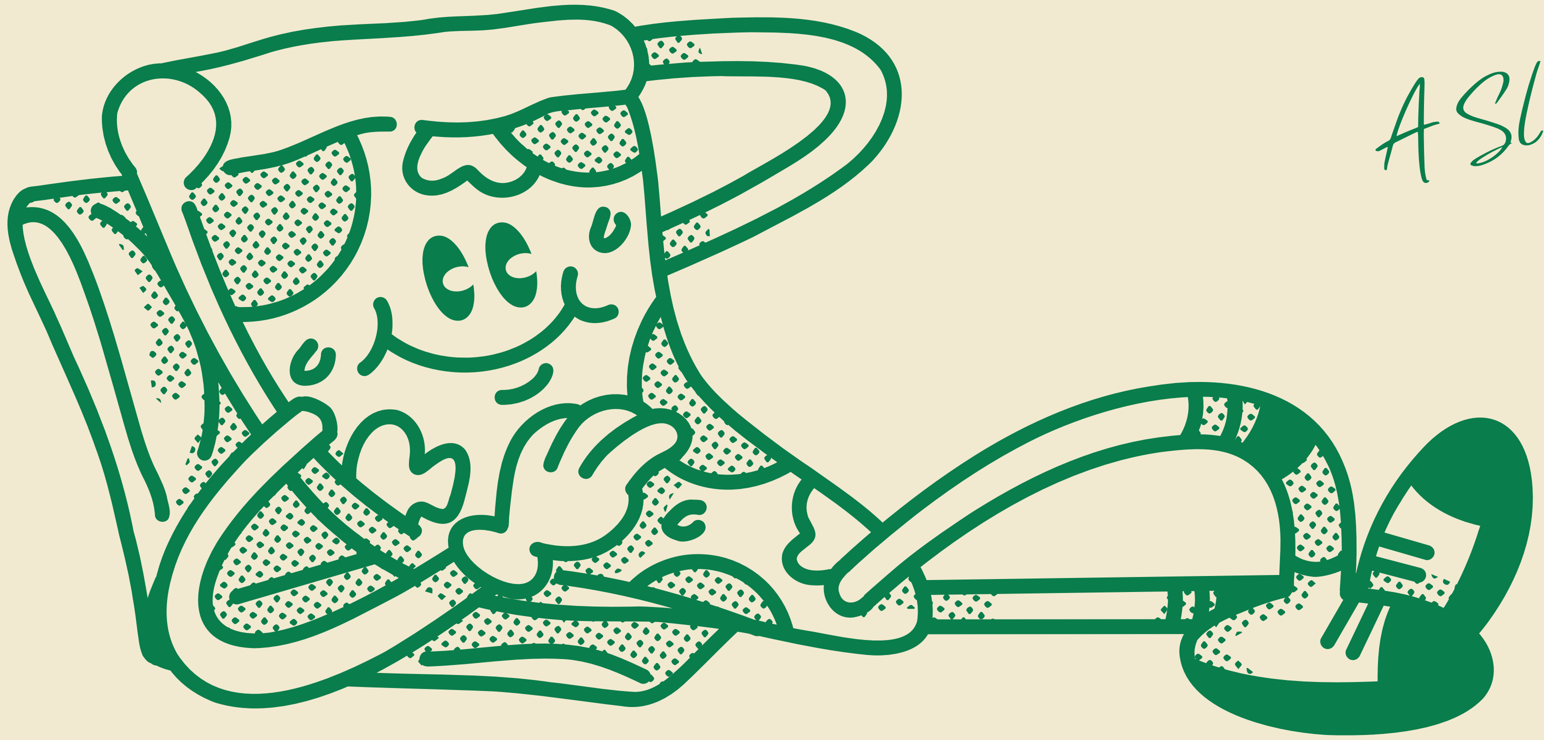
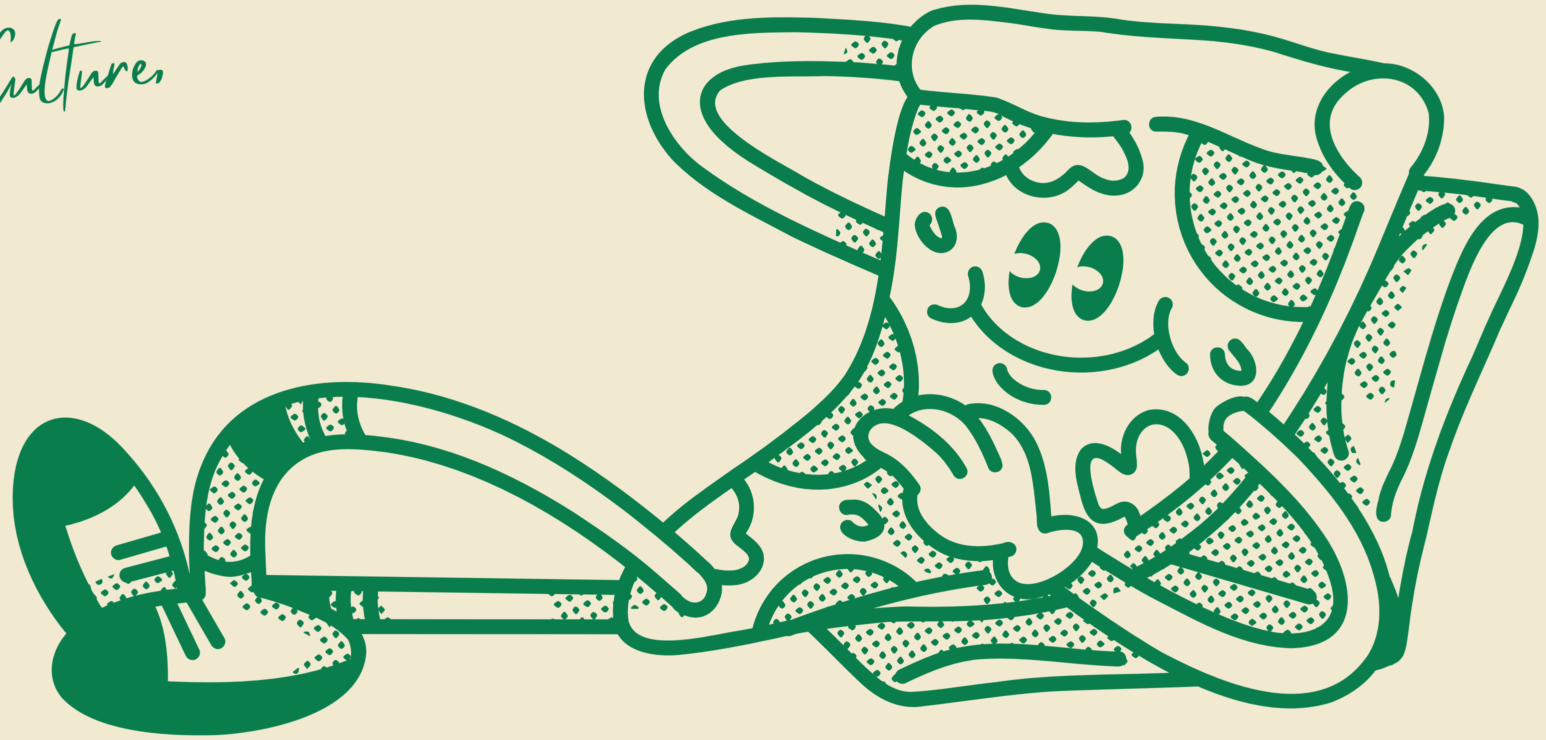
PIZZA SALES ANALYSIS USING SQL



A Slice of Joy, Culture, and Flavor



DATA ANALYSIS PROJECT BY

RAJNISH KUMAR JHA

PROJECT OVERVIEW

OBJECTIVE:

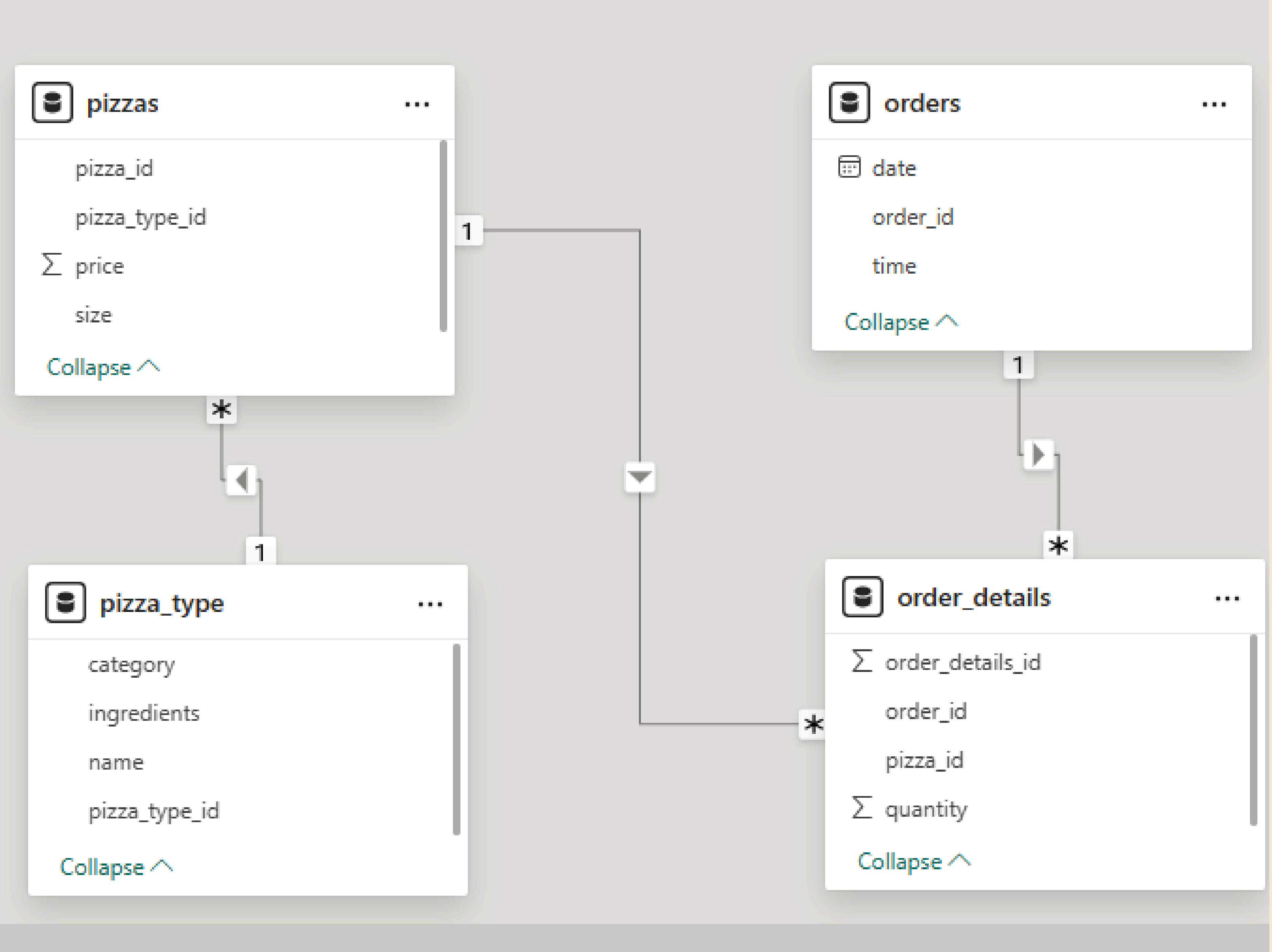
ANALYZE PIZZA SALES DATA TO DERIVE BUSINESS INSIGHTS.

TOOLS USED:

- SQL (MYSQL)
- MYSQL WORKBENCH
- EXCEL (FOR VISUALIZATIONS)

DATASET OVERVIEW

🍕 **DATASET STRUCTURE**: THE PIZZA SALES DATASET CONSISTS OF FOUR INTERCONNECTED CSV FILES, FORMING A RELATIONAL DATABASE SCHEMA.



pizzas

pizza_id

pizza_type_id

∑ price

size

orders

date

order_id

time

pizza_type

category

ingredients

name

pizza_type_id

order_details

∑ order_details_id

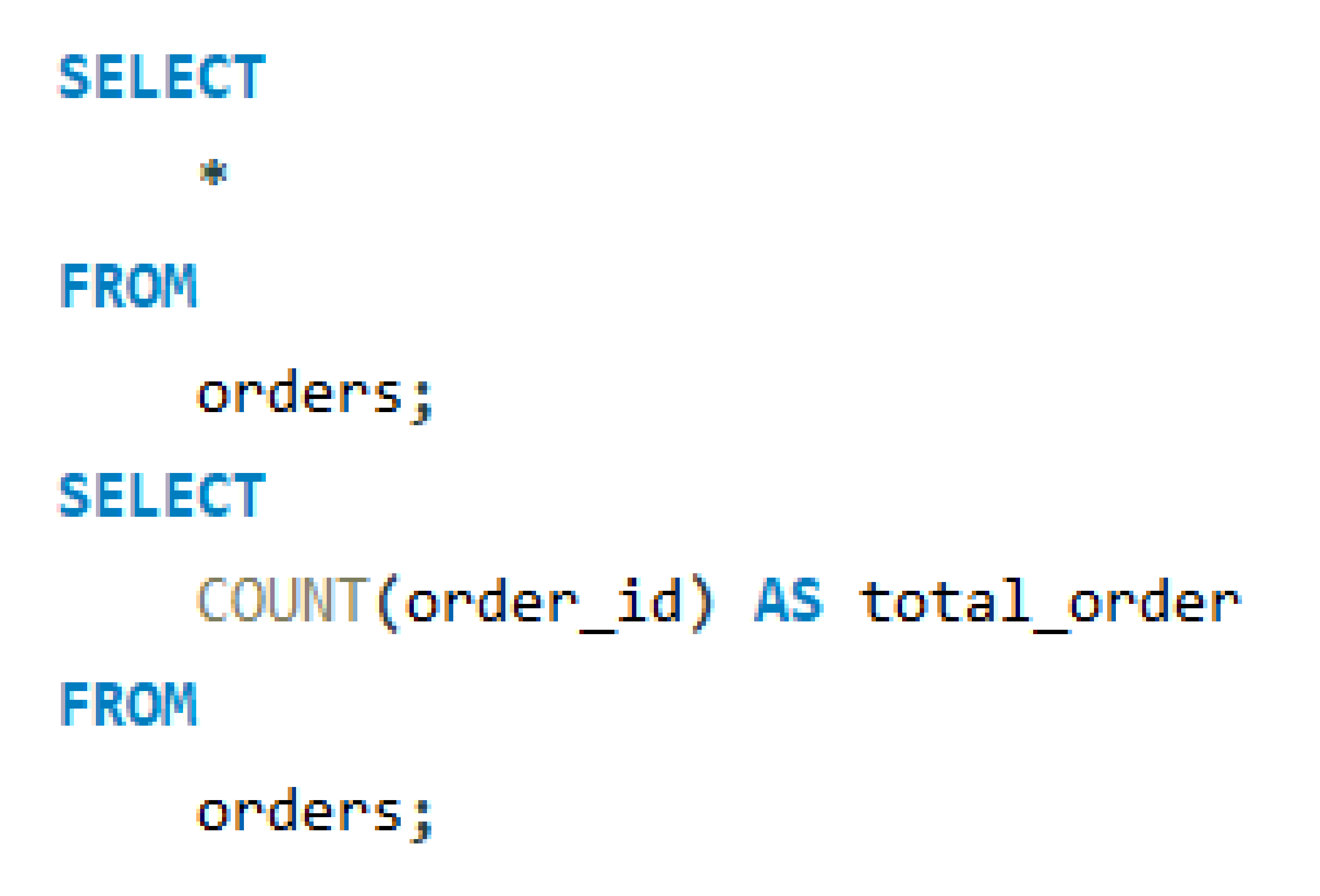
order_id

pizza_id

∑ quantity

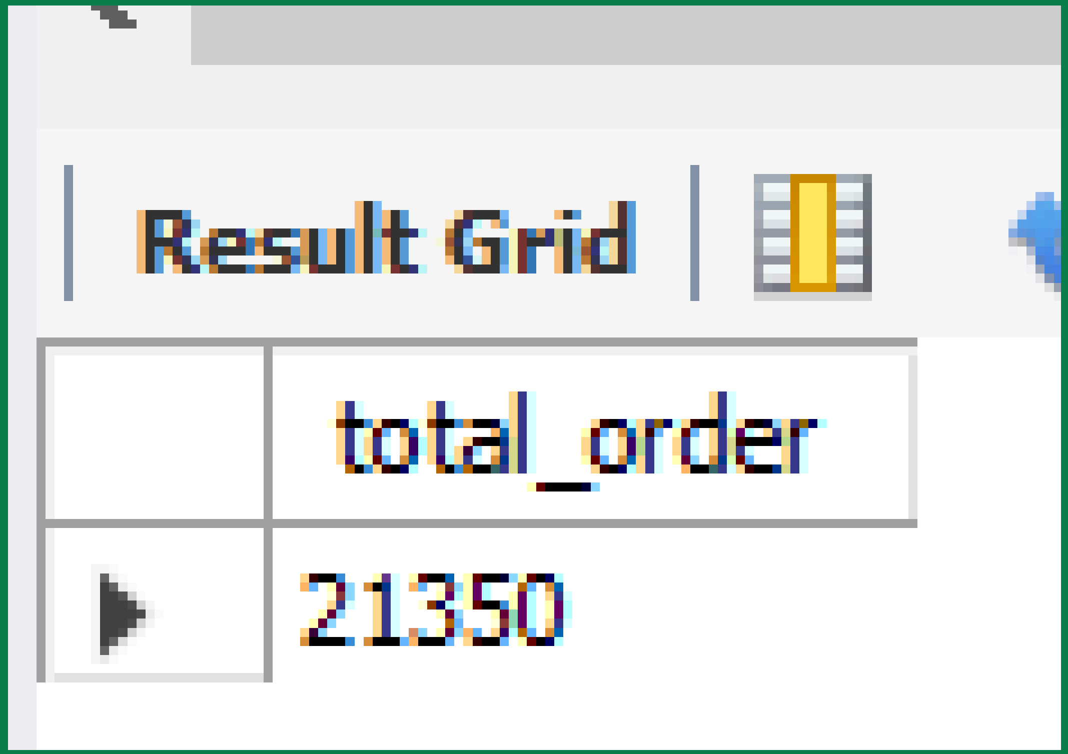
RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED

QUERY



```
SELECT
    *
FROM
    orders;
SELECT
    COUNT(order_id) AS total_order
FROM
    orders;
```

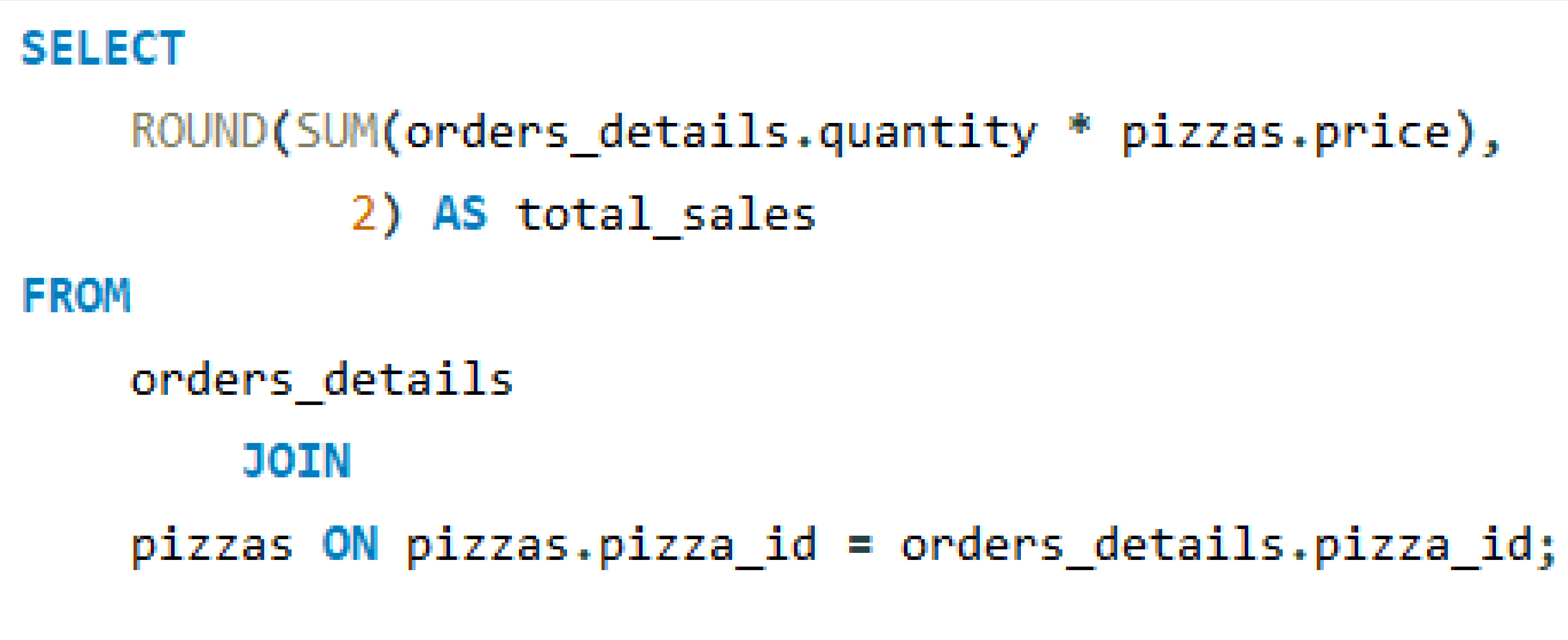
RESULT



	total_order
▶	21350

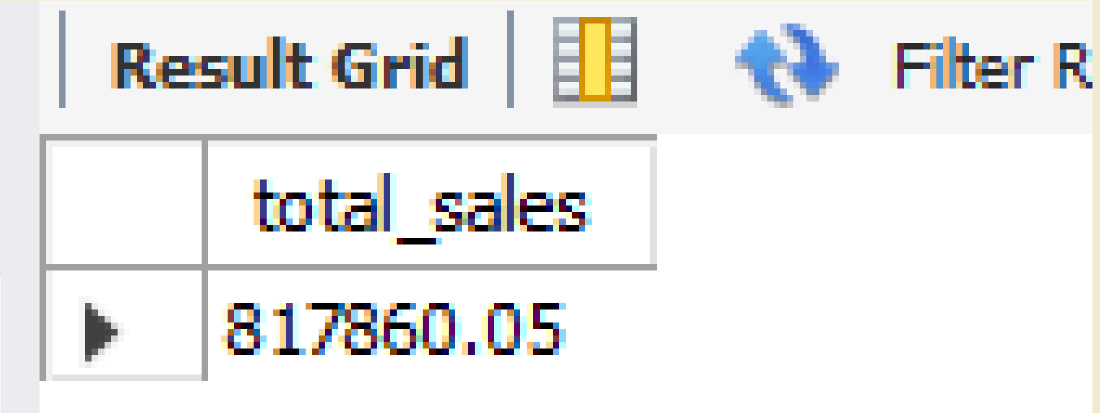
CALCULATE THE TOTAL REVENUE GENERATED FROM PIZZA SALES.

QUERY



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

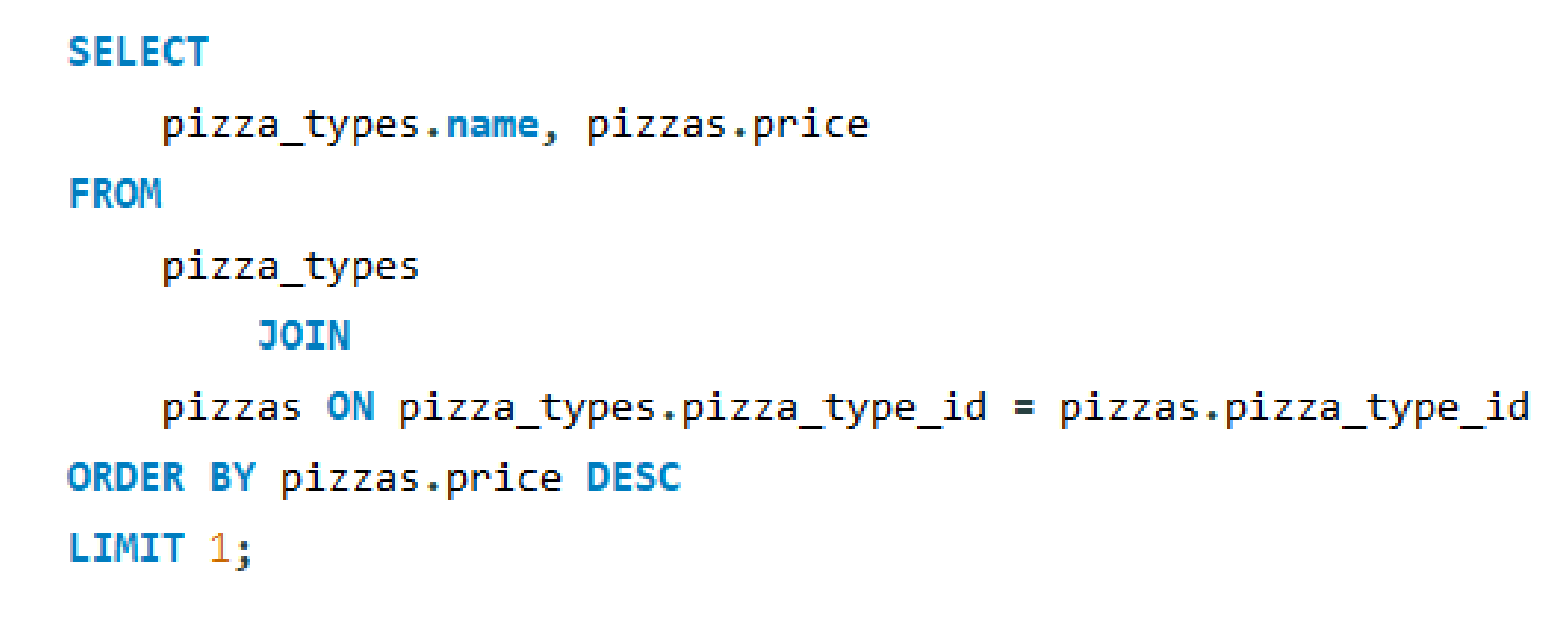
RESULT



	total_sales
▶	817860.05

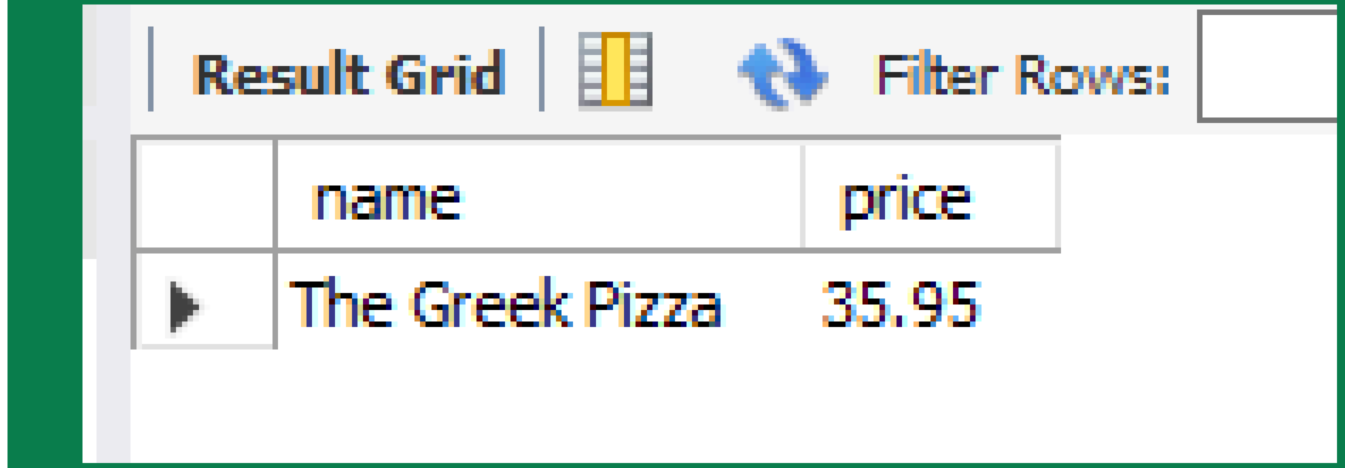
IDENTIFY THE HIGHEST-PRICED PIZZA

QUERY



```
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;
```

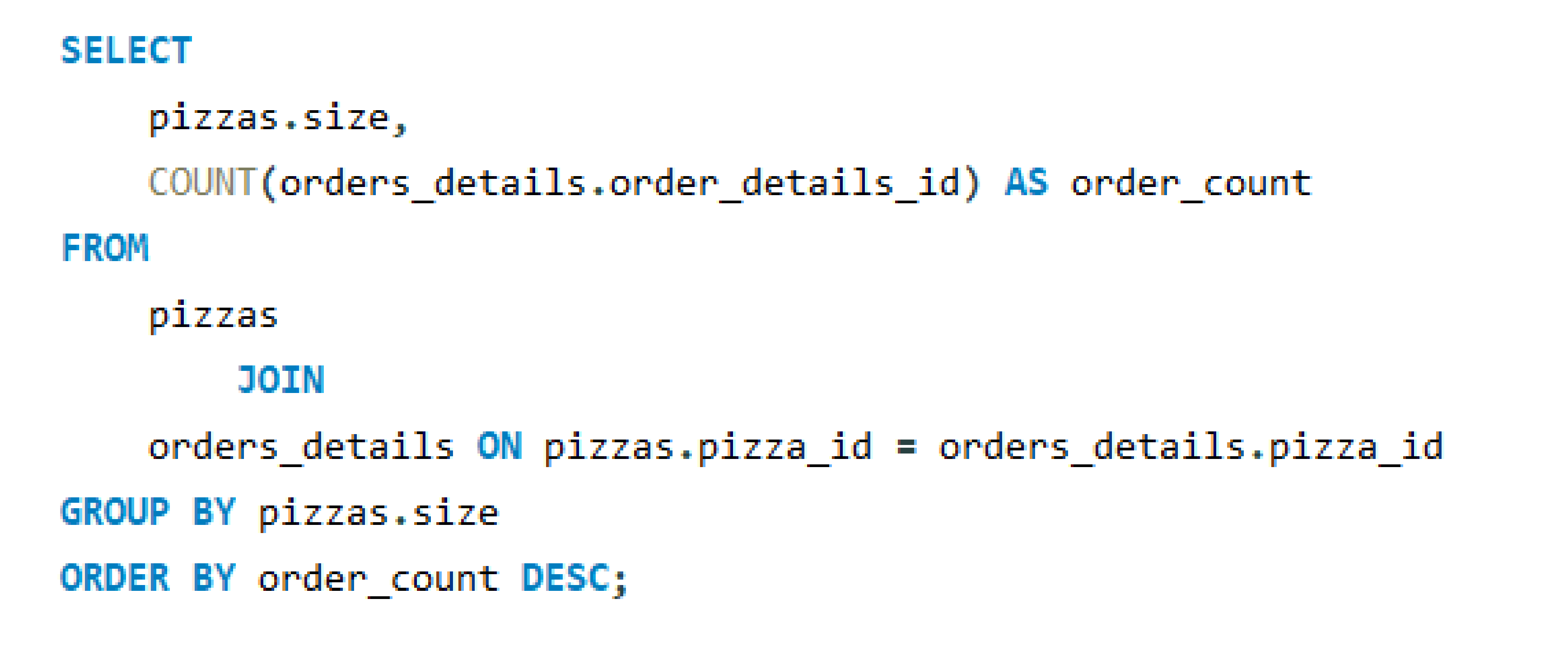
RESULT



name	price
The Greek Pizza	35.95

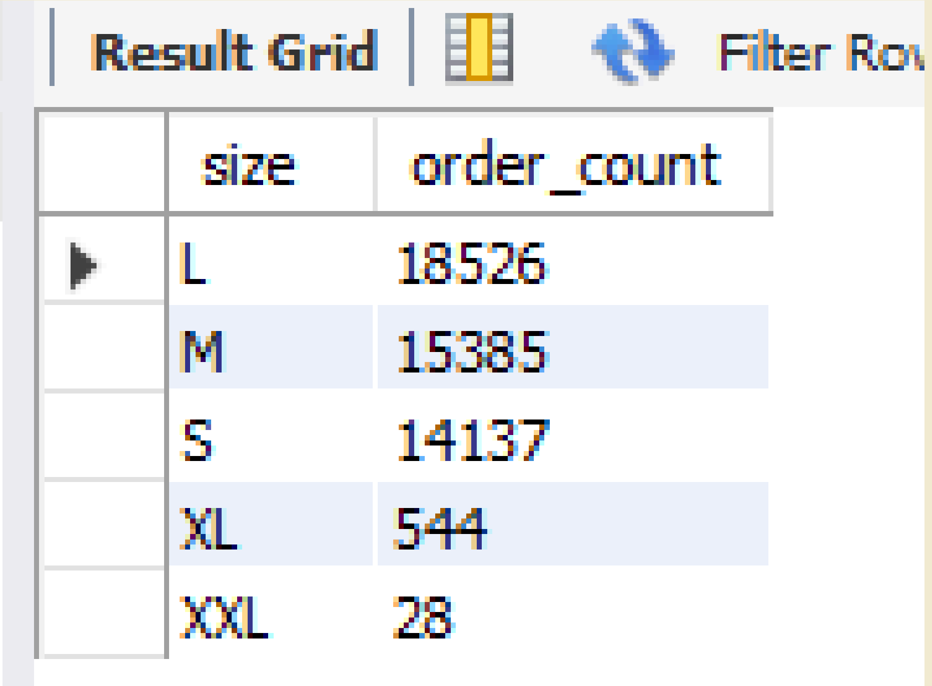
IDENTIFY THE MOST COMMON PIZZA SIZE ORDERED.

QUERY



```
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;
```

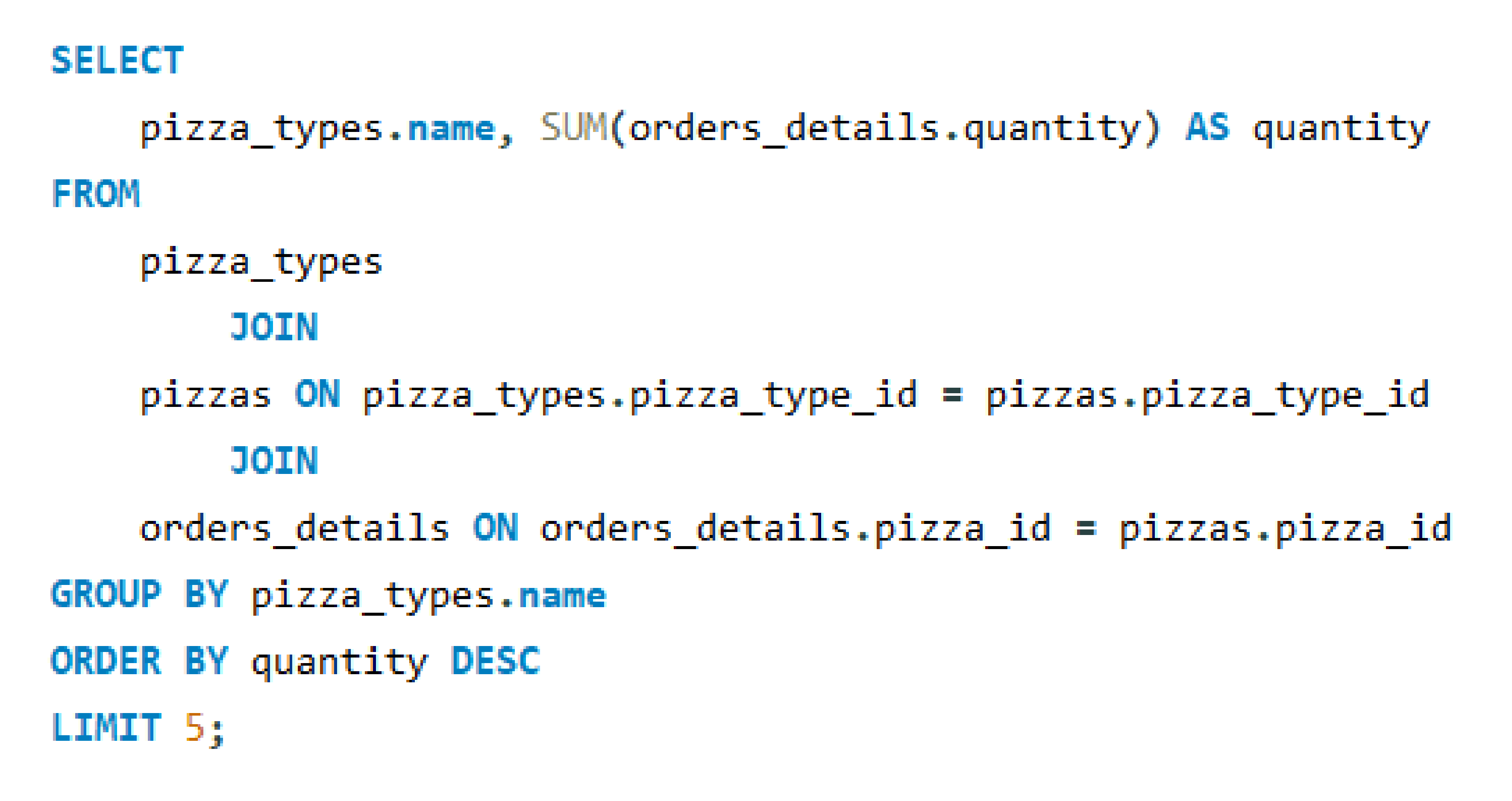
RESULT



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

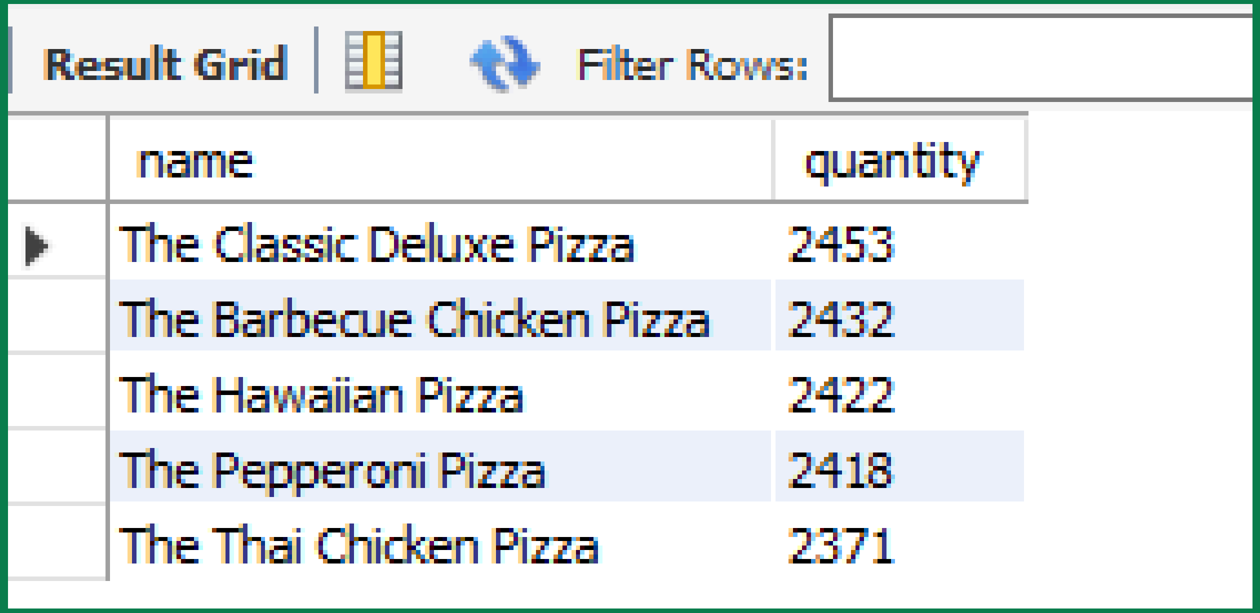
LIST THE TOP 5 MOST ORDERED PIZZA TYPES ALONG WITH THEIR QUANTITIES.

QUERY



```
SELECT
    pizza_types.name, SUM(orders_details.quantity) AS 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.name
ORDER BY quantity DESC
LIMIT 5;
```

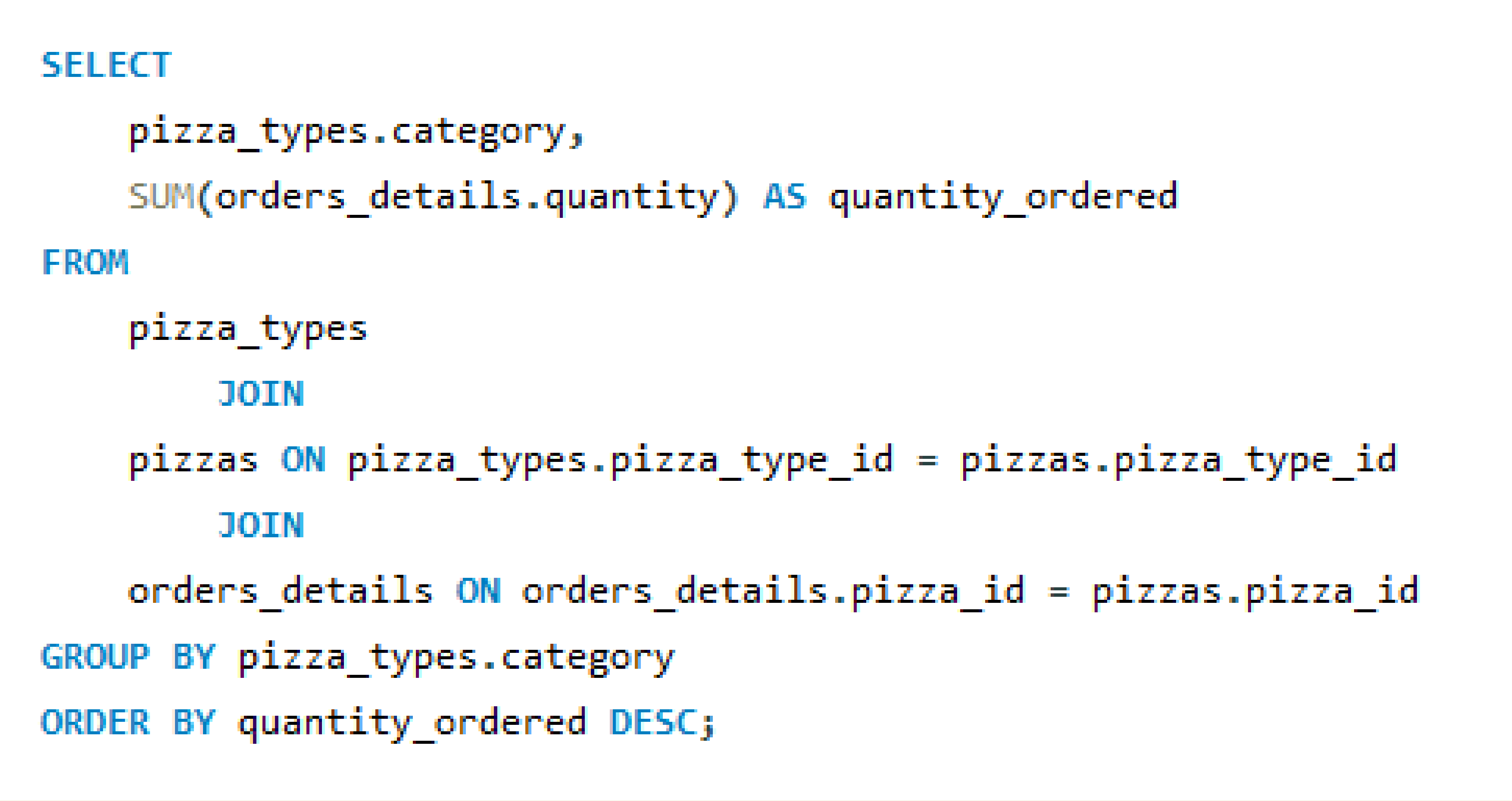
RESULT



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

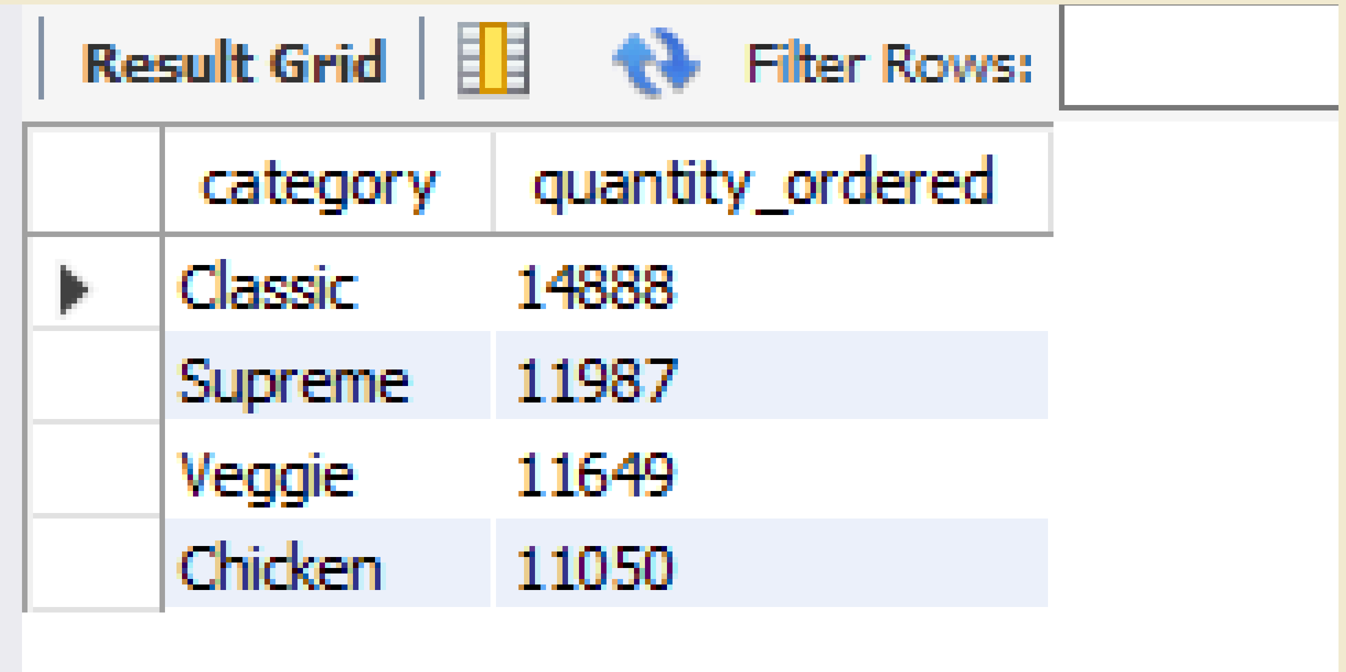
JOIN THE NECESSARY TABLES TO FIND THE TOTAL QUANTITY OF EACH PIZZA CATEGORY ORDERED.

QUERY



```
SELECT
    pizza_types.category,
    SUM(orders_details.quantity) AS quantity_ordered
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 quantity_ordered DESC;
```

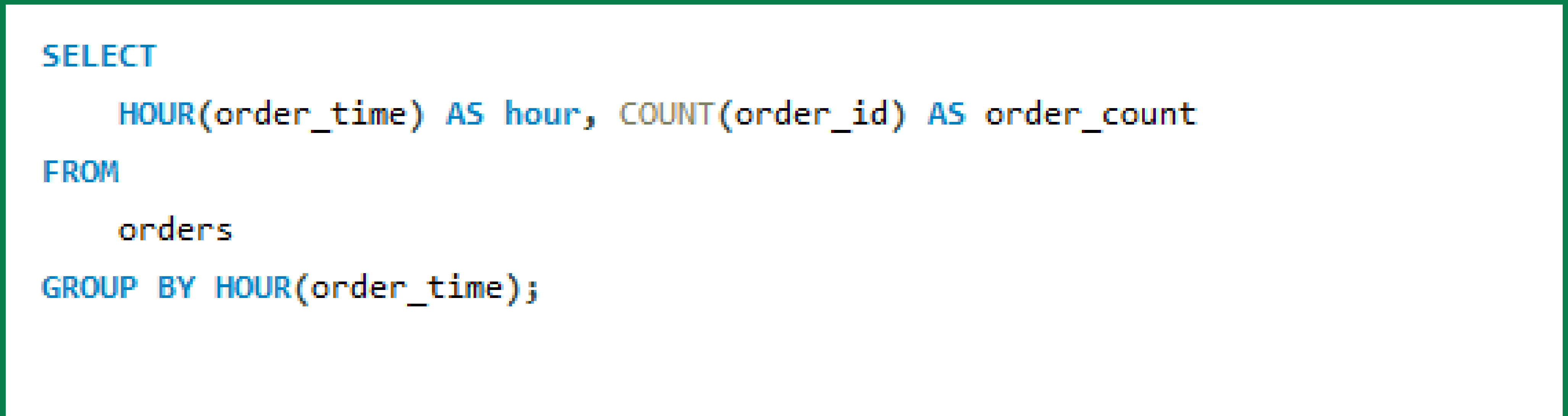
RESULT



category	quantity_ordered
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

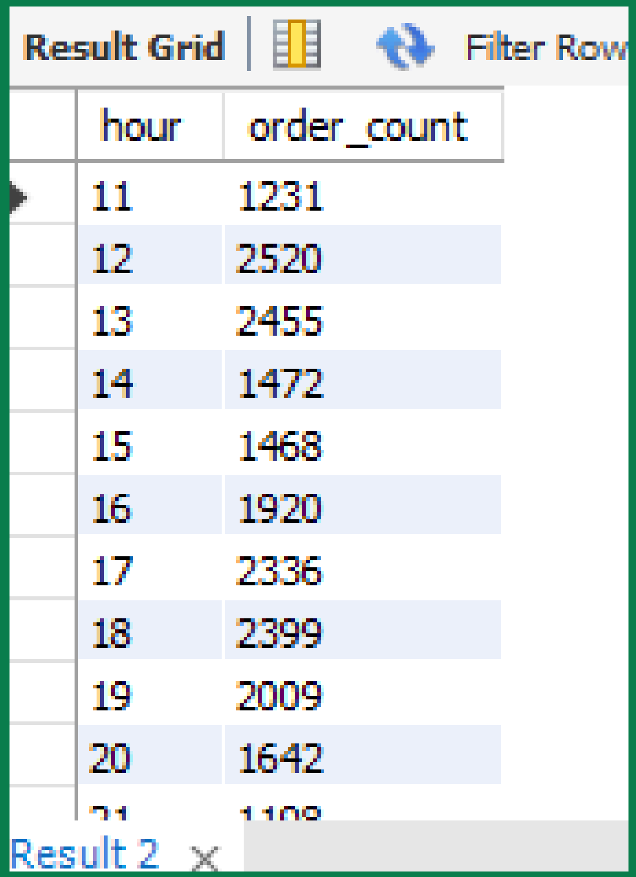
DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY.

QUERY



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

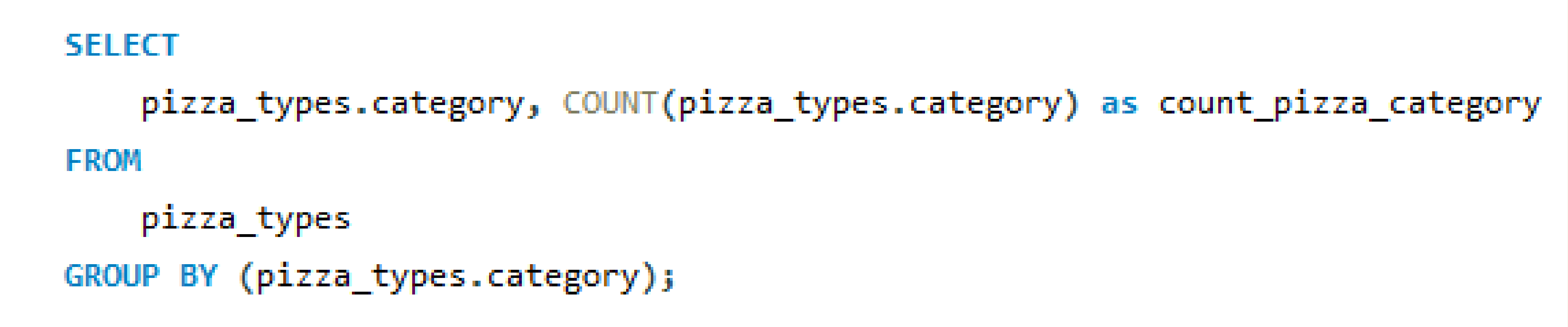
RESULT



hour	order_count
11	1231
12	2520
13	2455
14	1472
15	1468
16	1920
17	2336
18	2399
19	2009
20	1642
21	1198

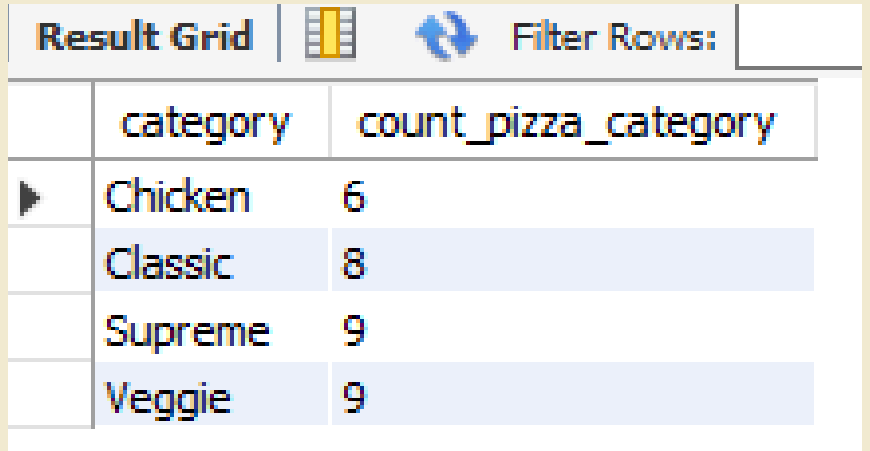
JOIN RELEVANT TABLES TO FIND THE CATEGORY-WISE DISTRIBUTION OF PIZZAS.

QUERY



```
SELECT
    pizza_types.category, COUNT(pizza_types.category) as count_pizza_category
FROM
    pizza_types
GROUP BY (pizza_types.category);
```

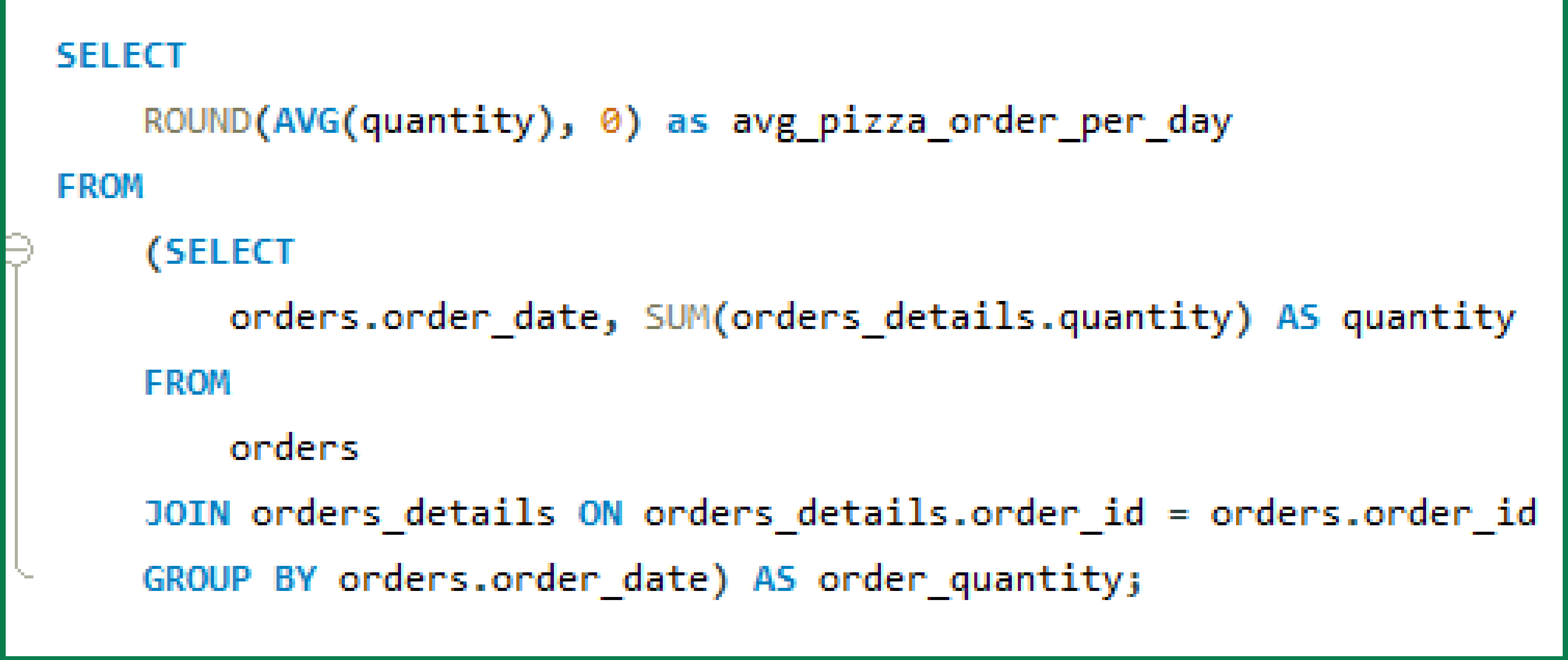
RESULT



category	count_pizza_category
Chicken	6
Classic	8
Supreme	9
Veggie	9

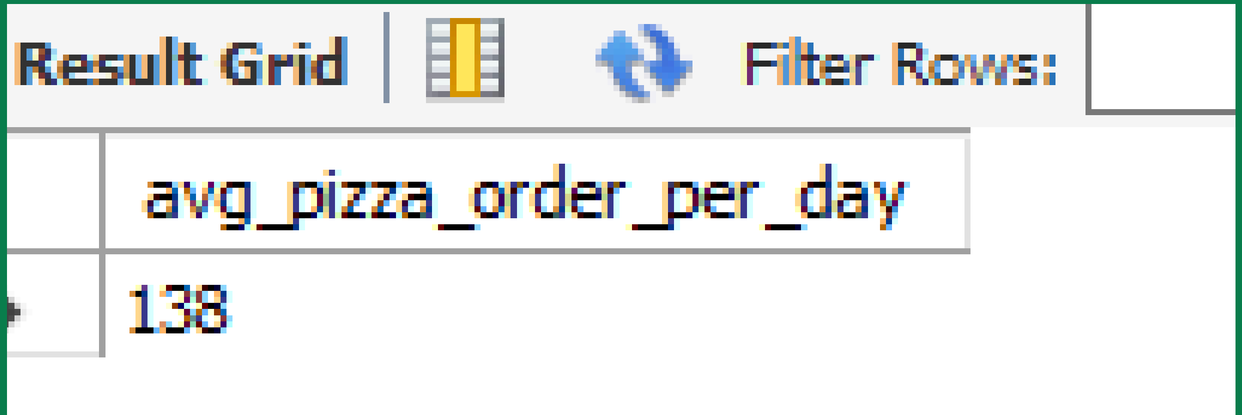
GROUP THE ORDERS BY DATE AND CALCULATE THE AVERAGE NUMBER OF PIZZAS ORDERED PER DAY.

QUERY



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

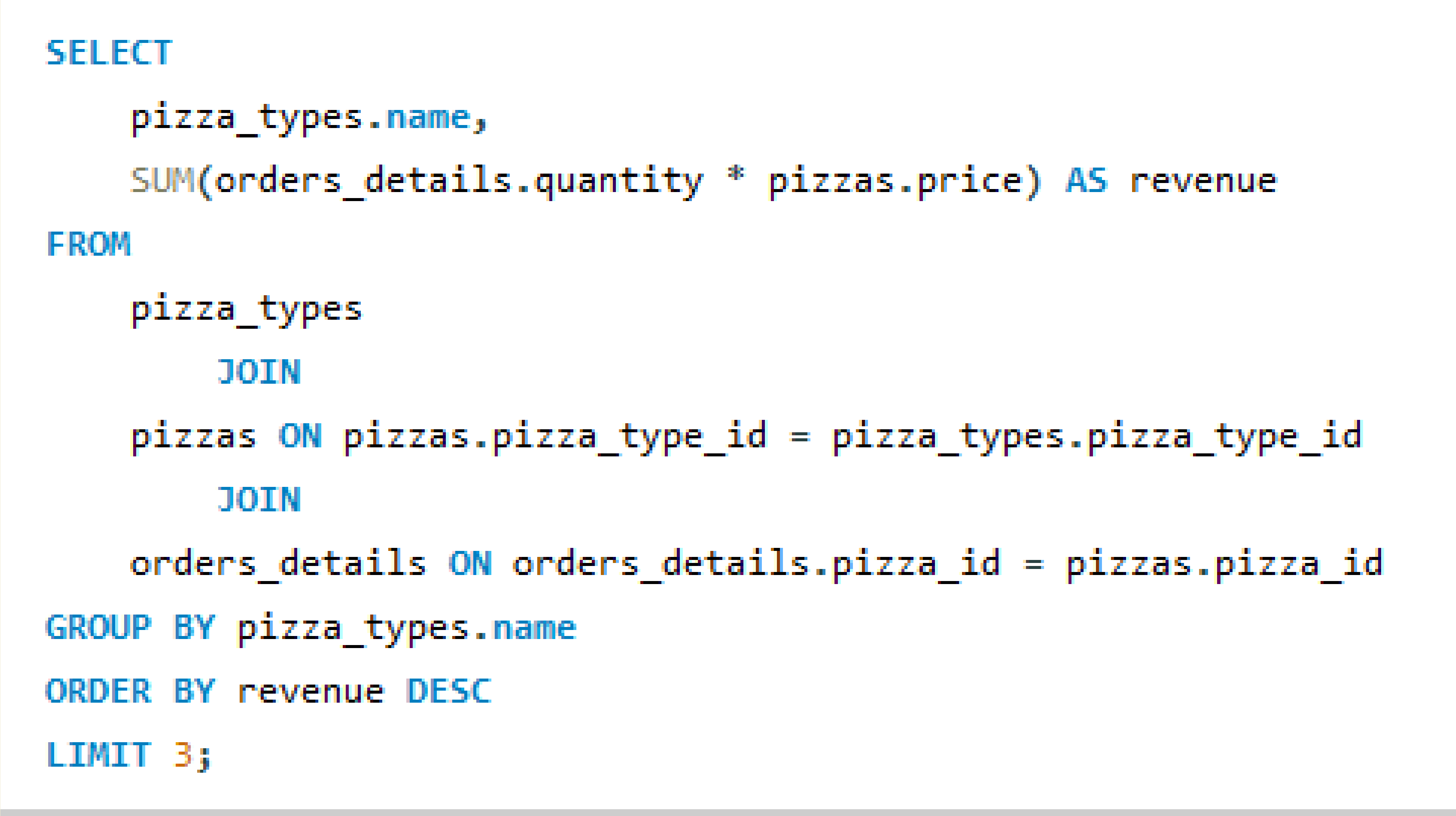
RESULT



avg_pizza_order_per_day
138

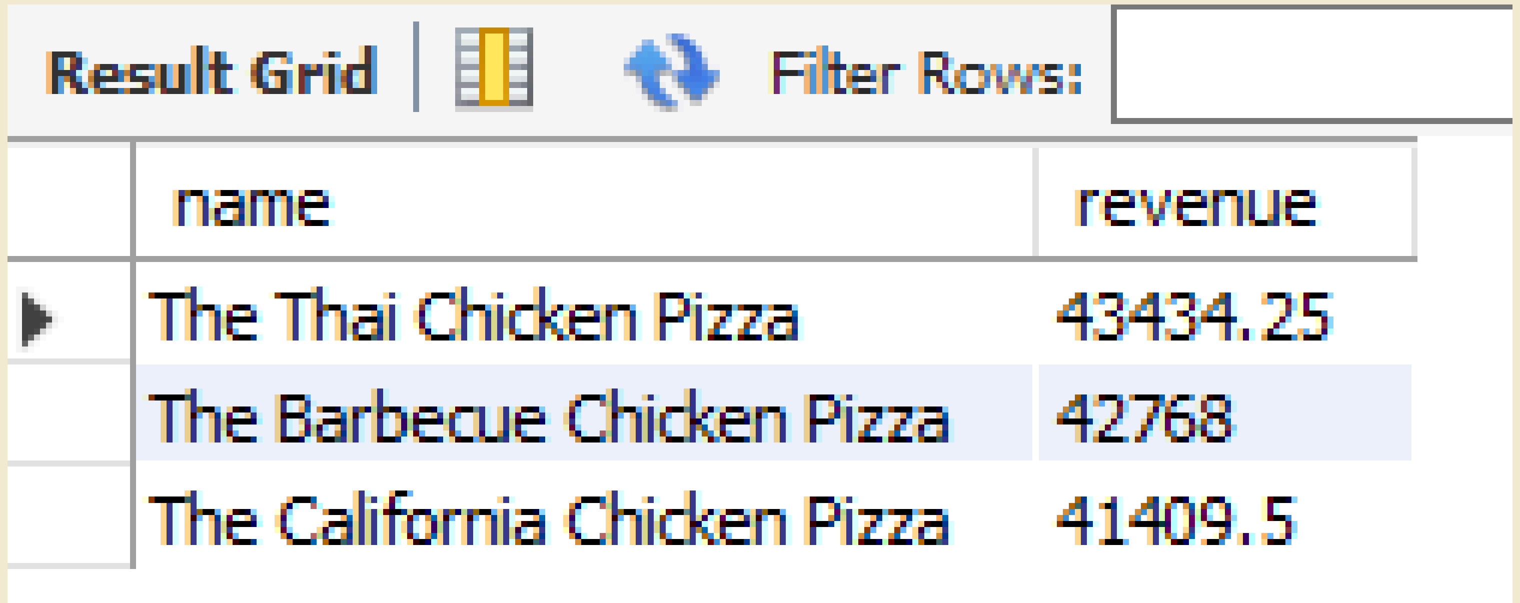
DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE.

QUERY



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

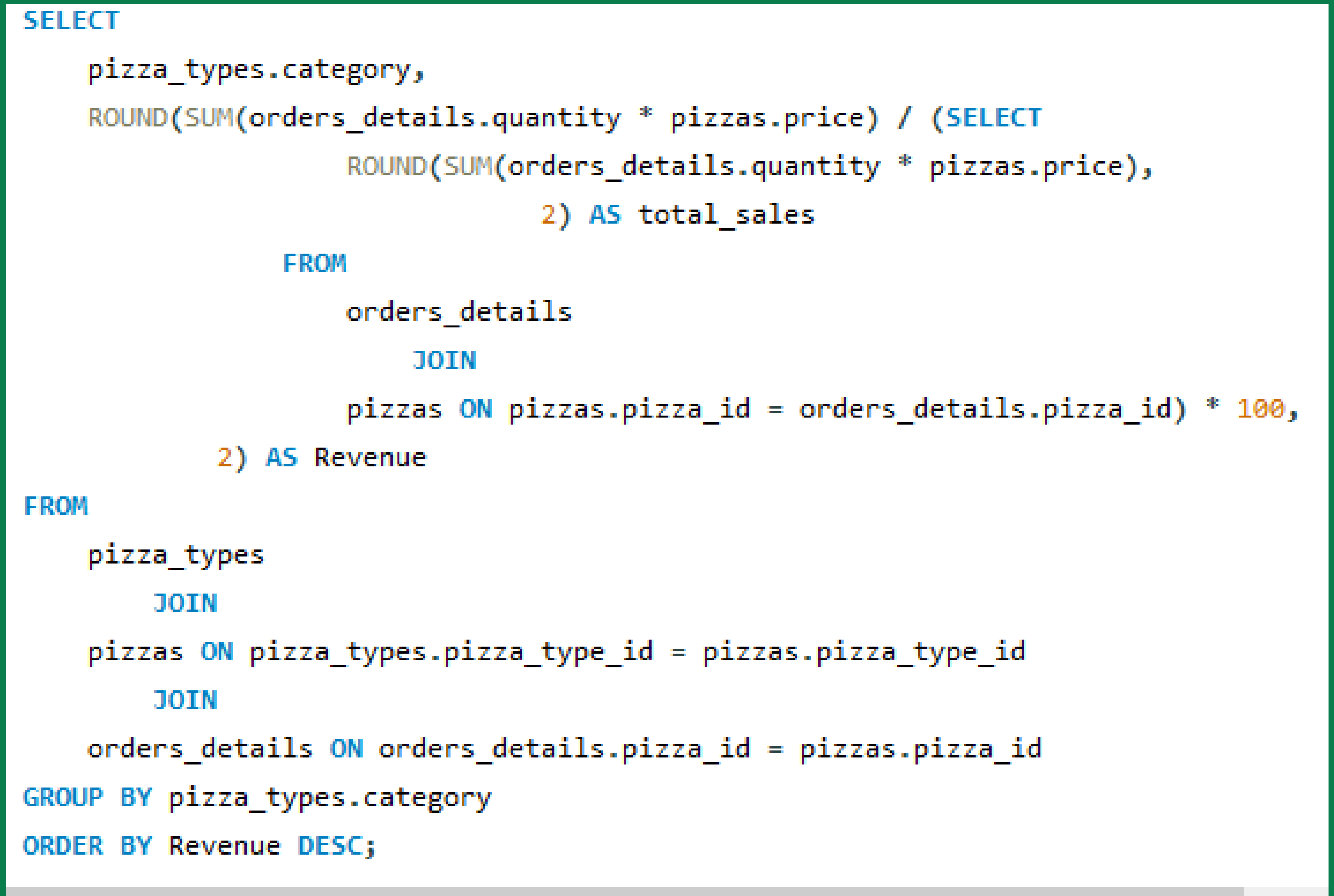
RESULT



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

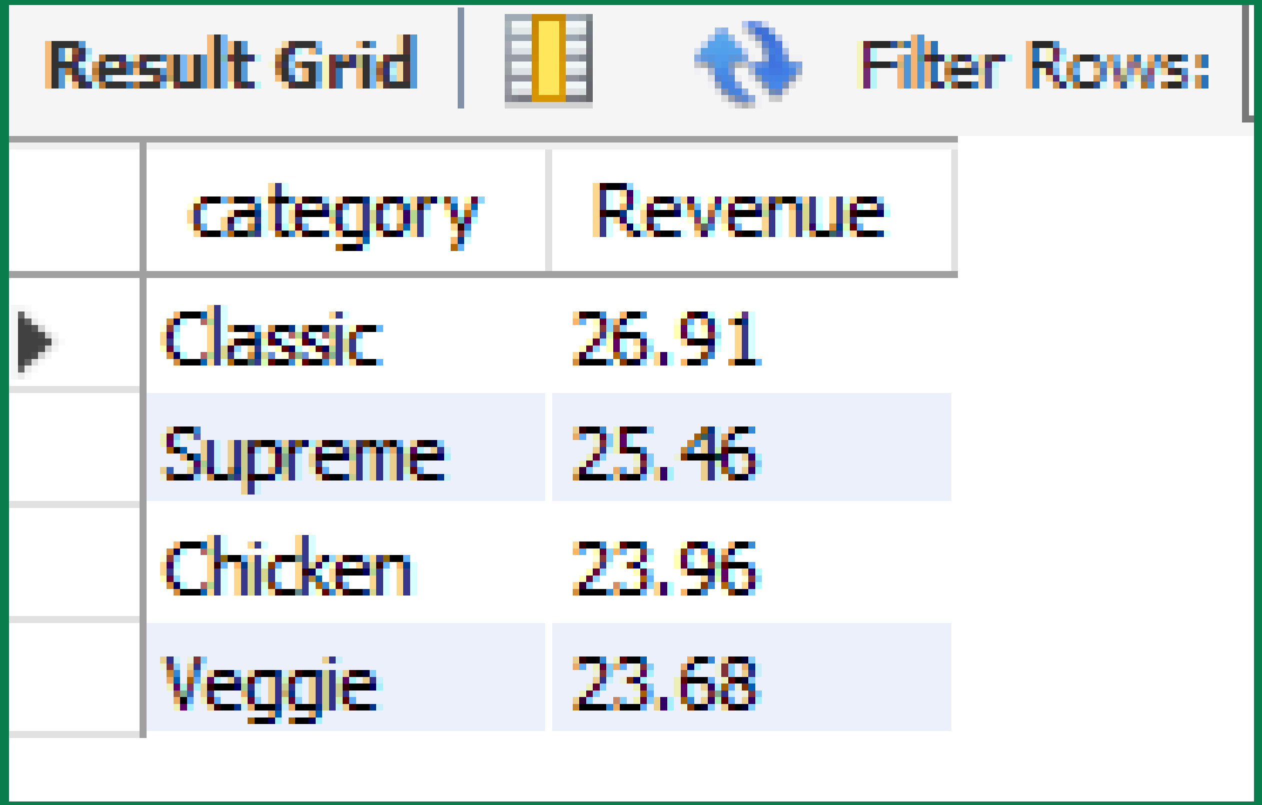
CALCULATE THE PERCENTAGE CONTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE

QUERY



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

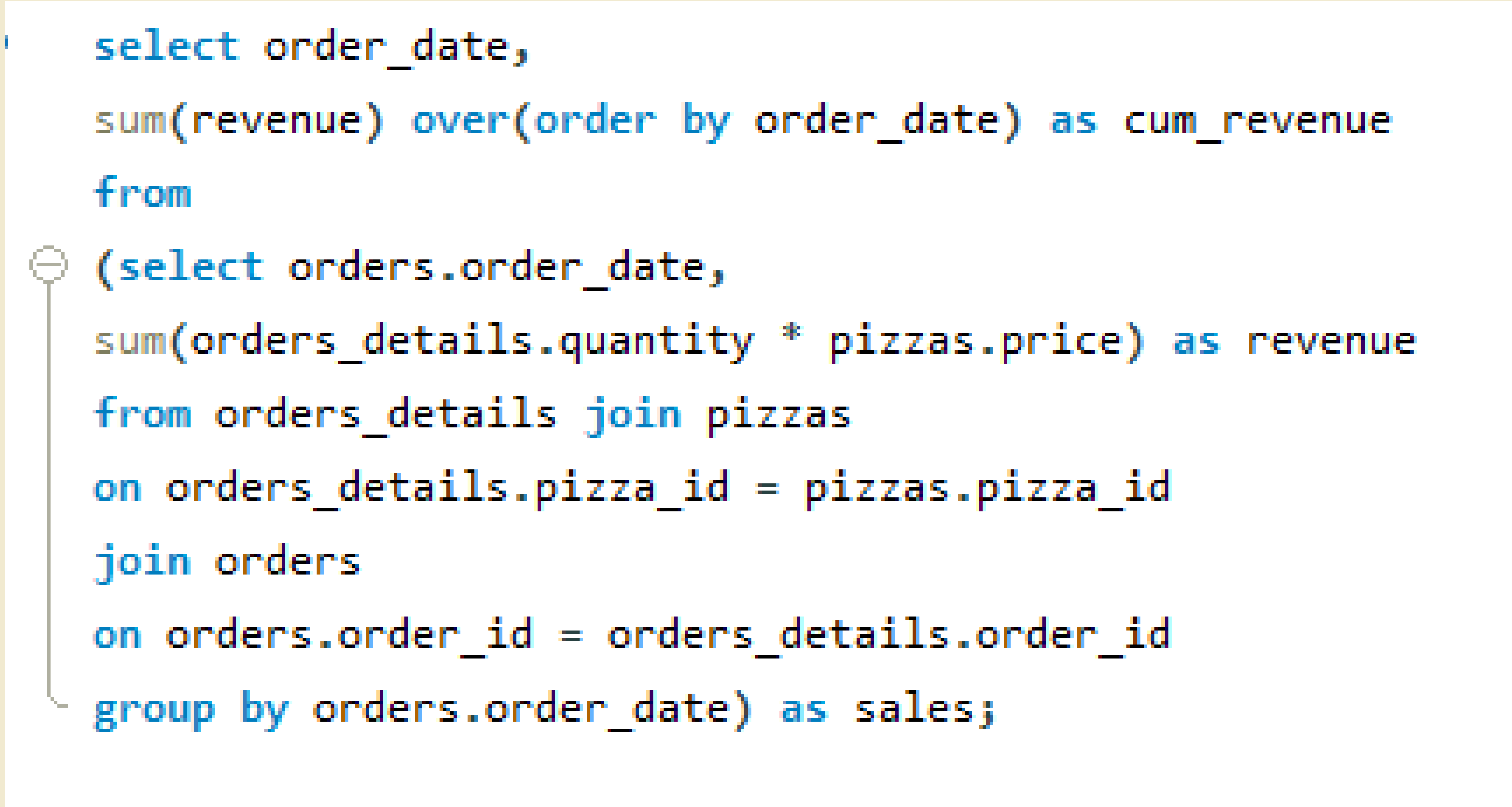
RESULT



category	Revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

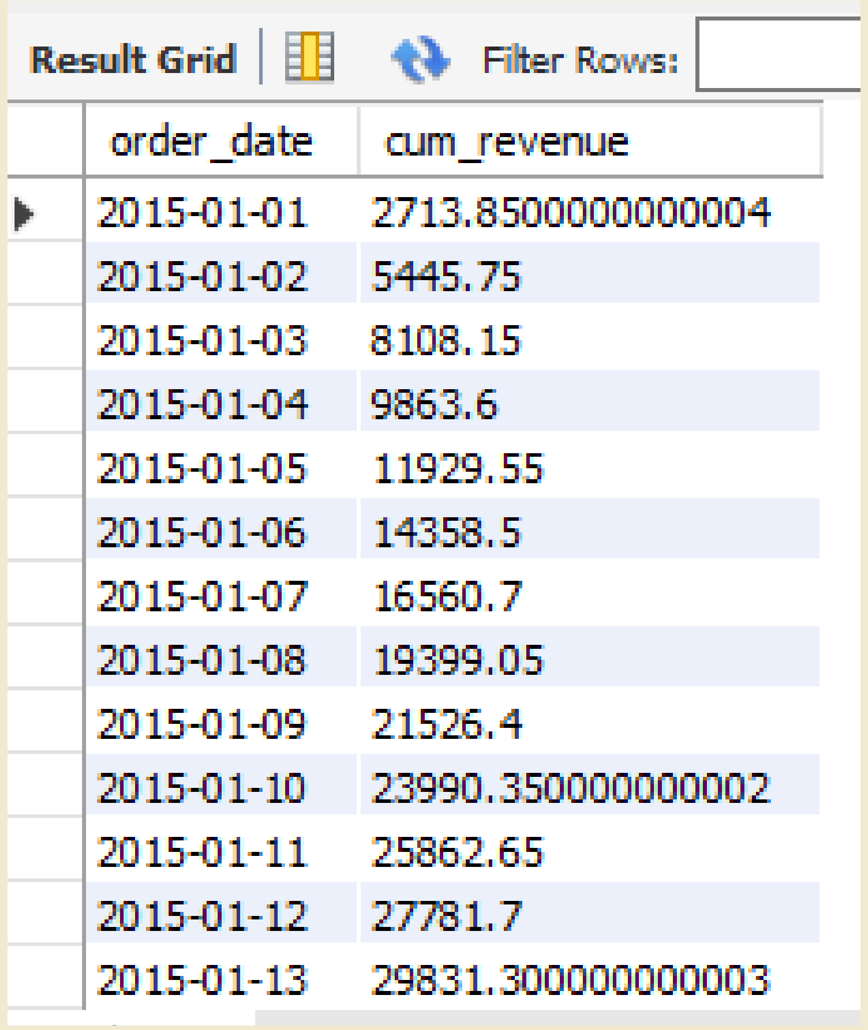
ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME.

QUERY



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

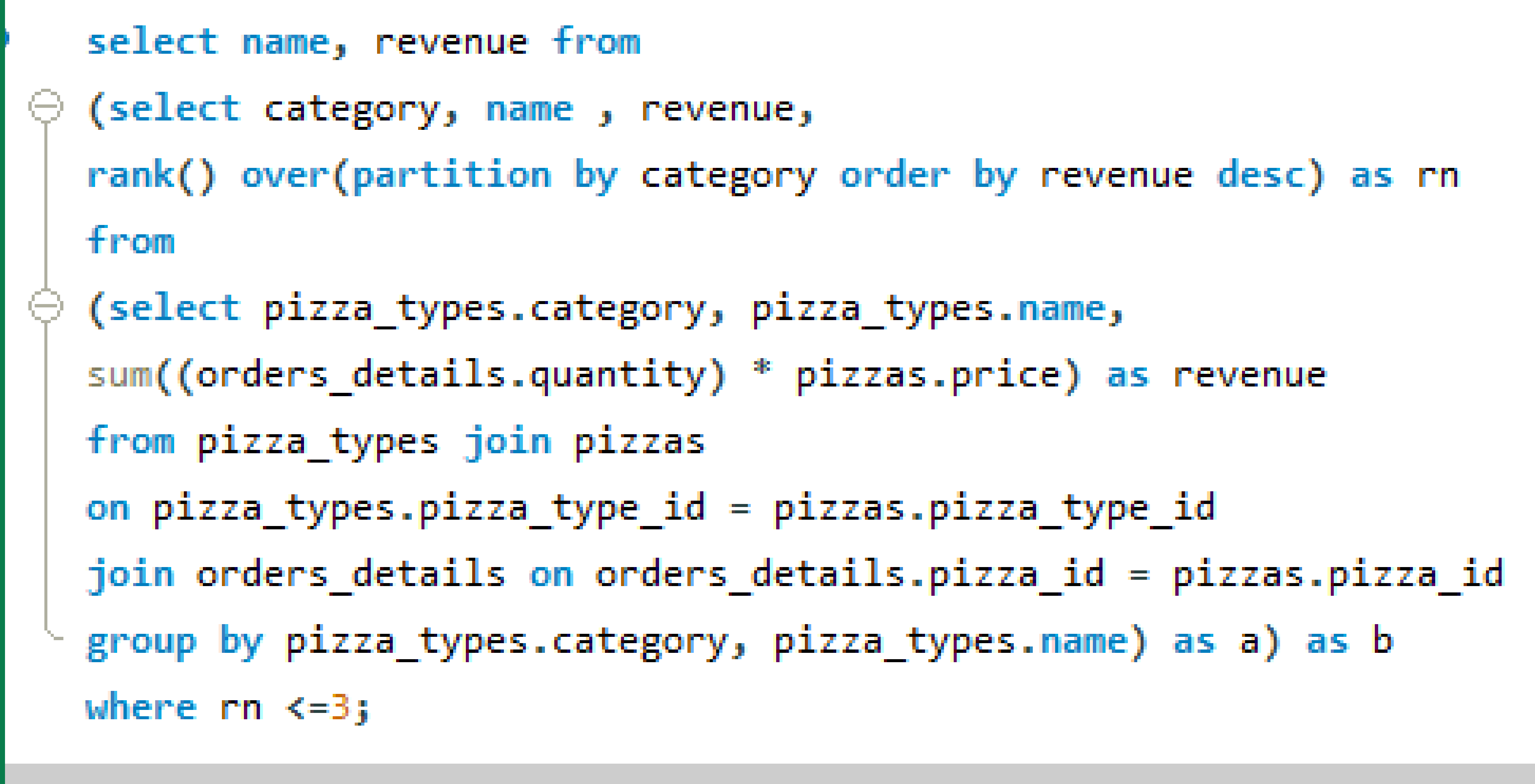
RESULT



order_date	cum_revenue
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
2015-01-07	16560.7
2015-01-08	19399.05
2015-01-09	21526.4
2015-01-10	23990.350000000002
2015-01-11	25862.65
2015-01-12	27781.7
2015-01-13	29831.300000000003

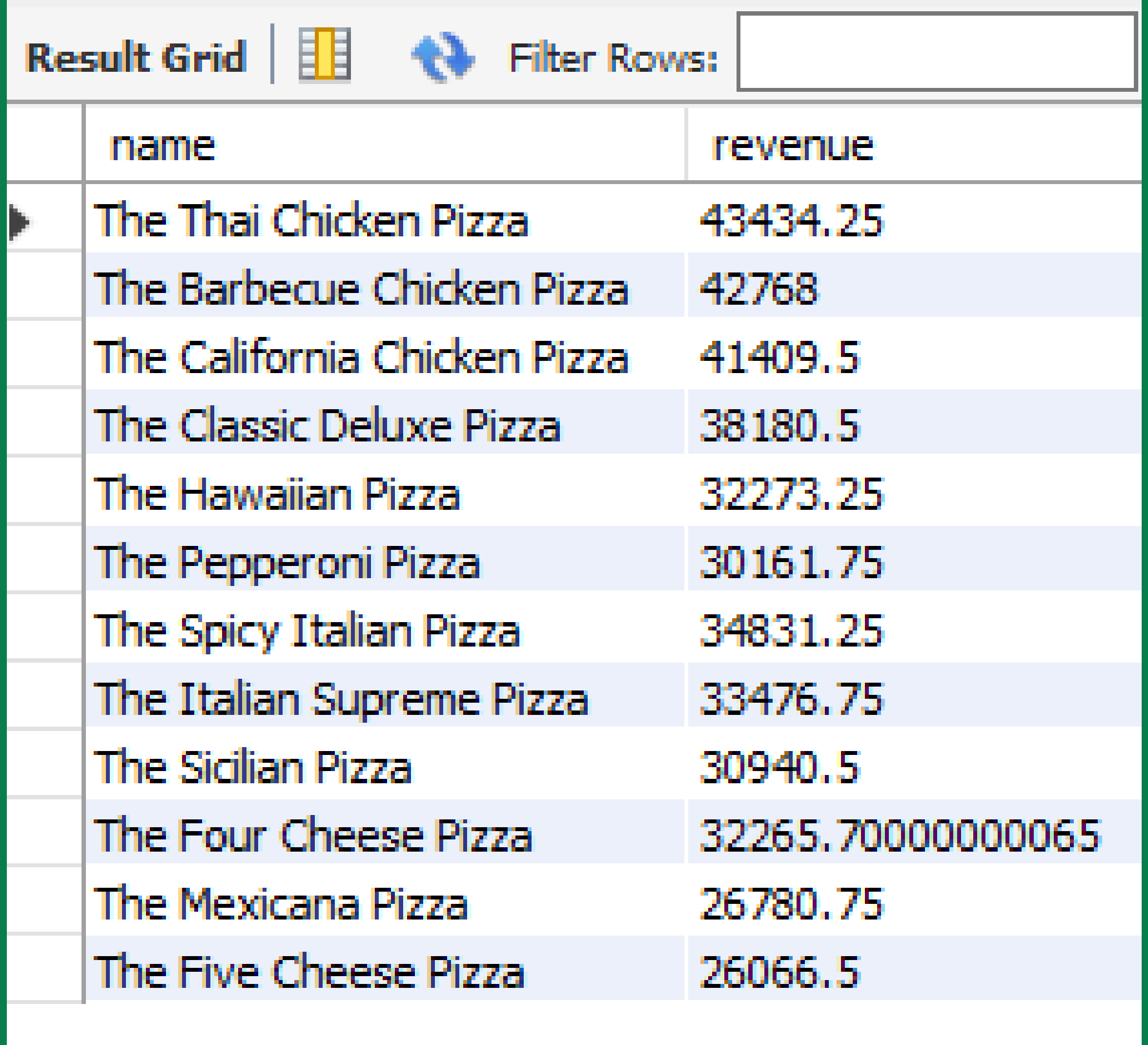
DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE FOR EACH PIZZA CATEGORY.

QUERY



```
select name, revenue from
(select category, name , revenue,
rank() over(partition by category order by revenue desc) as rn
from
(select pizza_types.category, pizza_types.name,
sum((orders_details.quantity) * pizzas.price) 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.category, pizza_types.name) as a) as b
where rn <=3;
```

RESULT



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
The Spicy Italian Pizza	34831.25
The Italian Supreme Pizza	33476.75
The Sicilian Pizza	30940.5
The Four Cheese Pizza	32265.70000000065
The Mexicana Pizza	26780.75
The Five Cheese Pizza	26066.5

KEY TAKEAWAYS

SALES & REVENUE HIGHLIGHTS

OVER 21,350 TOTAL ORDERS PLACED ACROSS THE YEAR.
GENERATED $817,860 IN TOTAL REVENUE.
THE THAI CHICKEN PIZZA GENERATED THE HIGHEST REVENUE.

PRODUCT PERFORMANCE

CLASSIC AND SUPREME WERE THE MOST ORDERED PIZZA TYPES BY QUANTITY.
LARGE (L) WAS THE MOST PREFERRED PIZZA SIZE.
THE CHICKEN CATEGORY CONTRIBUTED THE MOST TO TOTAL REVENUE.

CUSTOMER BEHAVIOR INSIGHTS

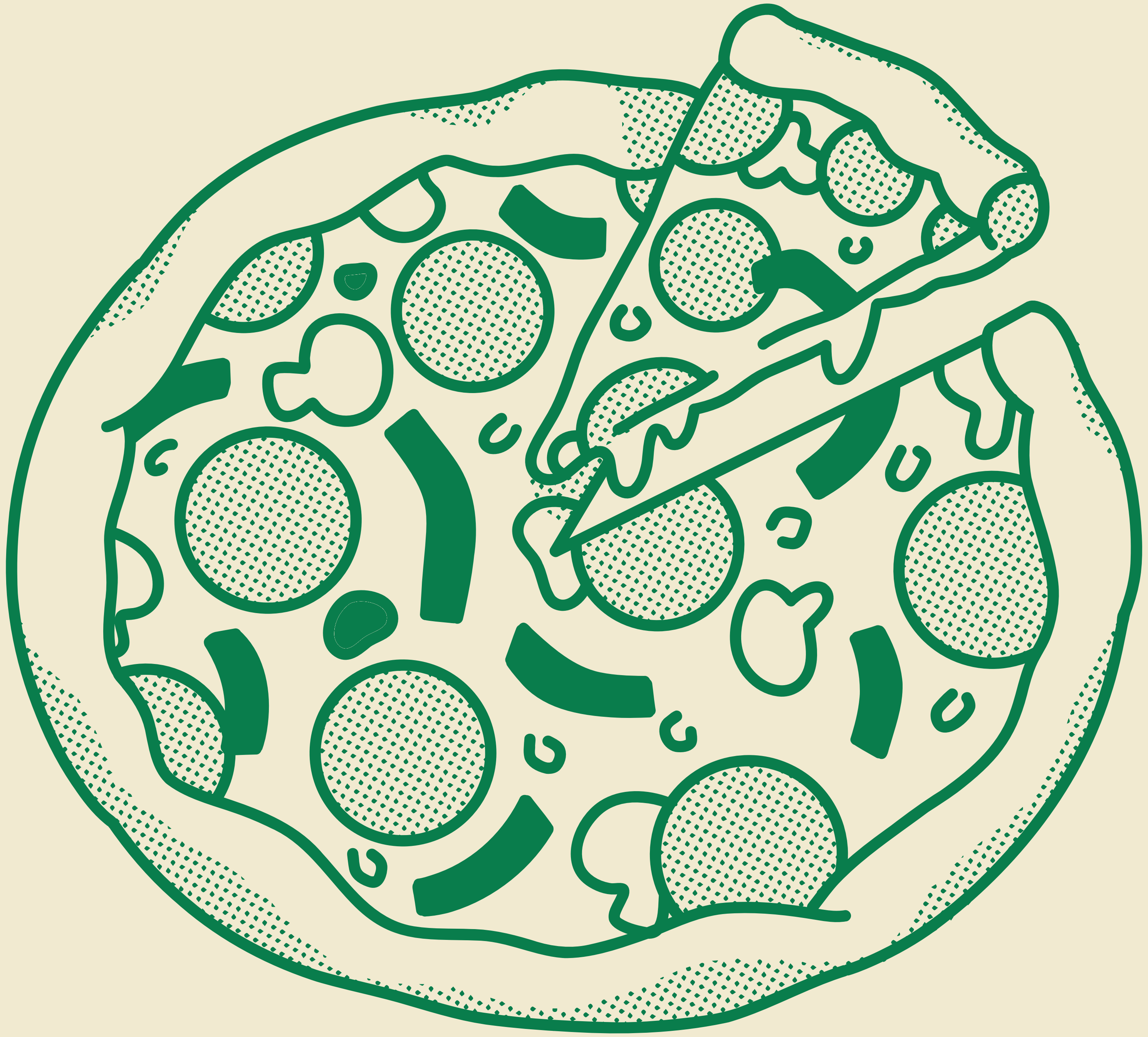
PEAK ORDER HOURS WERE BETWEEN 6 PM TO 8 PM.
MOST ORDERS OCCURRED ON WEEKENDS, ESPECIALLY FRIDAYS AND SATURDAYS.

ADVANCED ANALYSIS

TOP 3 PIZZAS PER CATEGORY BY REVENUE REVEALED DEEPER CUSTOMER PREFERENCES.
CUMULATIVE REVENUE ANALYSIS SHOWED CONSISTENT GROWTH ACROSS MONTHS.
PERCENTAGE CONTRIBUTION ANALYSIS SHOWED THAT A FEW PIZZAS (TOP 5) DRIVE MAJORITY OF REVENUE.

BUSINESS RECOMMENDATIONS

OFFER COMBO DEALS ON TOP-PERFORMING PIZZAS DURING EVENING HOURS.
PROMOTE LESSER-KNOWN PIZZAS ON SLOW DAYS (LIKE MONDAYS).
STOCK AND STAFF MORE ON WEEKEND EVENINGS TO HANDLE PEAK DEMAND.



THANK YOU

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LinkedIn ID