Data-Driven Insights & Analytics for Pizza Sales Using SQL

Automatic video captions available.

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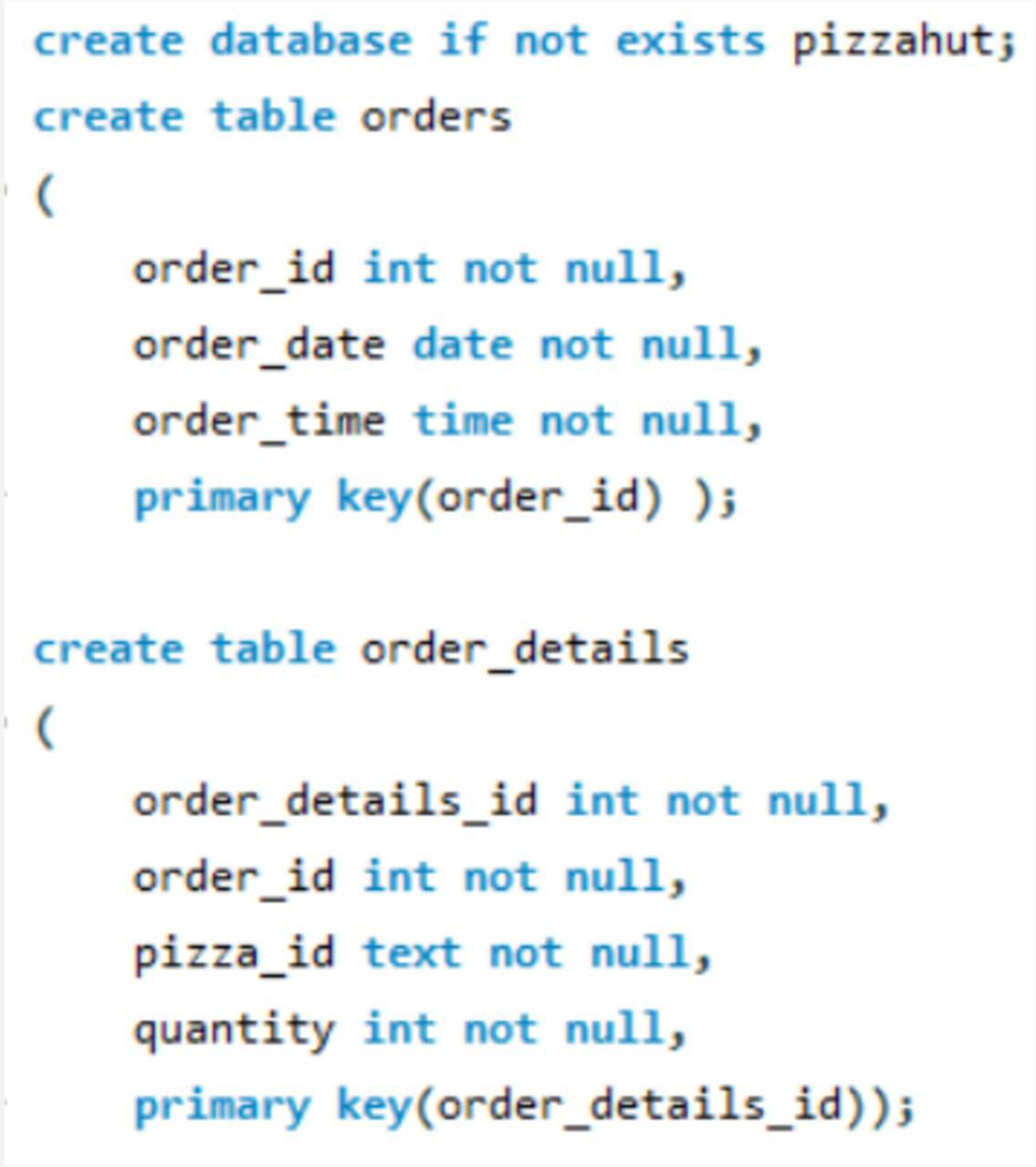
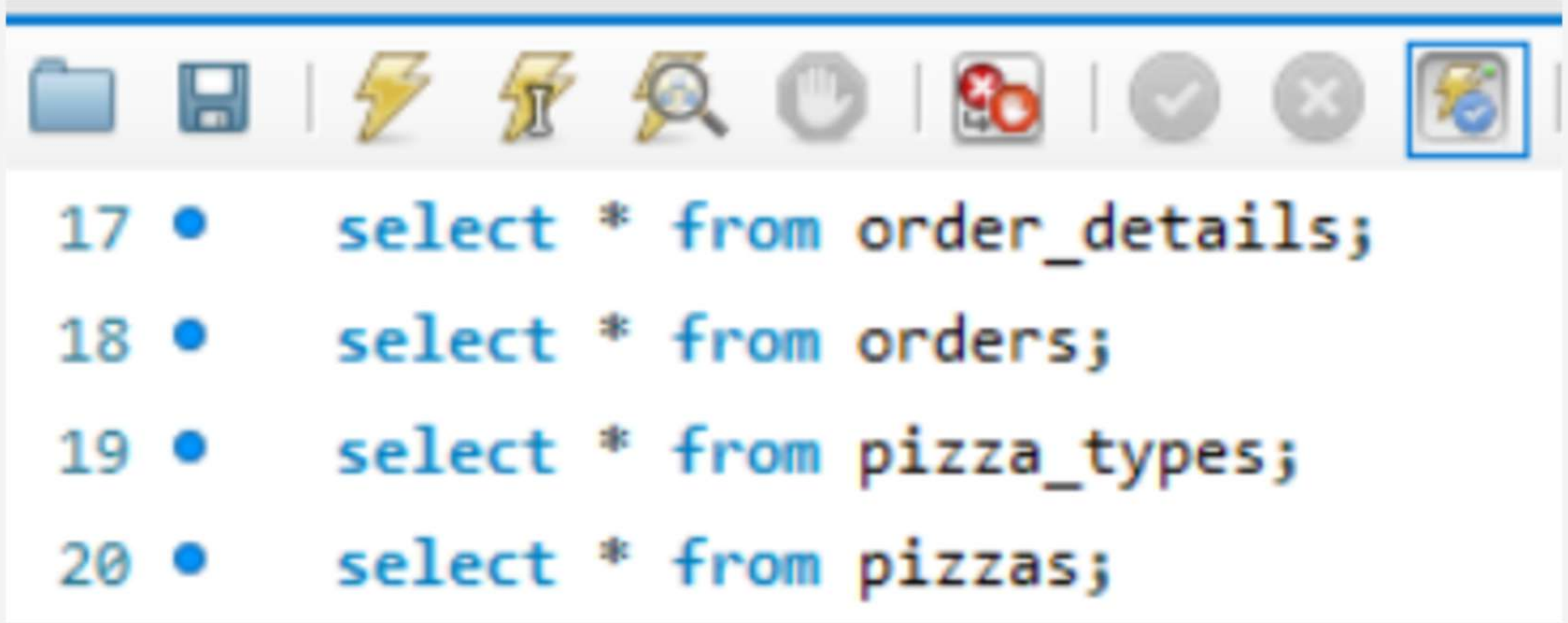
Database Creation & Schema Design



```
create database if not exists pizzahut;
create table orders
(
    order_id int not null,
    order_date date not null,
    order_time time not null,
    primary key(order_id) );

create table order_details
(
    order_details_id int not null,
    order_id int not null,
    pizza_id text not null,
    quantity int not null,
    primary key(order_details_id));
```



```
select * from order_details;
select * from orders;
select * from pizza_types;
select * from pizzas;
```

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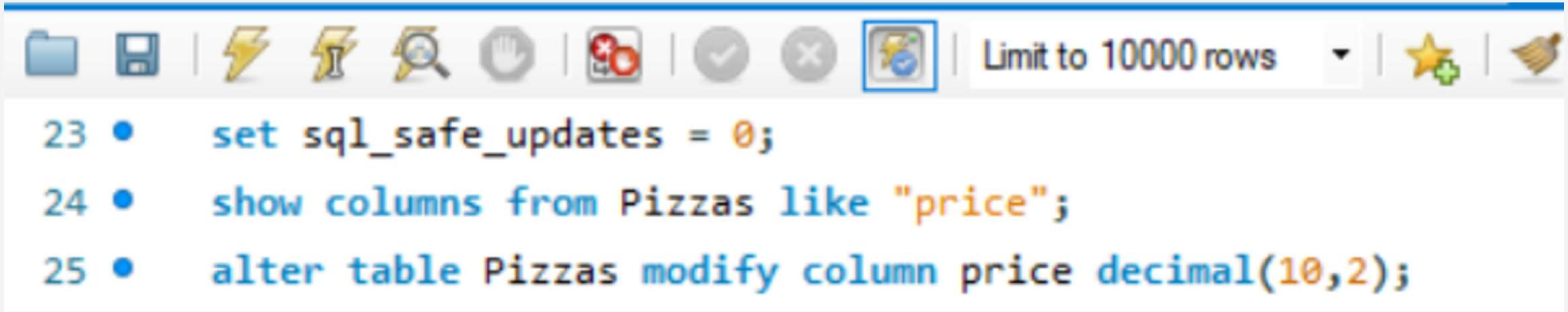
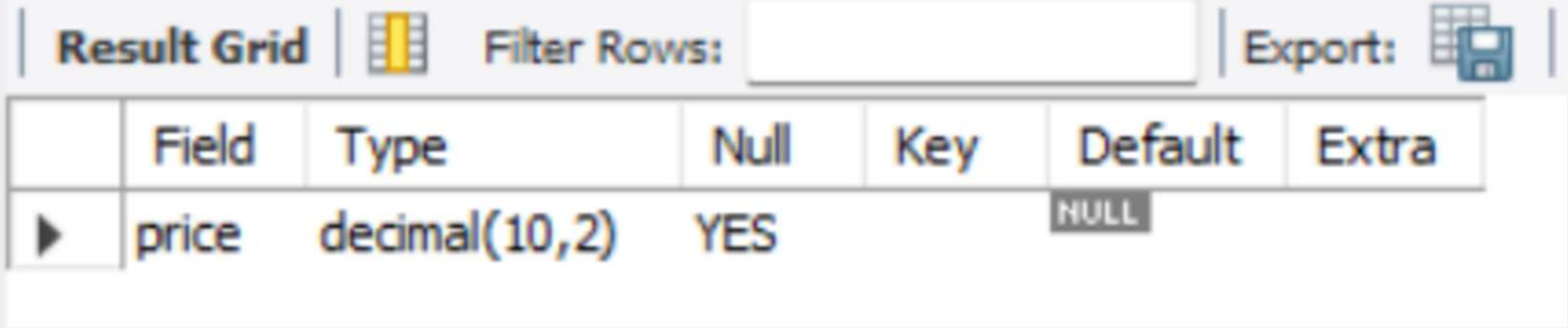
Database Modification: Updating and Altering Table Structures

Altering Pizzas table and modifying Price column to decimal data type and restricting it to 2 decimal places



```
set sql_safe_updates = 0;
show columns from Pizzas like "price";
alter table Pizzas modify column price decimal(10,2);
```



Field	Type	Null	Key	Default	Extra
price	decimal(10,2)	YES		NULL	

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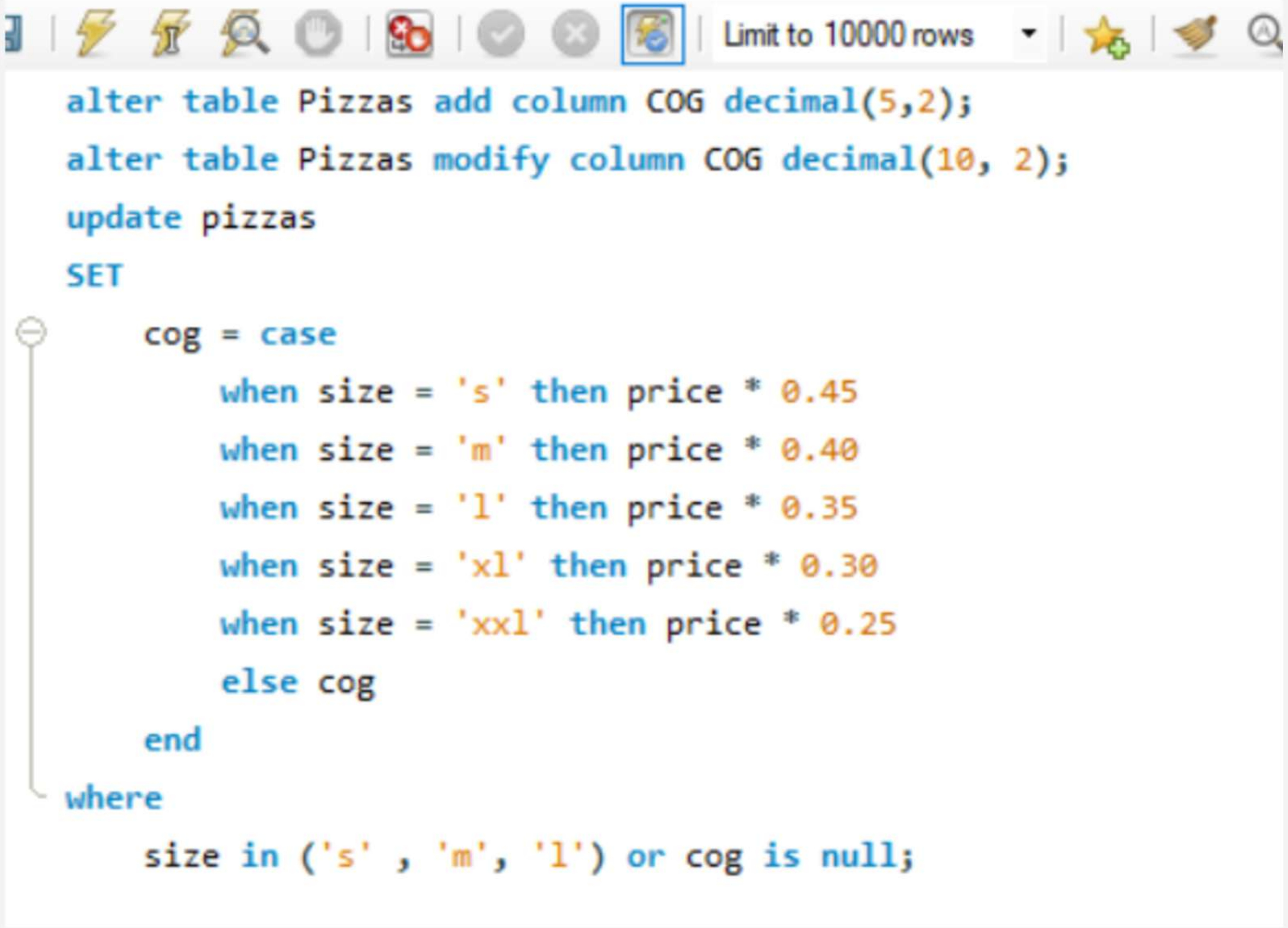
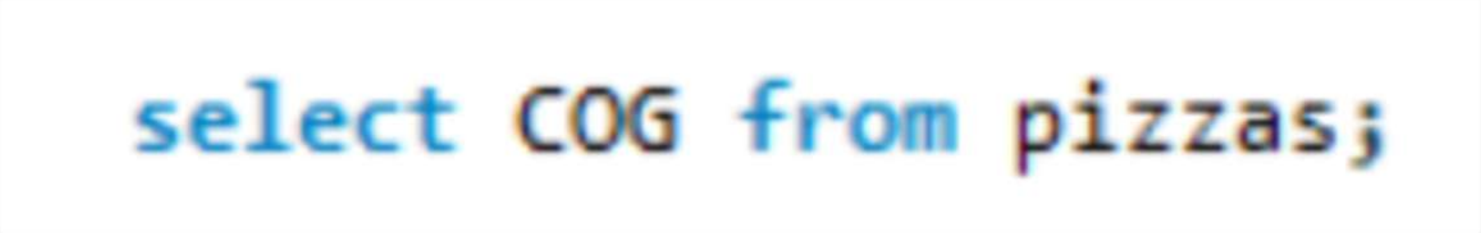
Database Modification: Updating and Altering Table Structures

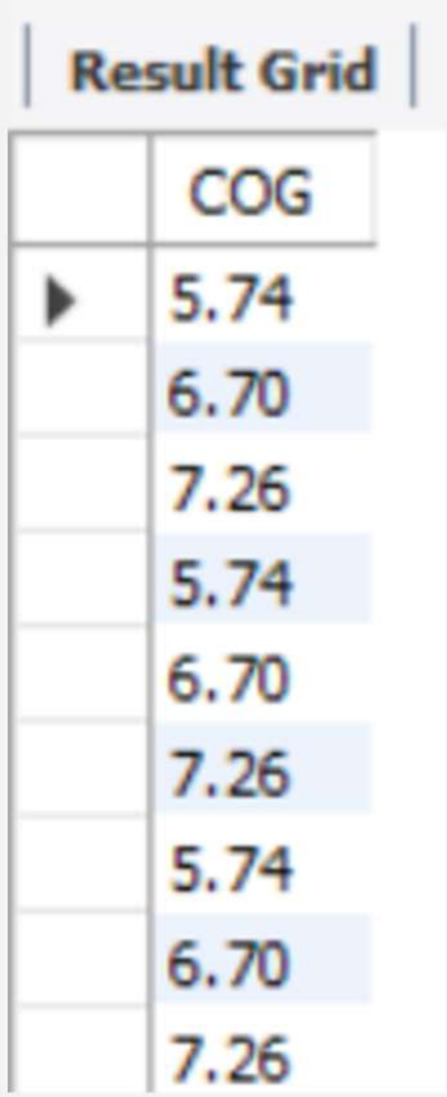
Adding “COG” column and altering it then to assign “COG” based on size of Pizza



```
alter table Pizzas add column COG decimal(5,2);
alter table Pizzas modify column COG decimal(10, 2);
update pizzas
SET
    cog = case
        when size = 's' then price * 0.45
        when size = 'm' then price * 0.40
        when size = 'l' then price * 0.35
        when size = 'xl' then price * 0.30
        when size = 'xxl' then price * 0.25
        else cog
    end
where
    size in ('s' , 'm', 'l') or cog is null;
```



```
select COG from pizzas;
```



COG
5.74
6.70
7.26
5.74
6.70
7.26
5.74
6.70
7.26

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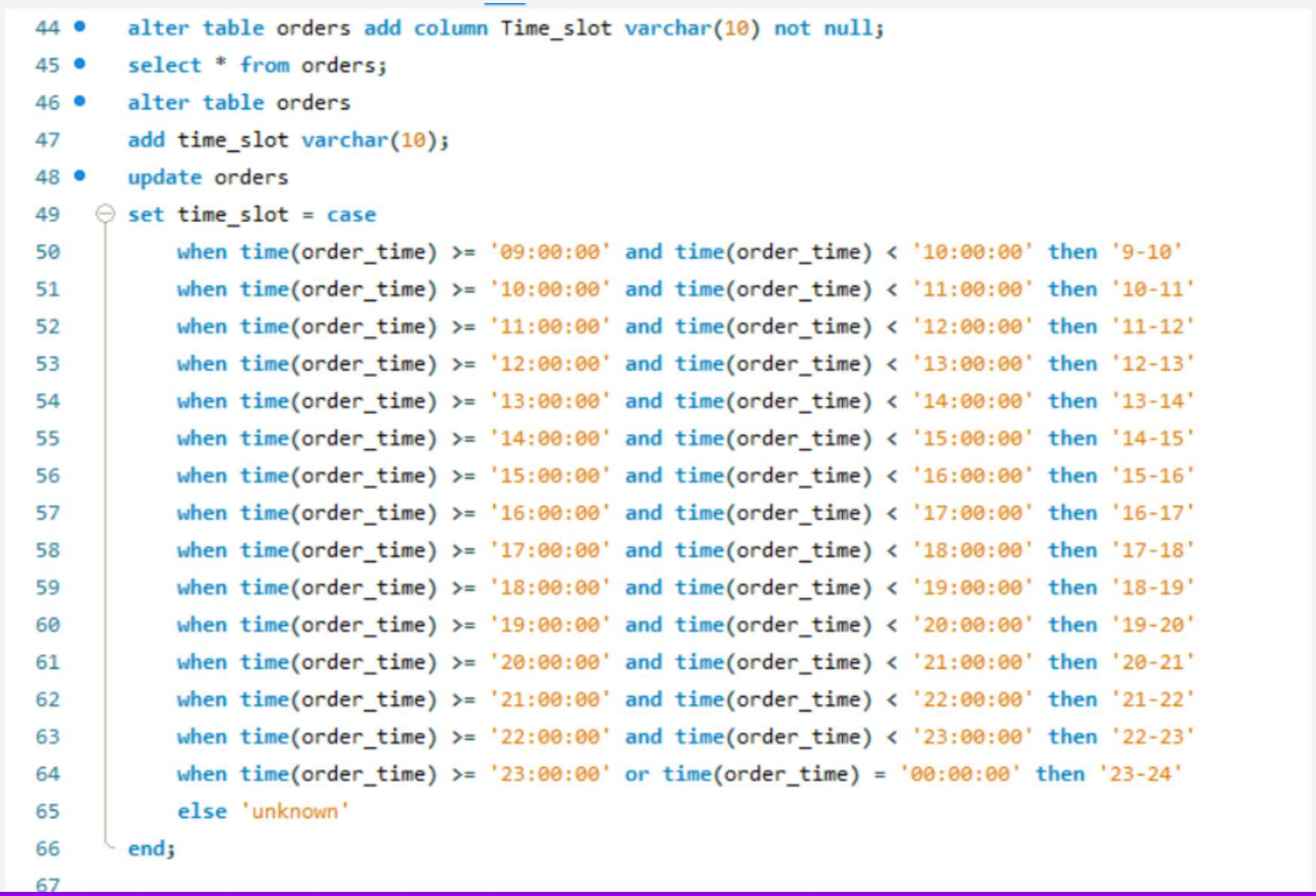
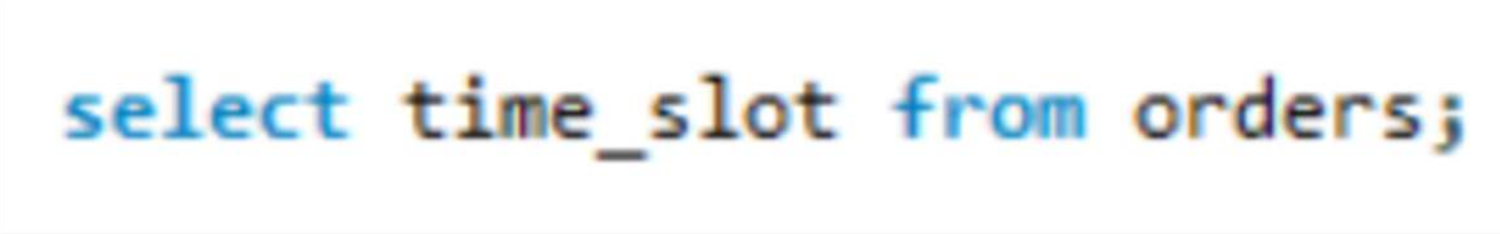
Database Modification: Updating and Altering Table Structures

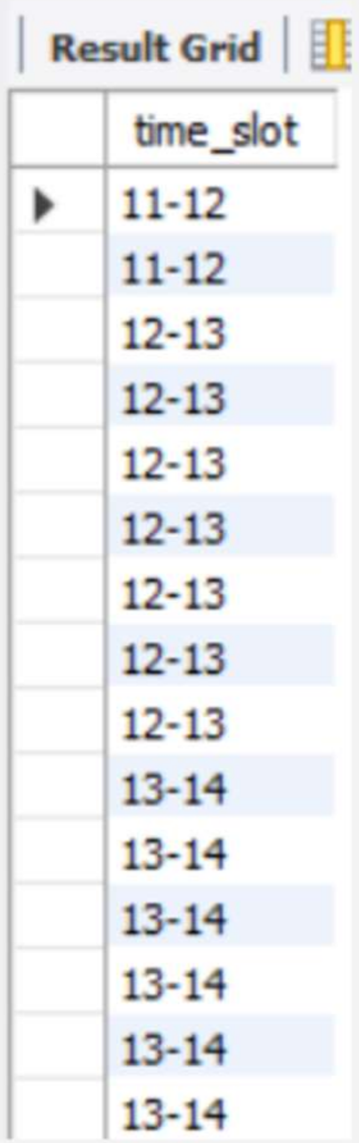
Adding "Time_slot" column and altering it then to assign "time frame" based on order_time



```sql
alter table orders add column Time_slot varchar(10) not null;
select * from orders;
alter table orders
add time_slot varchar(10);
update orders
set time_slot = case
    when time(order_time) >= '09:00:00' and time(order_time) < '10:00:00' then '9-10'
    when time(order_time) >= '10:00:00' and time(order_time) < '11:00:00' then '10-11'
    when time(order_time) >= '11:00:00' and time(order_time) < '12:00:00' then '11-12'
    when time(order_time) >= '12:00:00' and time(order_time) < '13:00:00' then '12-13'
    when time(order_time) >= '13:00:00' and time(order_time) < '14:00:00' then '13-14'
    when time(order_time) >= '14:00:00' and time(order_time) < '15:00:00' then '14-15'
    when time(order_time) >= '15:00:00' and time(order_time) < '16:00:00' then '15-16'
    when time(order_time) >= '16:00:00' and time(order_time) < '17:00:00' then '16-17'
    when time(order_time) >= '17:00:00' and time(order_time) < '18:00:00' then '17-18'
    when time(order_time) >= '18:00:00' and time(order_time) < '19:00:00' then '18-19'
    when time(order_time) >= '19:00:00' and time(order_time) < '20:00:00' then '19-20'
    when time(order_time) >= '20:00:00' and time(order_time) < '21:00:00' then '20-21'
    when time(order_time) >= '21:00:00' and time(order_time) < '22:00:00' then '21-22'
    when time(order_time) >= '22:00:00' and time(order_time) < '23:00:00' then '22-23'
    when time(order_time) >= '23:00:00' or time(order_time) = '00:00:00' then '23-24'
    else 'unknown'
end;
```



```sql
select time_slot from orders;
```



time_slot
11-12
11-12
12-13
12-13
12-13
12-13
12-13
12-13
12-13
13-14
13-14
13-14
13-14
13-14
13-14

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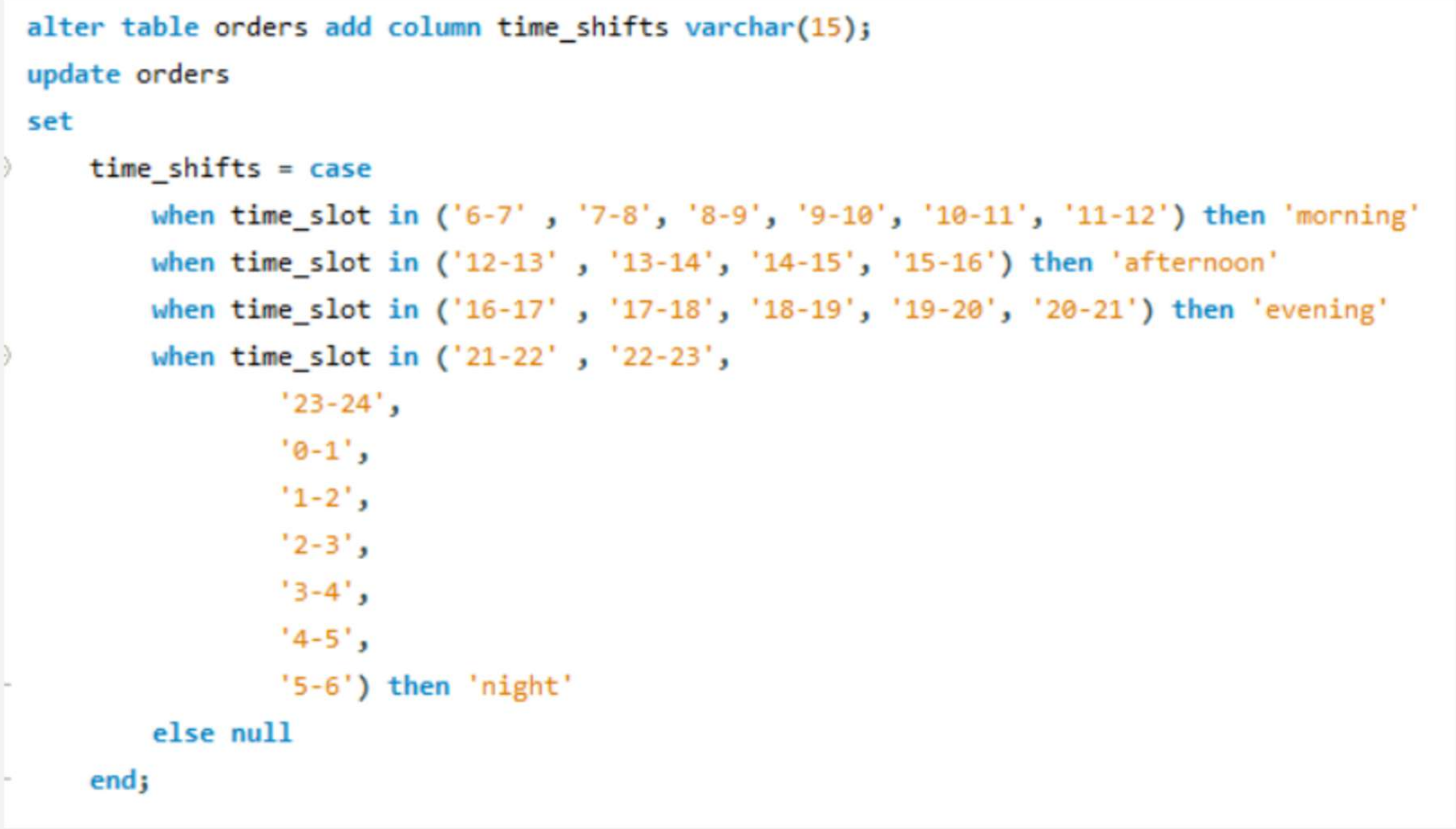
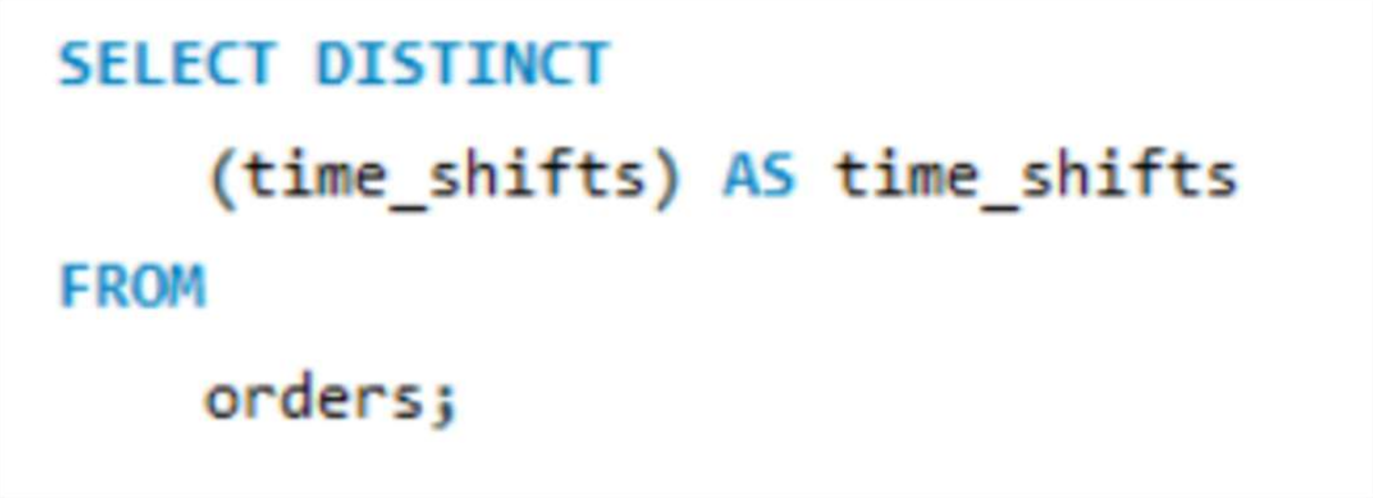
Database Modification: Updating and Altering Table Structures

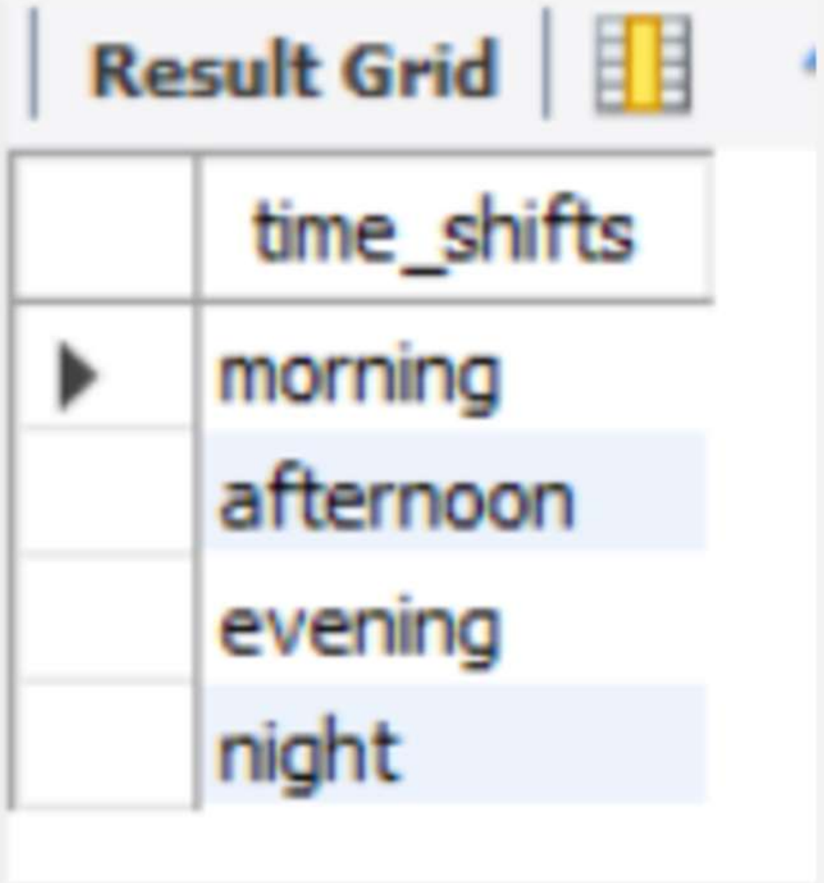
Adding "Time shifts" column and altering it then to assign "Naming's" based on Time_slots



```
alter table orders add column time_shifts varchar(15);
update orders
set
    time_shifts = case
        when time_slot in ('6-7' , '7-8', '8-9', '9-10', '10-11', '11-12') then 'morning'
        when time_slot in ('12-13' , '13-14', '14-15', '15-16') then 'afternoon'
        when time_slot in ('16-17' , '17-18', '18-19', '19-20', '20-21') then 'evening'
        when time_slot in ('21-22' , '22-23',
                '23-24',
                '0-1',
                '1-2',
                '2-3',
                '3-4',
                '4-5',
                '5-6') then 'night'
        else null
    end;
```



```
SELECT DISTINCT
    (time_shifts) AS time_shifts
FROM
    orders;
```



```
time_shifts
morning
afternoon
evening
night
```

Business Insights & Sales Analysis

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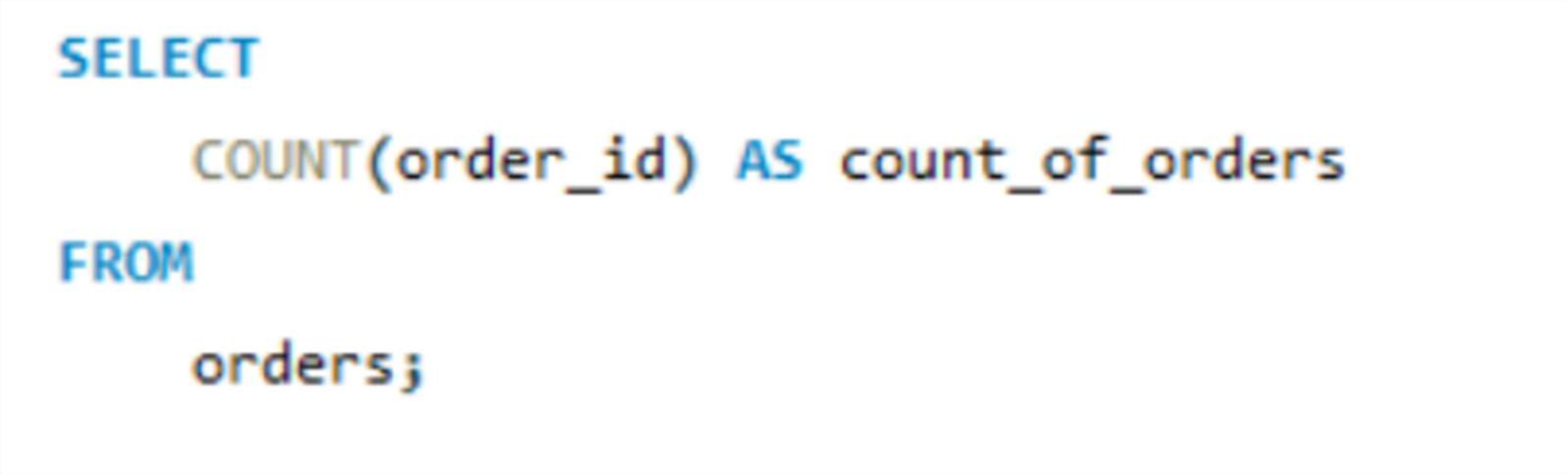
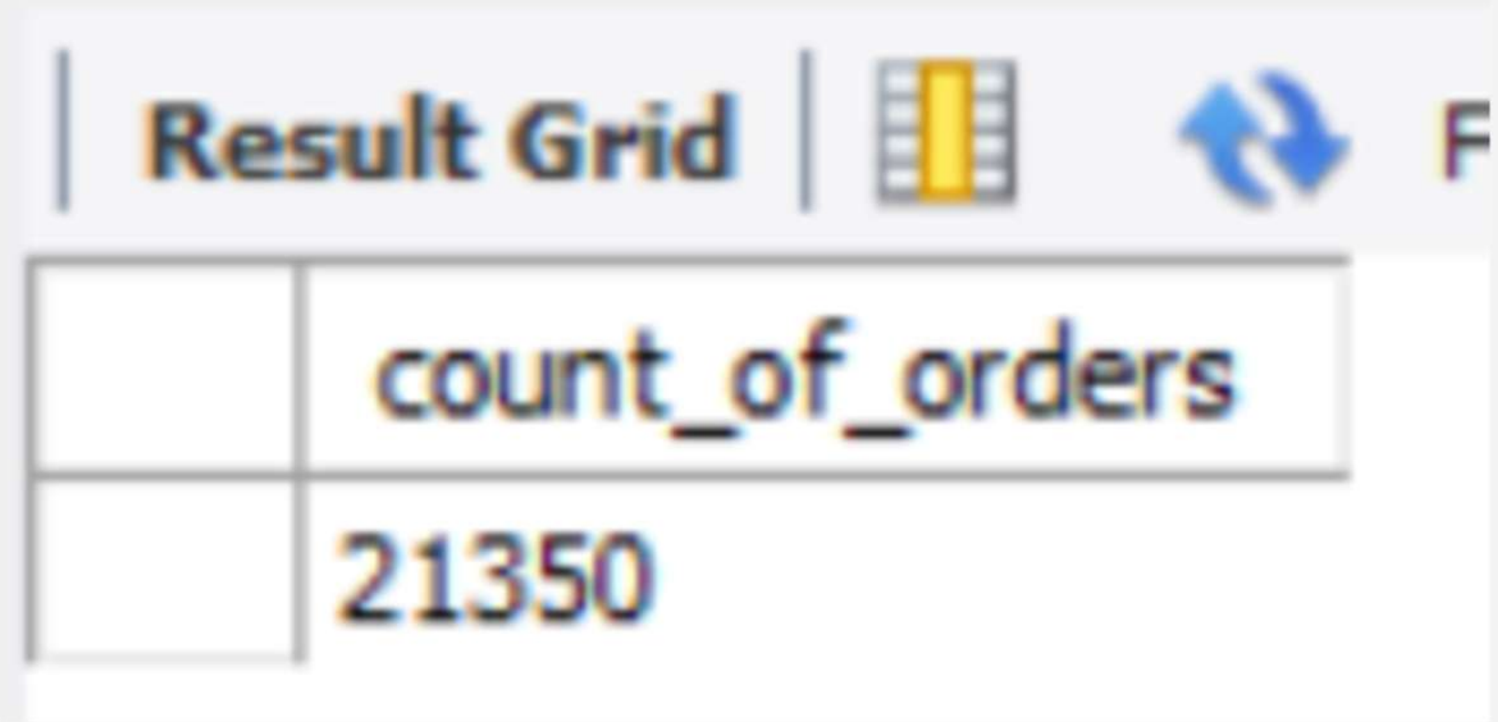
Total number of orders placed



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



```
count_of_orders
21350
```

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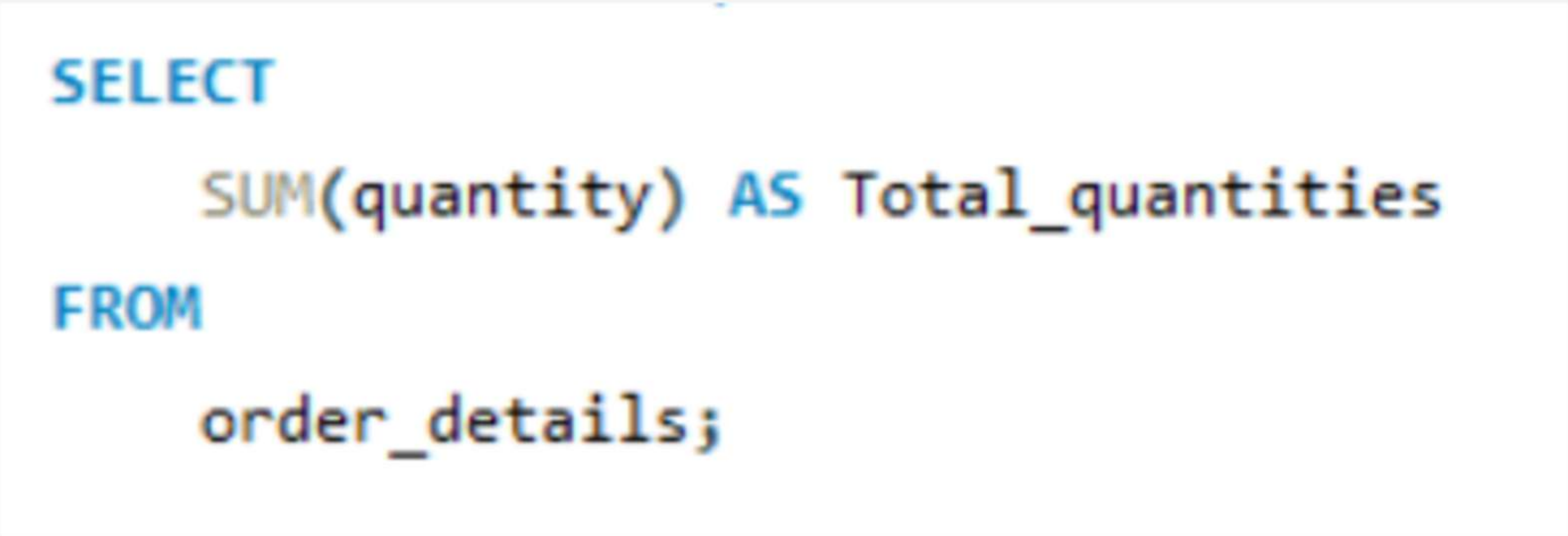
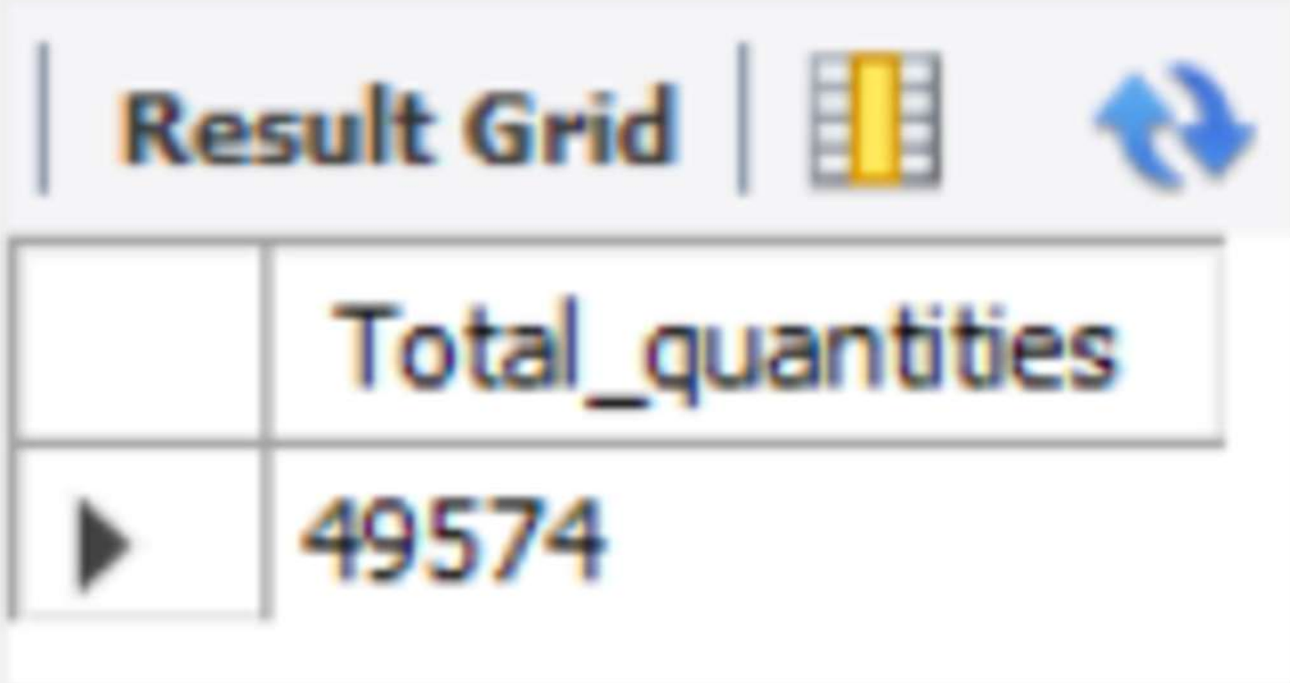
Total quantity of Pizza’s sold



```
SELECT
    SUM(quantity) AS Total_quantities
FROM
    order_details;
```



Total_quantities
49574

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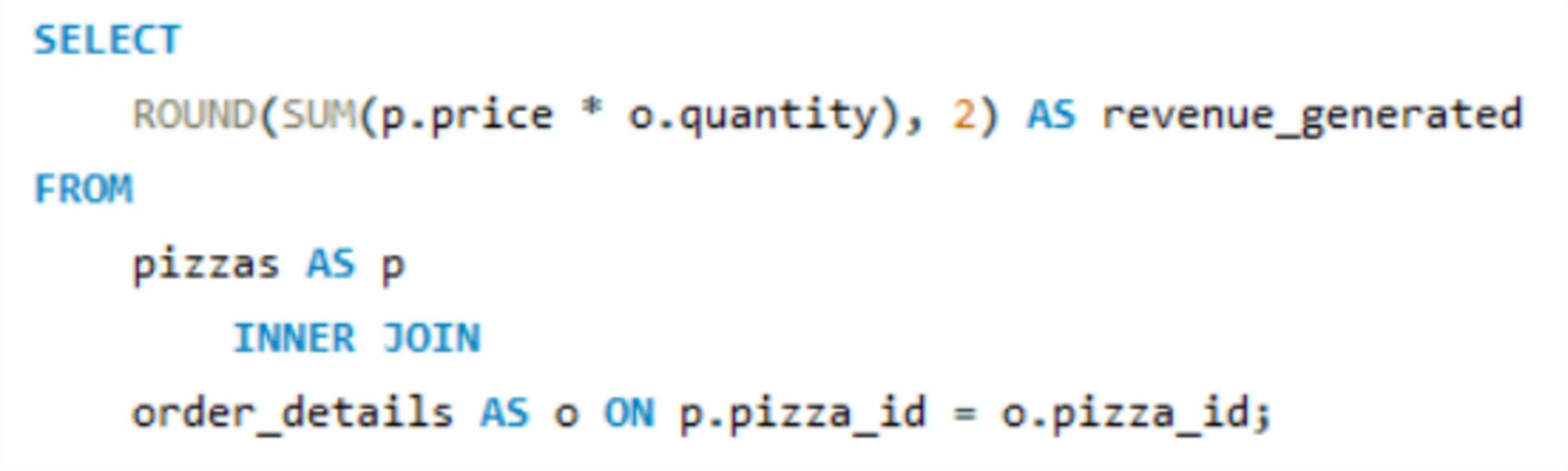
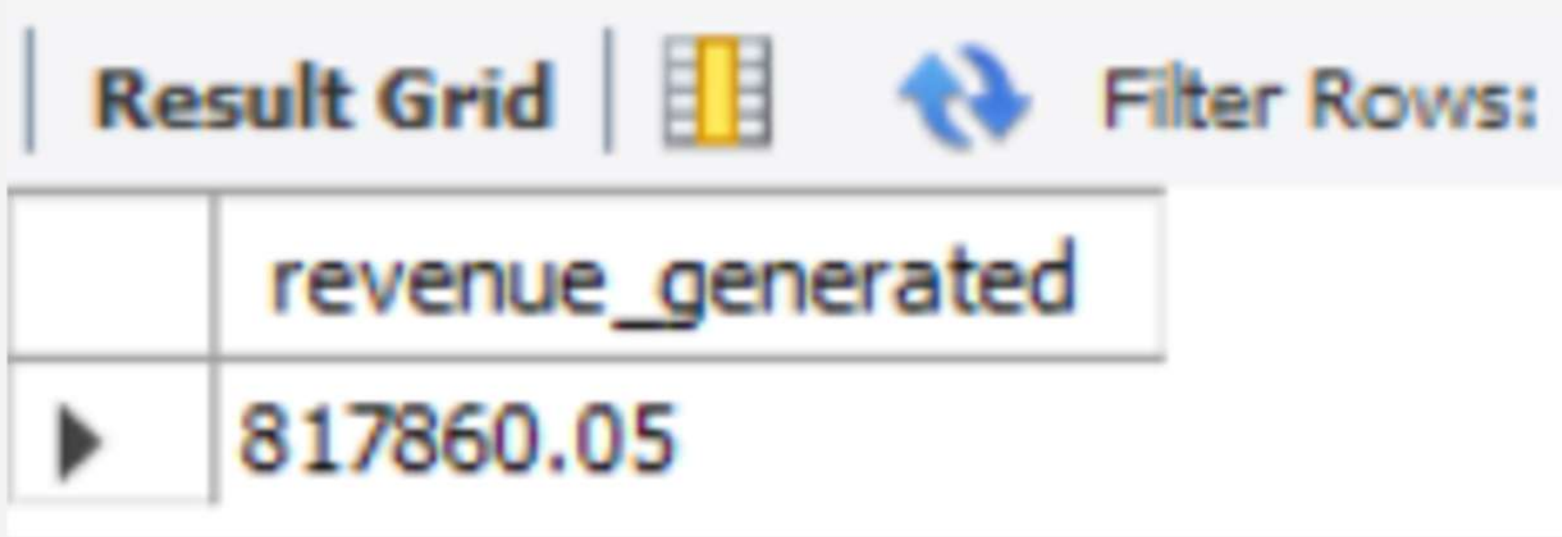
Total Revenue from Pizza Sales



```
SELECT
    ROUND(SUM(p.price * o.quantity), 2) AS revenue_generated
FROM
    pizzas AS p
        INNER JOIN
    order_details AS o ON p.pizza_id = o.pizza_id;
```



```
   revenue_generated
▶  817860.05
```

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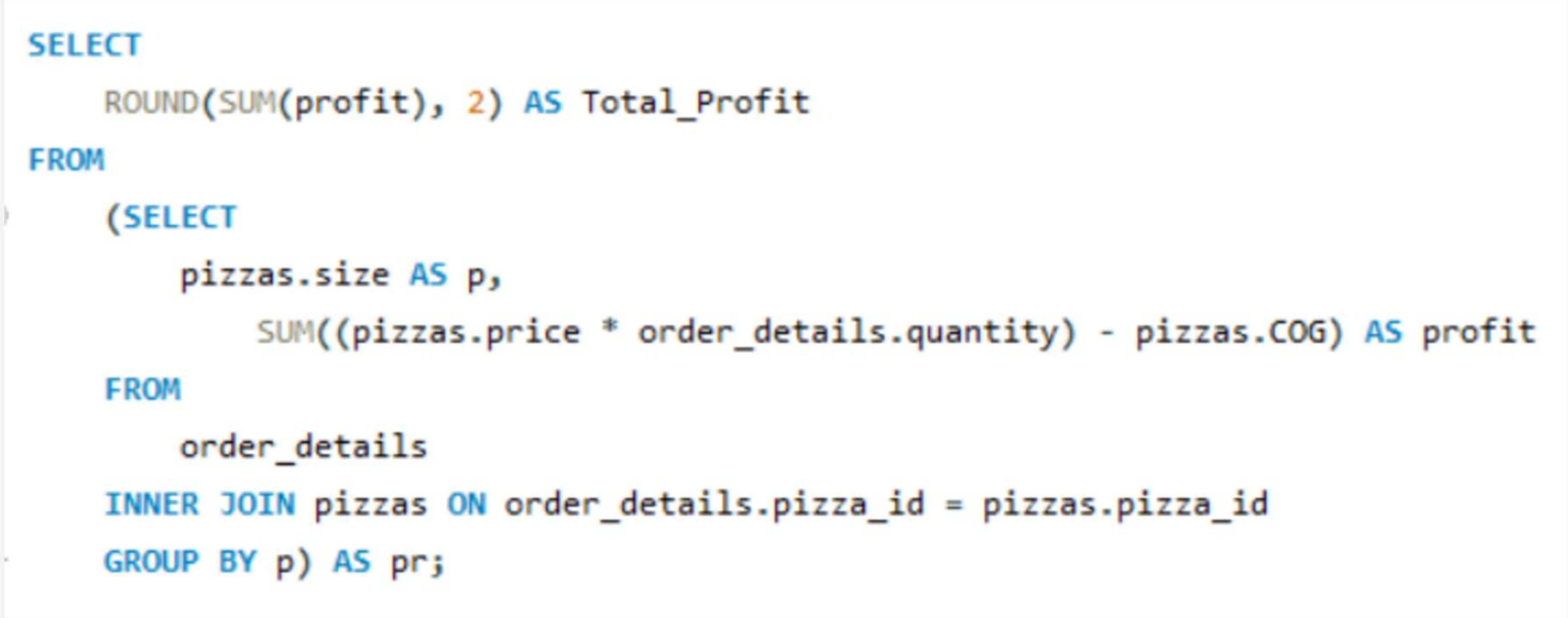
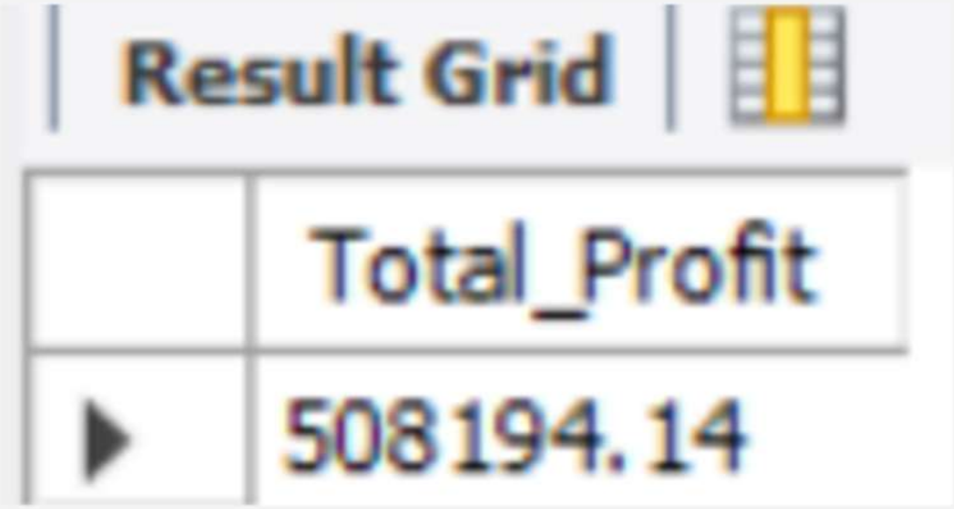
Total Profit from Pizza Sales



```
SELECT
    ROUND(SUM(profit), 2) AS Total_Profit
FROM
    (SELECT
        pizzas.size AS p,
            SUM((pizzas.price * order_details.quantity) - pizzas.COG) AS profit
    FROM
        order_details
    INNER JOIN pizzas ON order_details.pizza_id = pizzas.pizza_id
    GROUP BY p) AS pr;
```



```
  Total_Profit
▶ 508194.14
```

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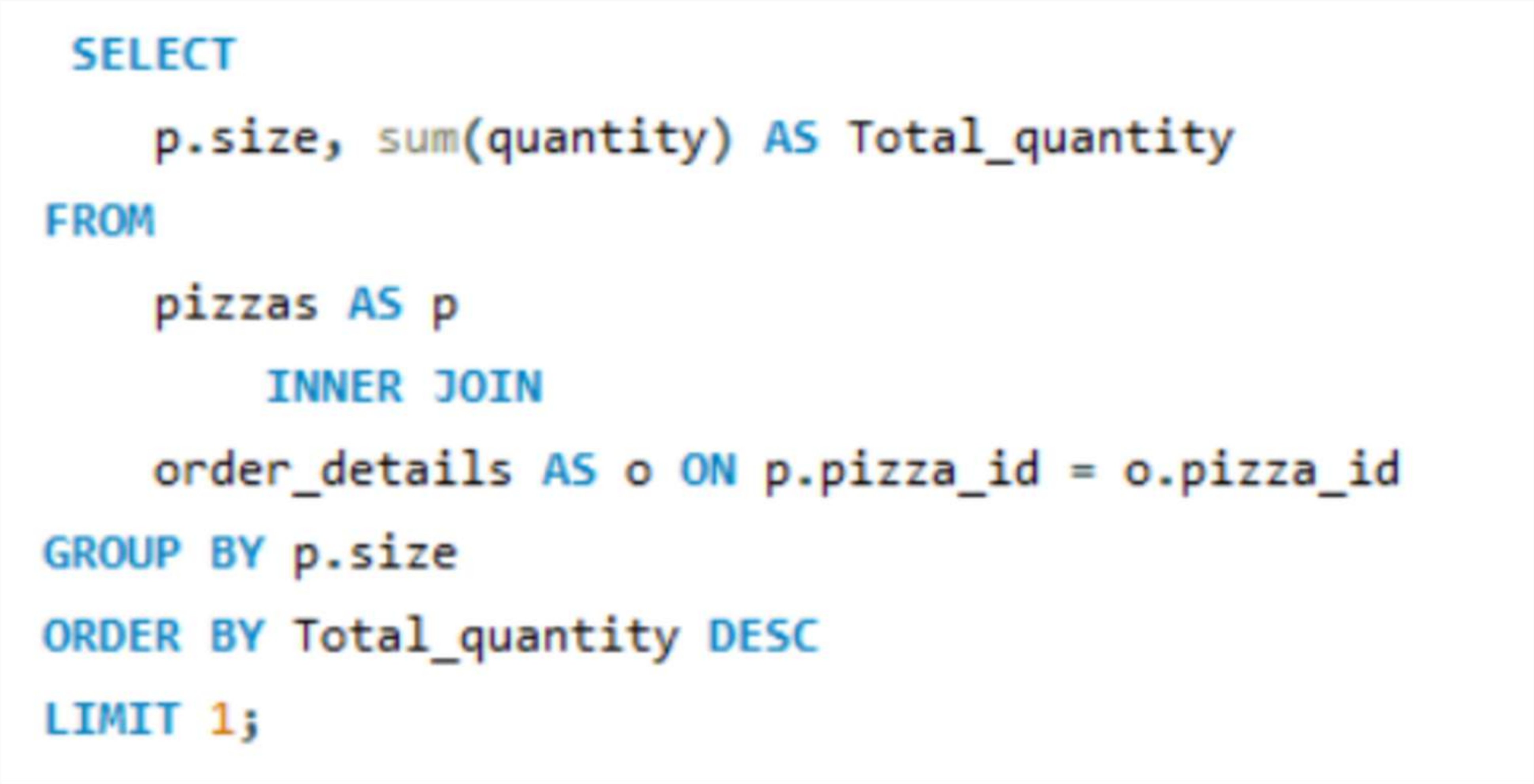
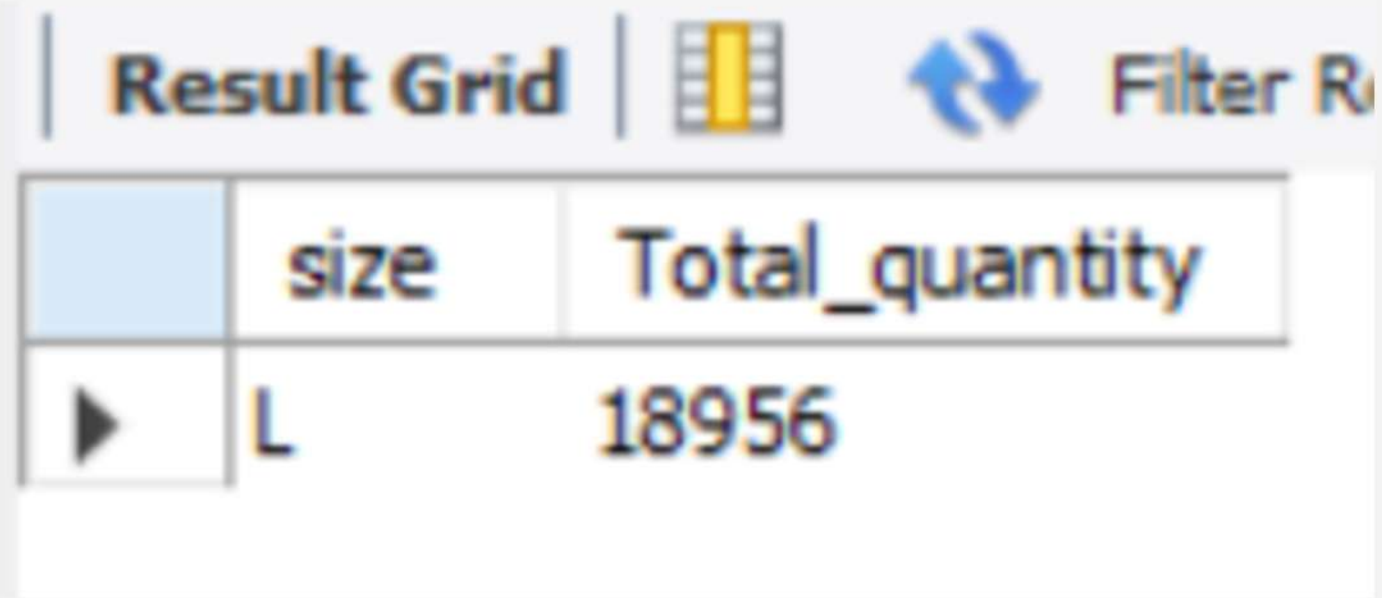
Highest Sold Pizza Size



```
 SELECT
    p.size, sum(quantity) AS Total_quantity
FROM
    pizzas AS p
        INNER JOIN
    order_details AS o ON p.pizza_id = o.pizza_id
GROUP BY p.size
ORDER BY Total_quantity DESC
LIMIT 1;
```



	size	Total_quantity
▶	L	18956

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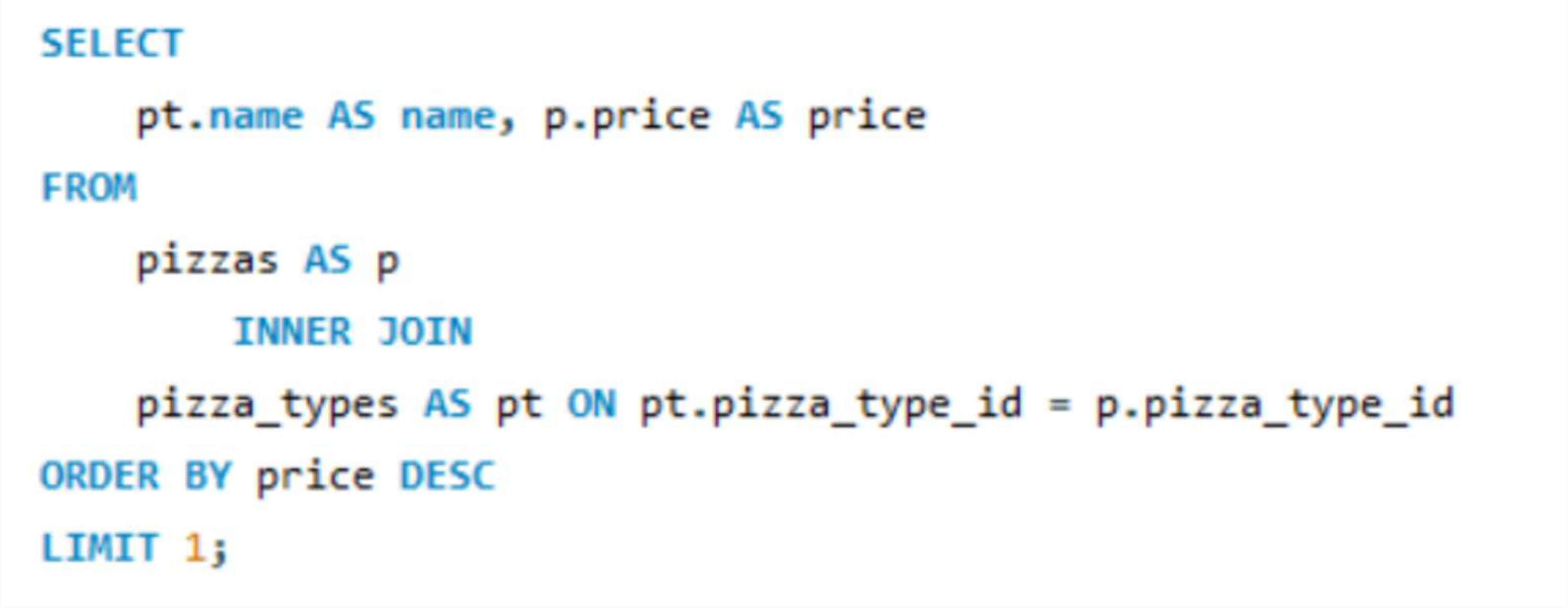
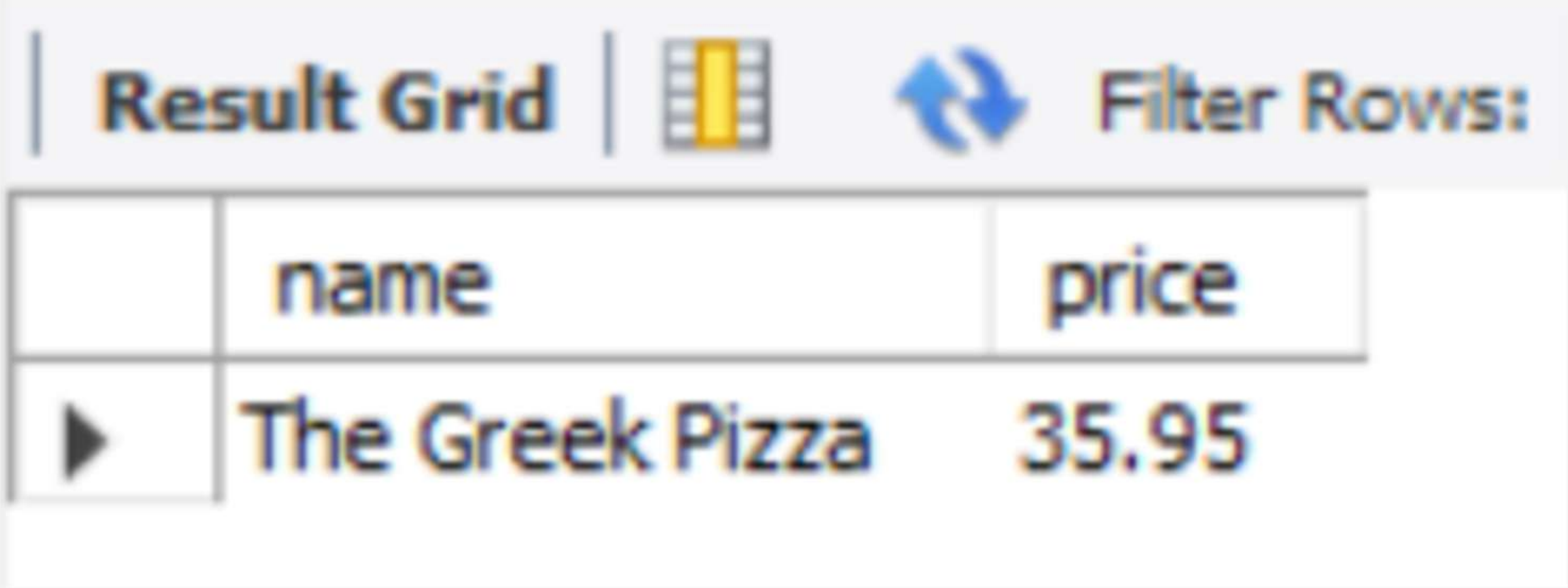
Highest-Priced Pizza



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



name	price
The Greek Pizza	35.95

Business Insights & Sales Analysis

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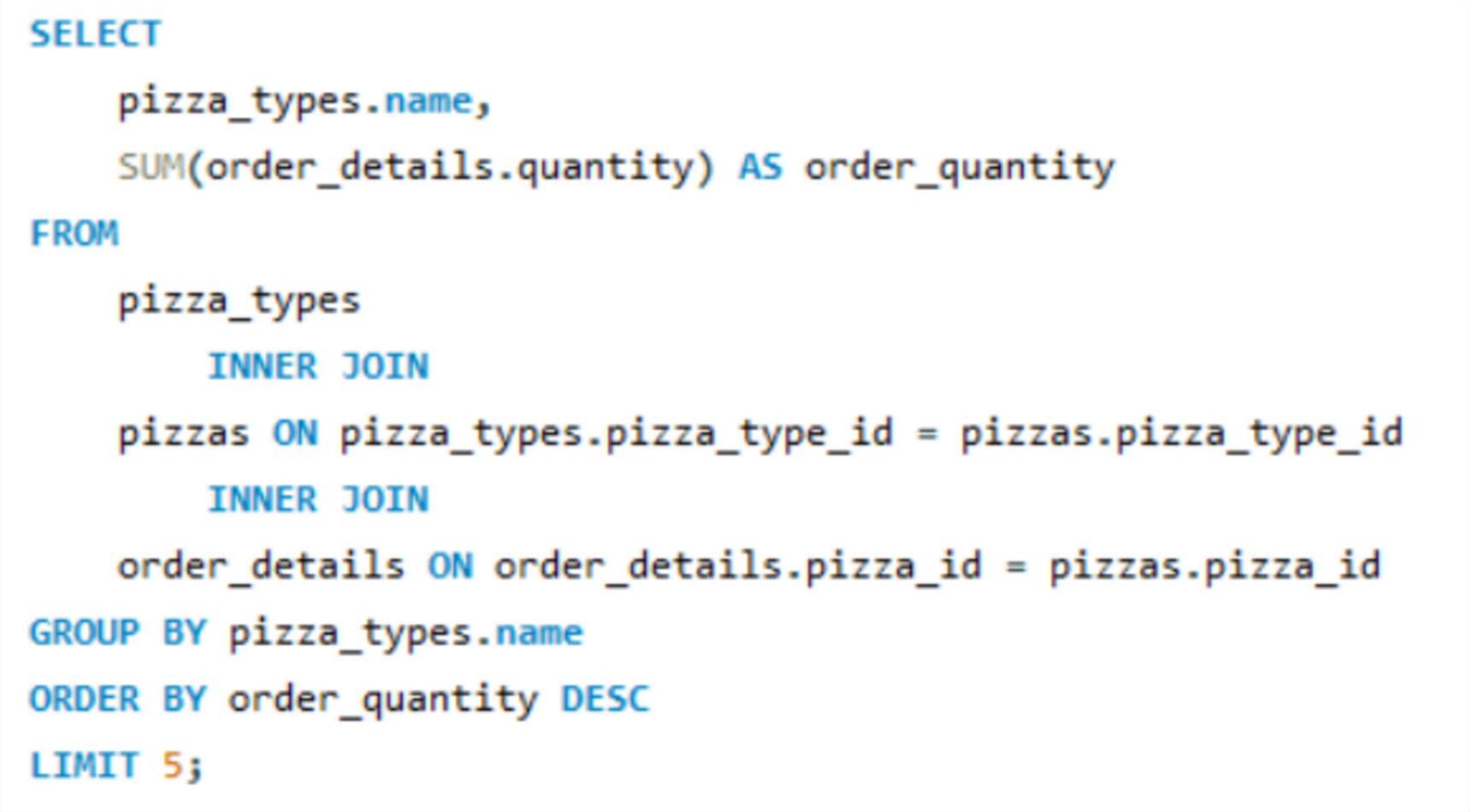
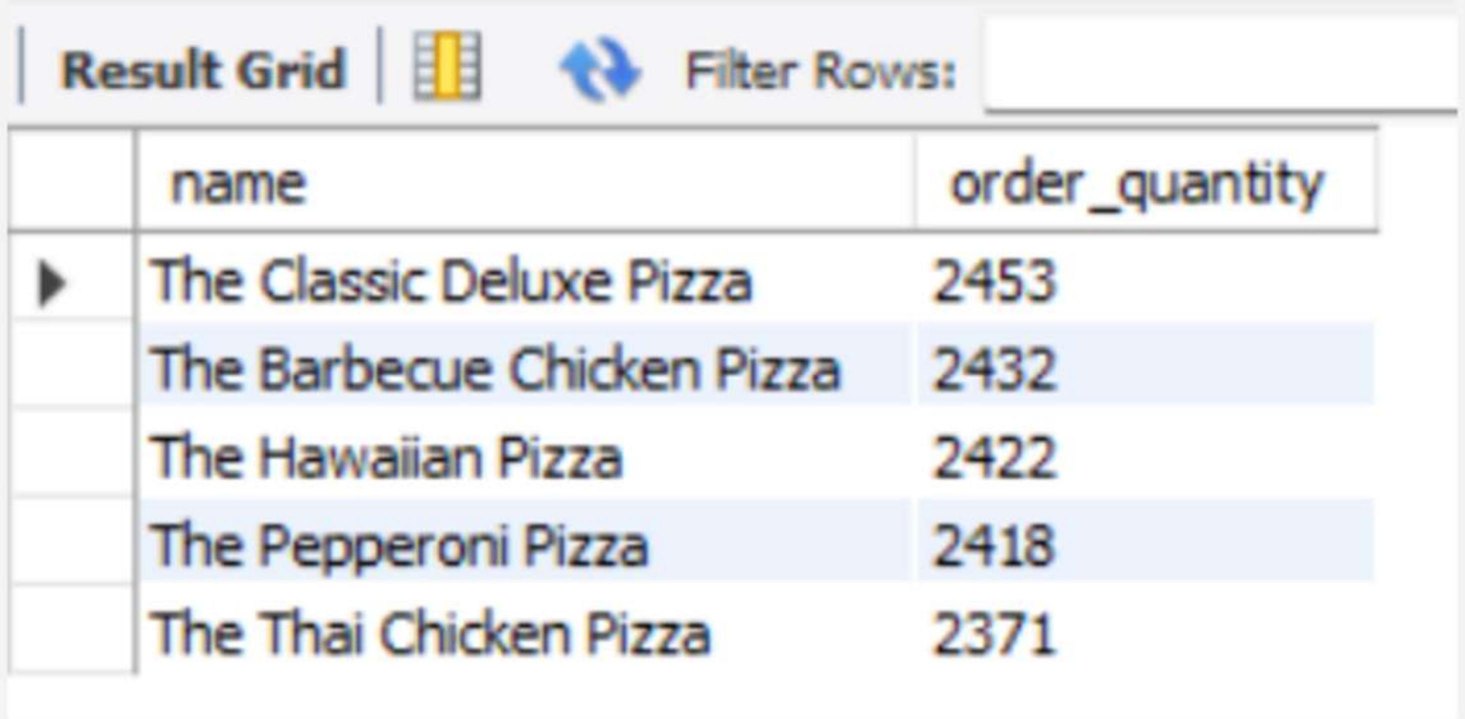
Top 5 Most Sold Pizza Types



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



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

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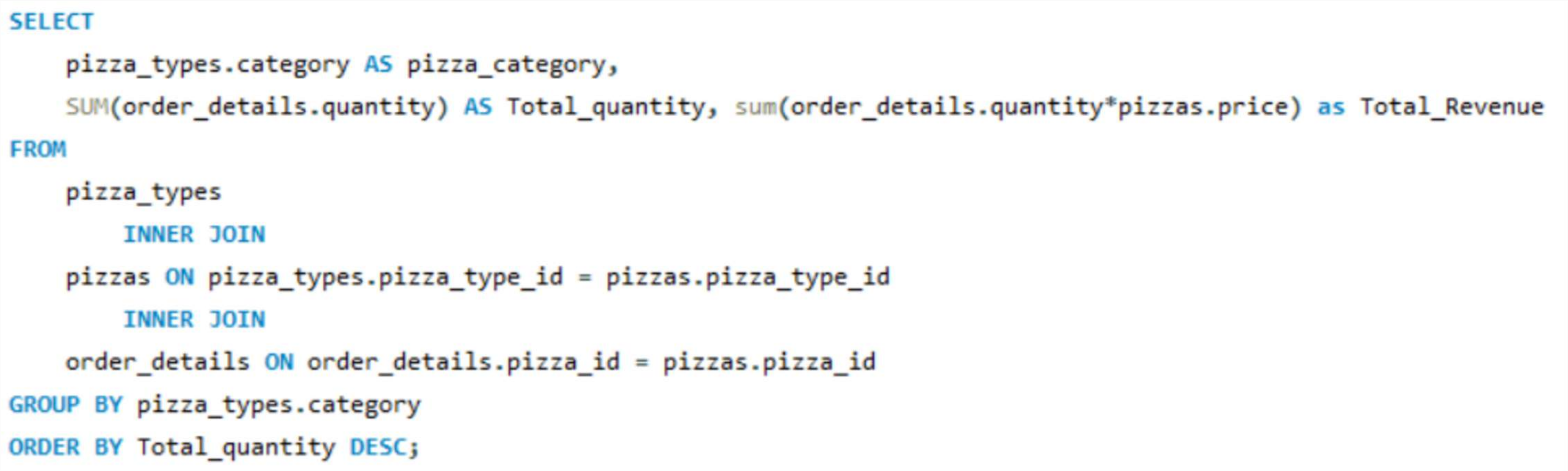
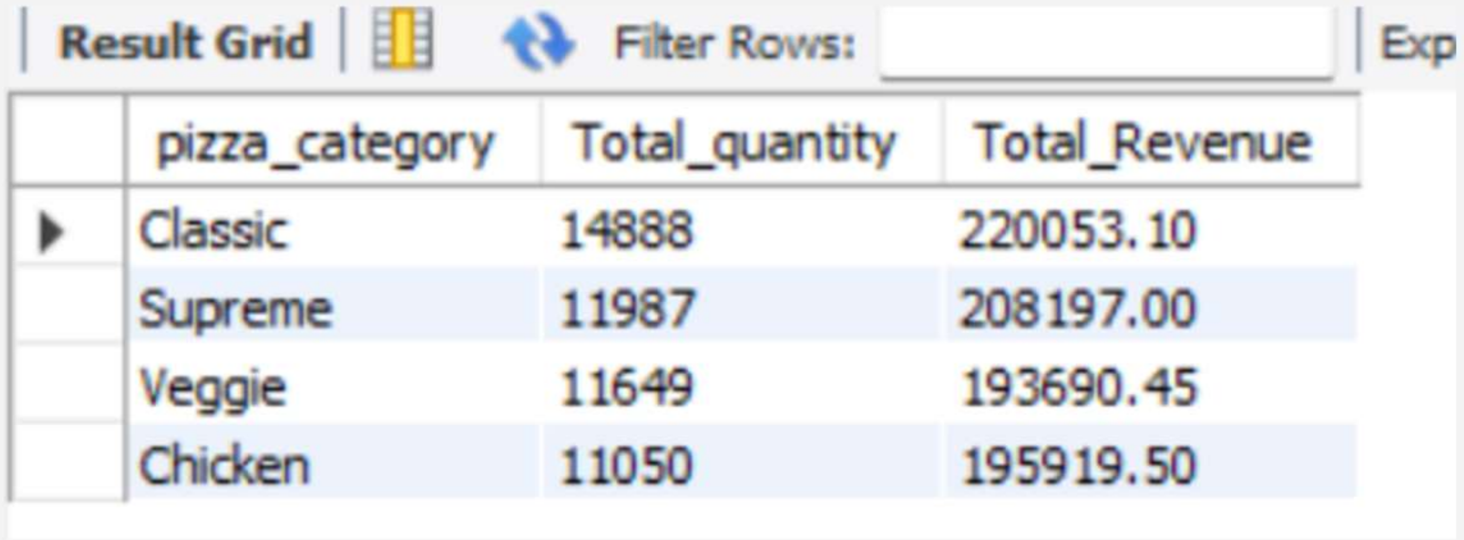
Intermediate Analysis & Trends

Category wise Pizza’s sold and Revenue generated



```
SELECT
    pizza_types.category AS pizza_category,
    SUM(order_details.quantity) AS Total_quantity, sum(order_details.quantity*pizzas.price) as Total_Revenue
FROM
    pizza_types
        INNER JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        INNER JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER BY Total_quantity DESC;
```



pizza_category	Total_quantity	Total_Revenue
Classic	14888	220053.10
Supreme	11987	208197.00
Veggie	11649	193690.45
Chicken	11050	195919.50

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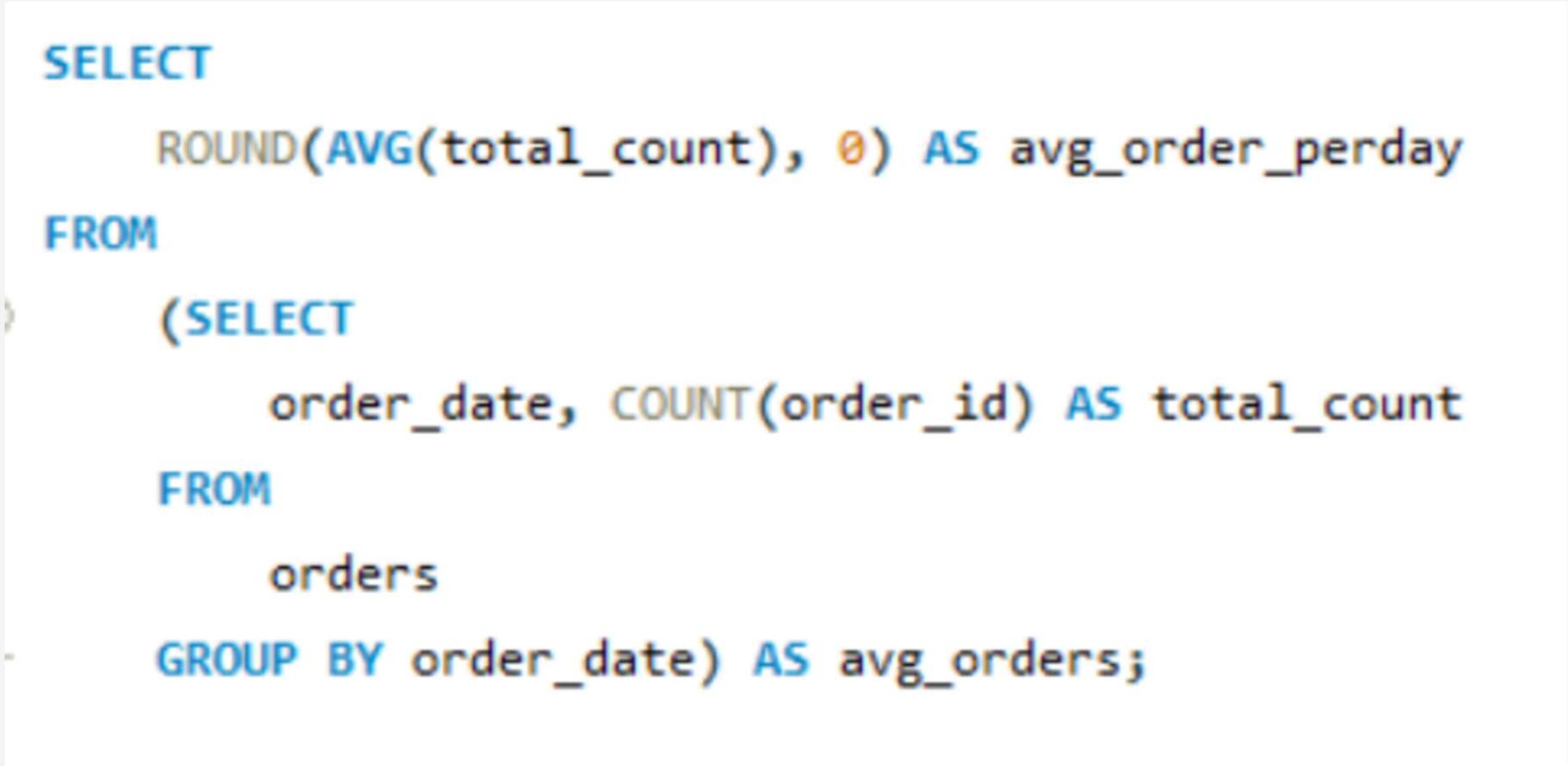
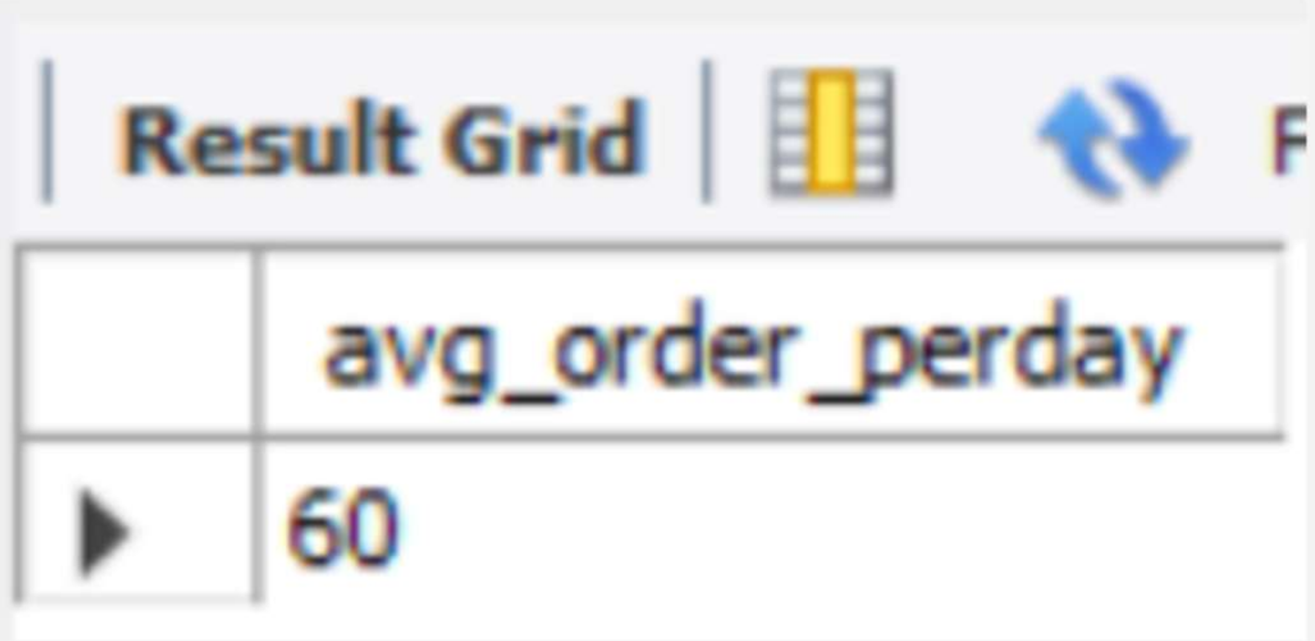
Intermediate Analysis & Trends

Daily average orders received



```
SELECT
    ROUND(AVG(total_count), 0) AS avg_order_perday
FROM
    (SELECT
        order_date, COUNT(order_id) AS total_count
    FROM
        orders
    GROUP BY order_date) AS avg_orders;
```



	avg_order_perday
▶	60

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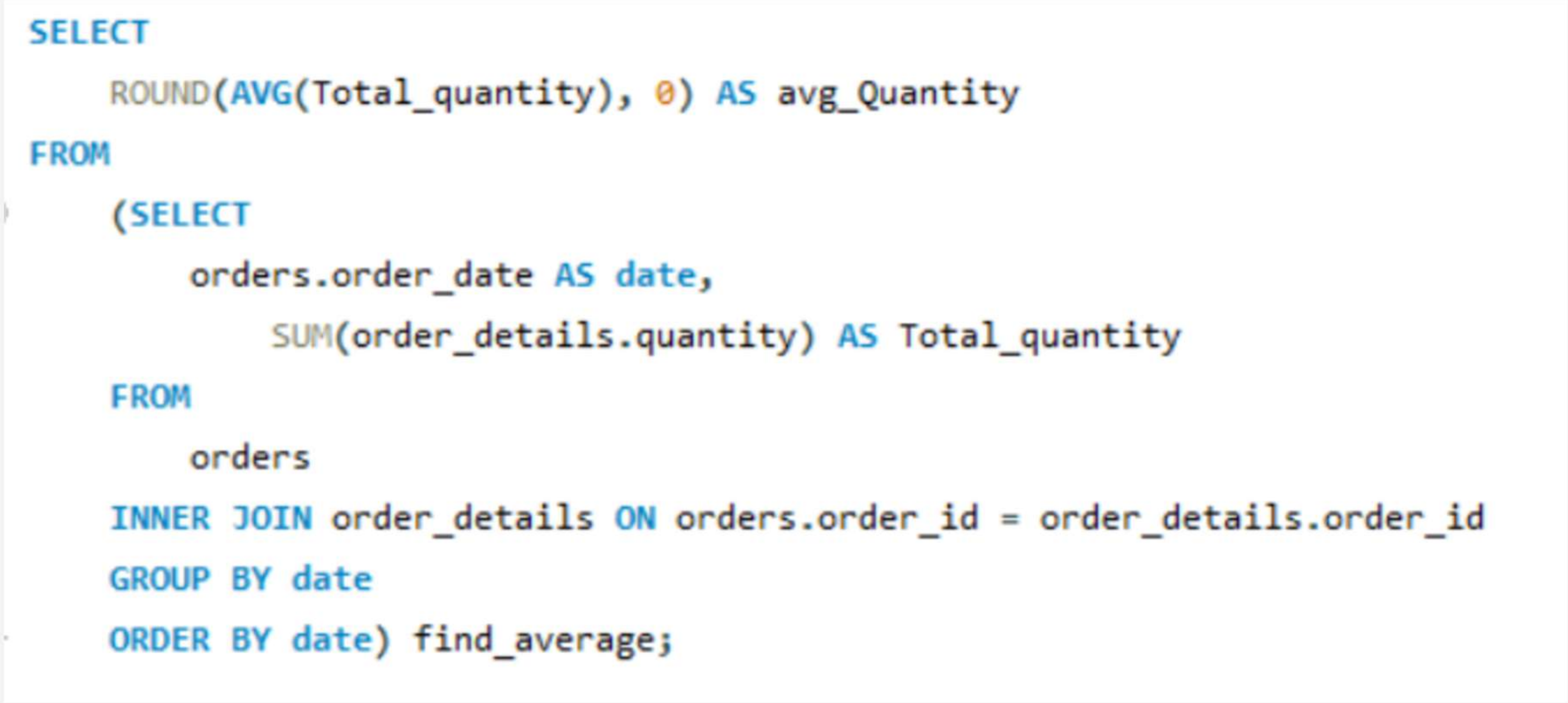
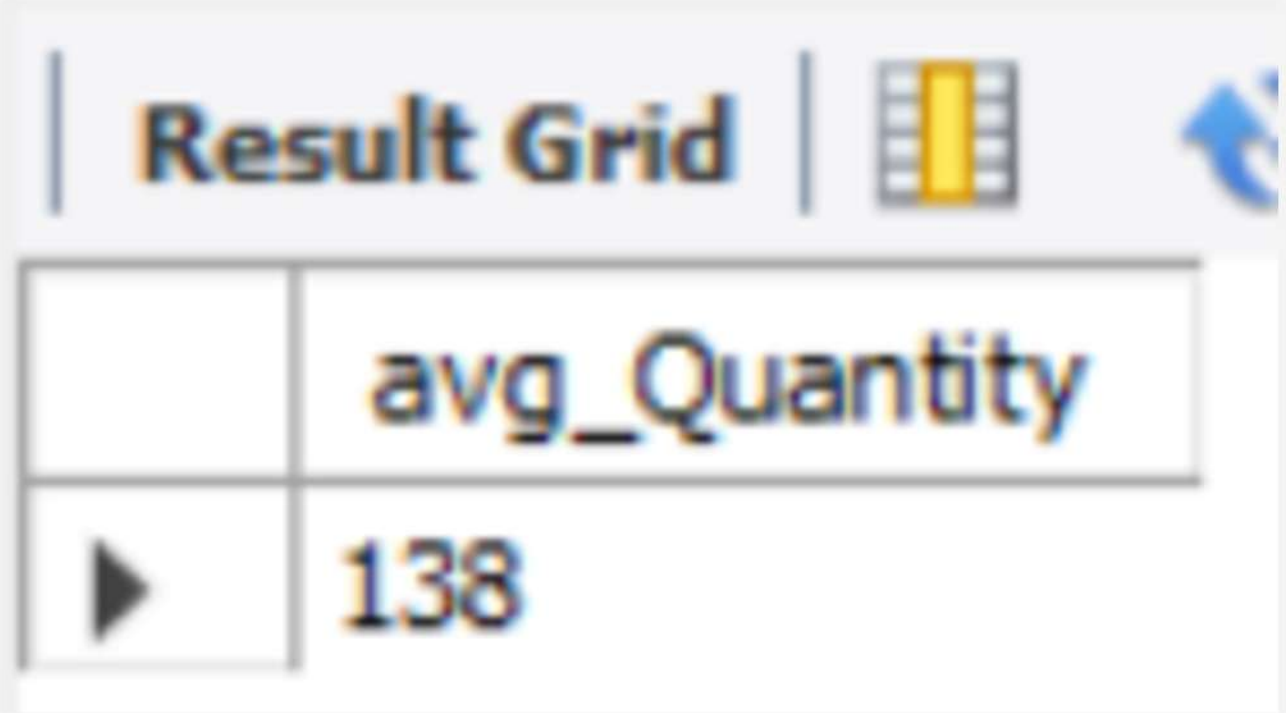
Intermediate Analysis & Trends

Daily average Pizza quantity sold



```
SELECT
    ROUND(AVG(Total_quantity), 0) AS avg_Quantity
FROM
    (SELECT
        orders.order_date AS date,
            SUM(order_details.quantity) AS Total_quantity
    FROM
        orders
    INNER JOIN order_details ON orders.order_id = order_details.order_id
    GROUP BY date
    ORDER BY date) find_average;
```



	avg_Quantity
▶	138

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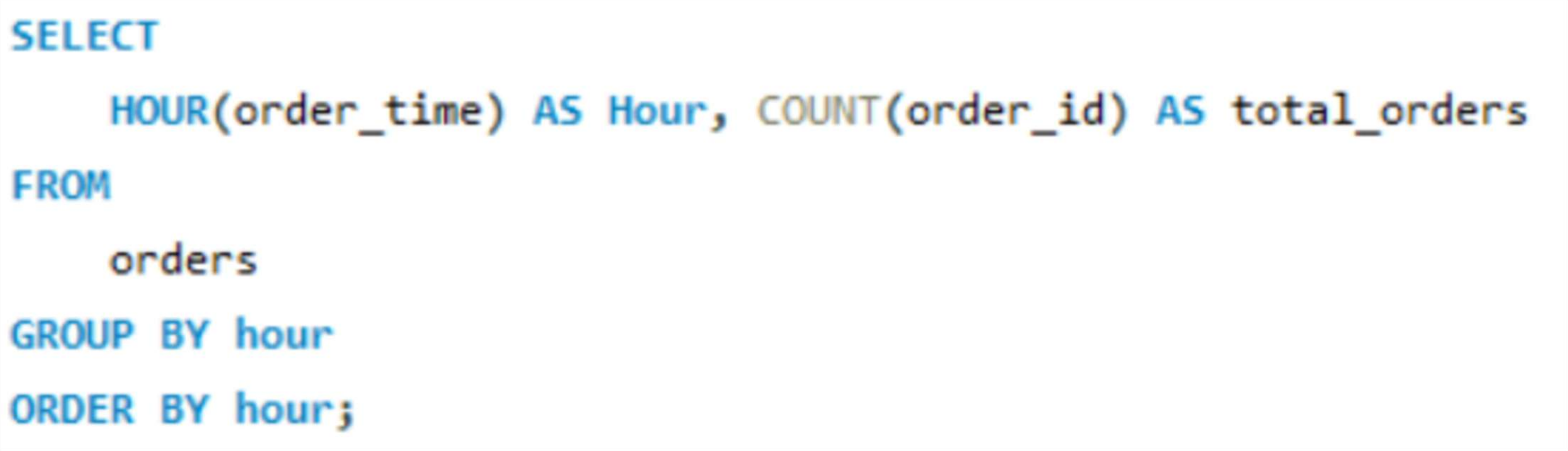
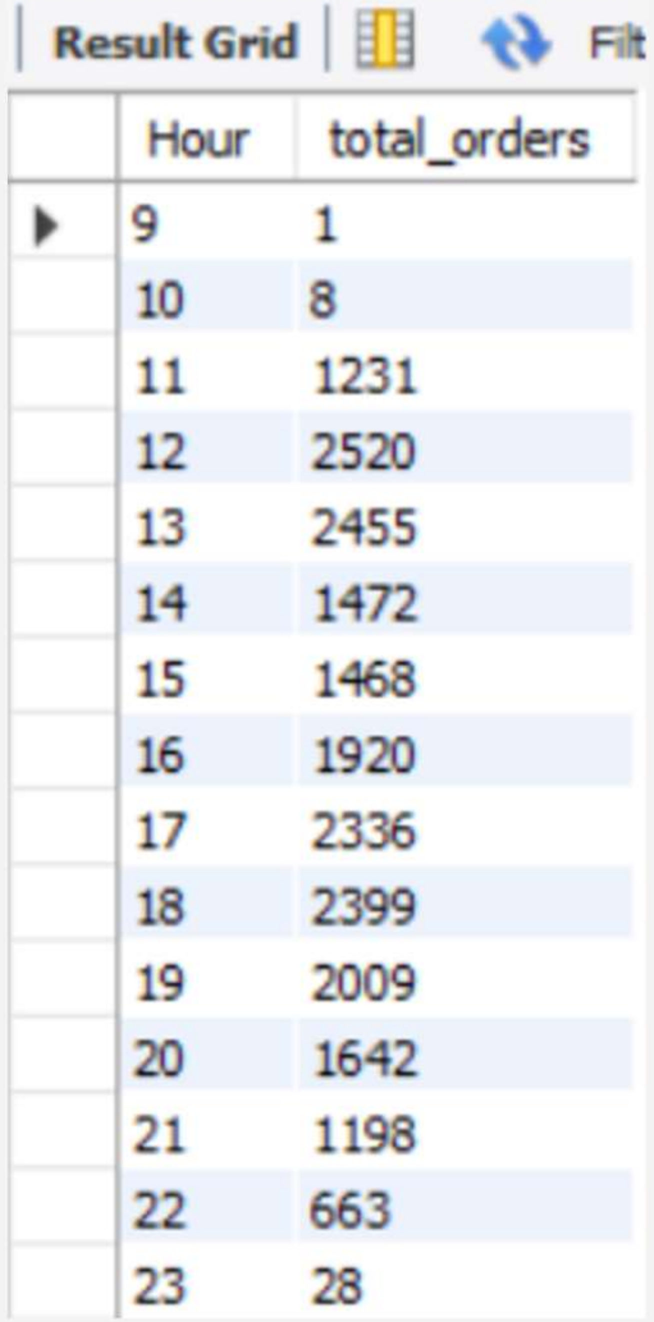
Intermediate Analysis & Trends

Order distribution by hour



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



Hour	total_orders
9	1
10	8
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

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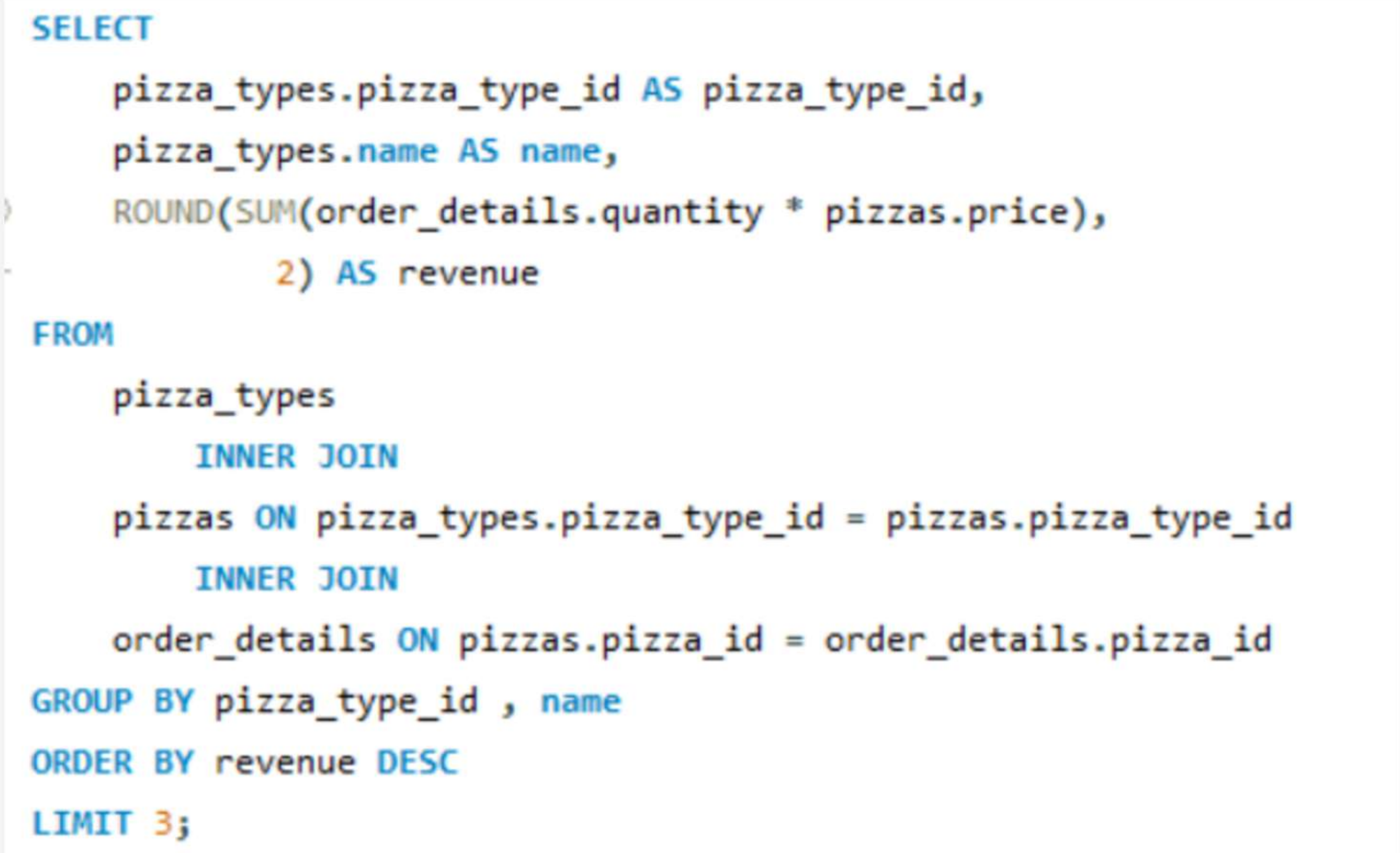
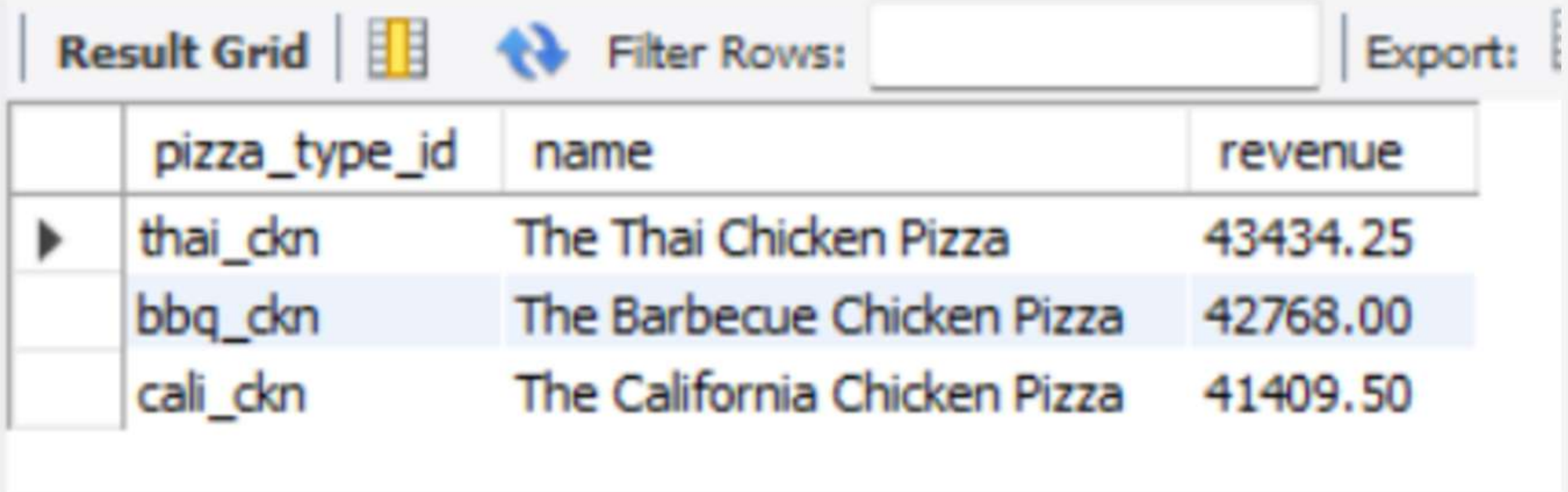
Intermediate Analysis & Trends

Top 3 Pizza Types by Revenue



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



pizza_type_id	name	revenue
thai_ckn	The Thai Chicken Pizza	43434.25
bbq_ckn	The Barbecue Chicken Pizza	42768.00
cali_ckn	The California Chicken Pizza	41409.50

Advanced Analytics & Revenue Insights

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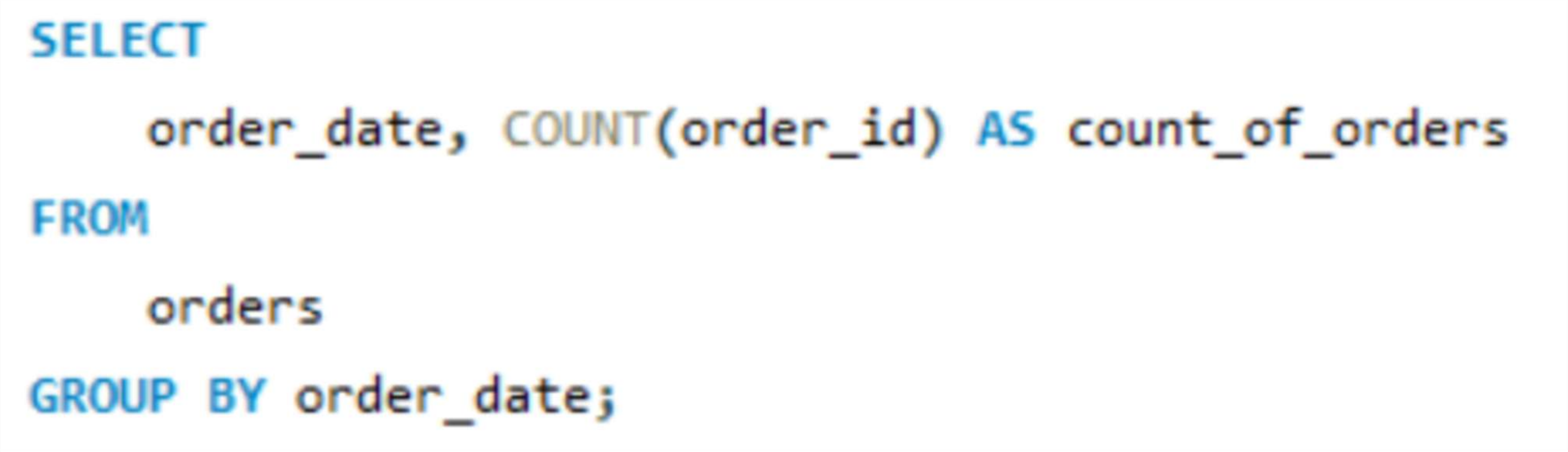
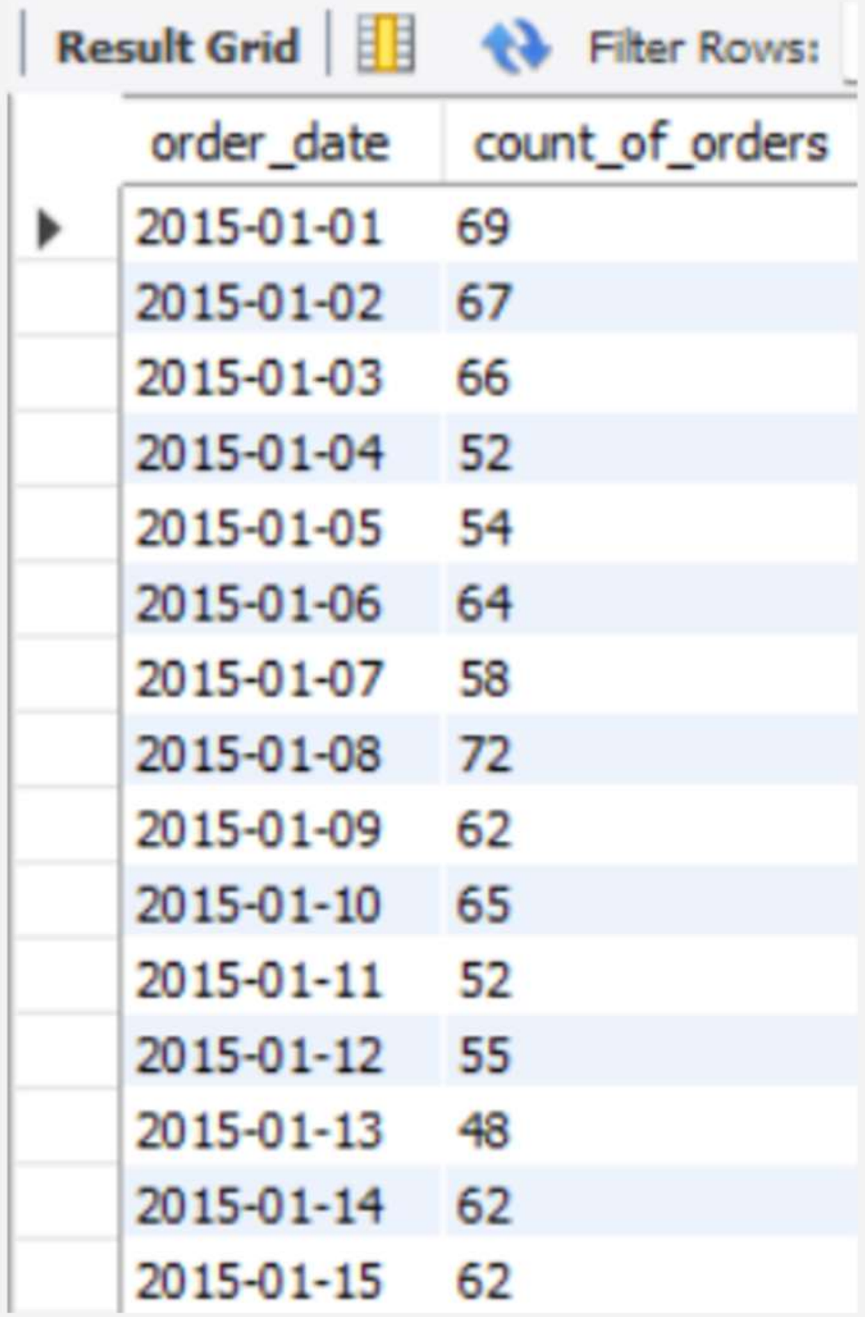
Daily Cumulative Order Count



```
SELECT
    order_date, COUNT(order_id) AS count_of_orders
FROM
    orders
GROUP BY order_date;
```



order_date	count_of_orders
2015-01-01	69
2015-01-02	67
2015-01-03	66
2015-01-04	52
2015-01-05	54
2015-01-06	64
2015-01-07	58
2015-01-08	72
2015-01-09	62
2015-01-10	65
2015-01-11	52
2015-01-12	55
2015-01-13	48
2015-01-14	62
2015-01-15	62

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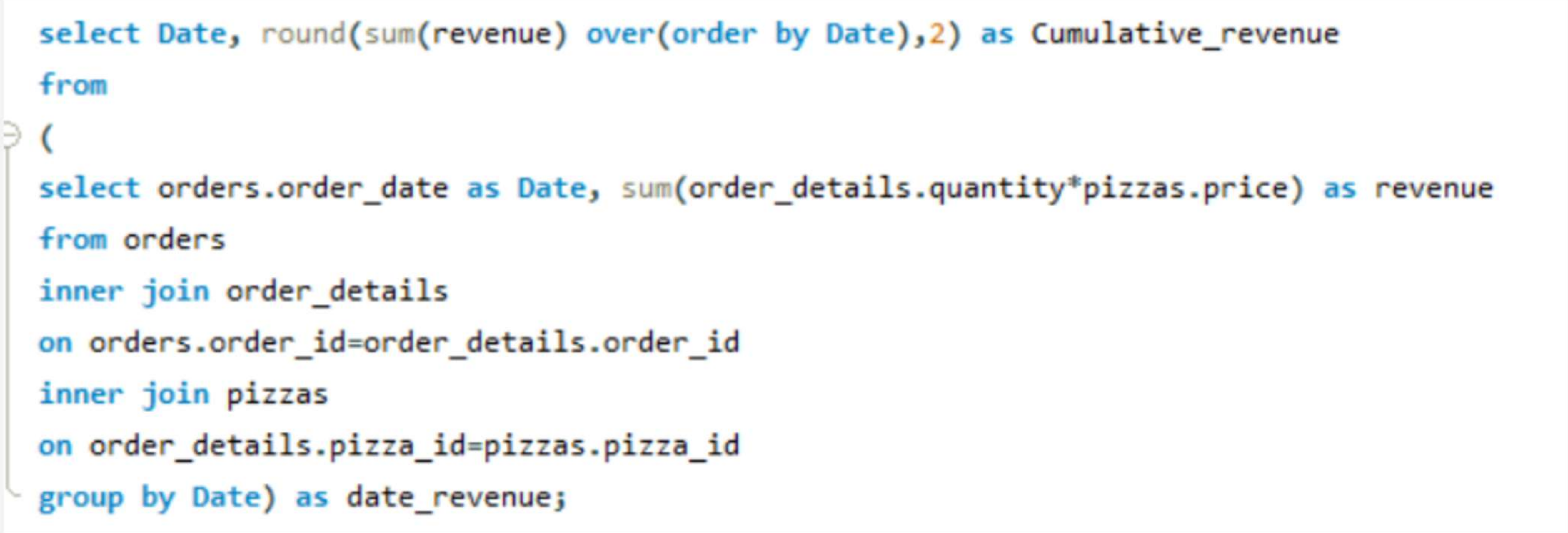
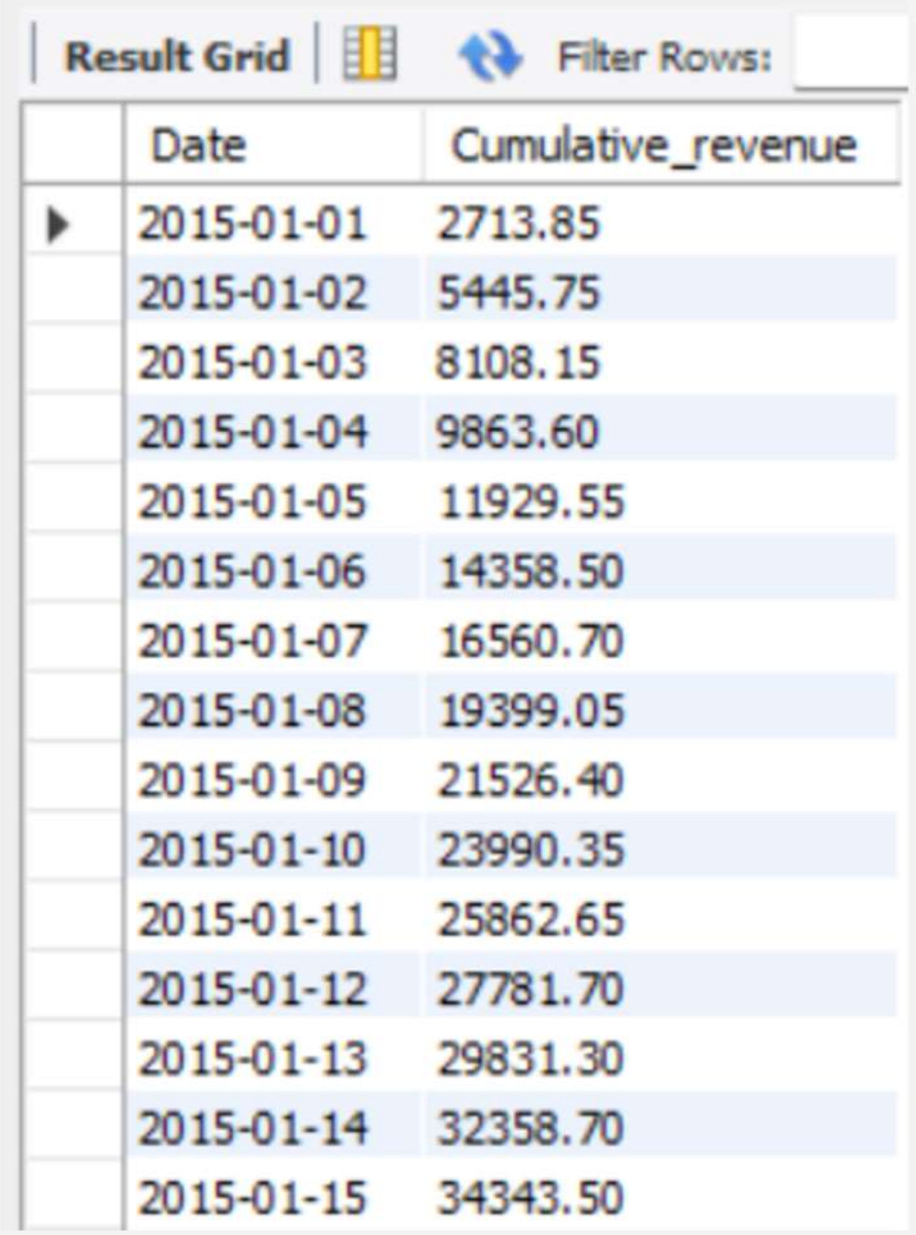
Cumulative Revenue Over Time



```
select Date, round(sum(revenue) over(order by Date),2) as Cumulative_revenue
from
(
select orders.order_date as Date, sum(order_details.quantity*pizzas.price) as revenue
from orders
inner join order_details
on orders.order_id=order_details.order_id
inner join pizzas
on order_details.pizza_id=pizzas.pizza_id
group by Date) as date_revenue;
```



Date	Cumulative_revenue
2015-01-01	2713.85
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.60
2015-01-05	11929.55
2015-01-06	14358.50
2015-01-07	16560.70
2015-01-08	19399.05
2015-01-09	21526.40
2015-01-10	23990.35
2015-01-11	25862.65
2015-01-12	27781.70
2015-01-13	29831.30
2015-01-14	32358.70
2015-01-15	34343.50

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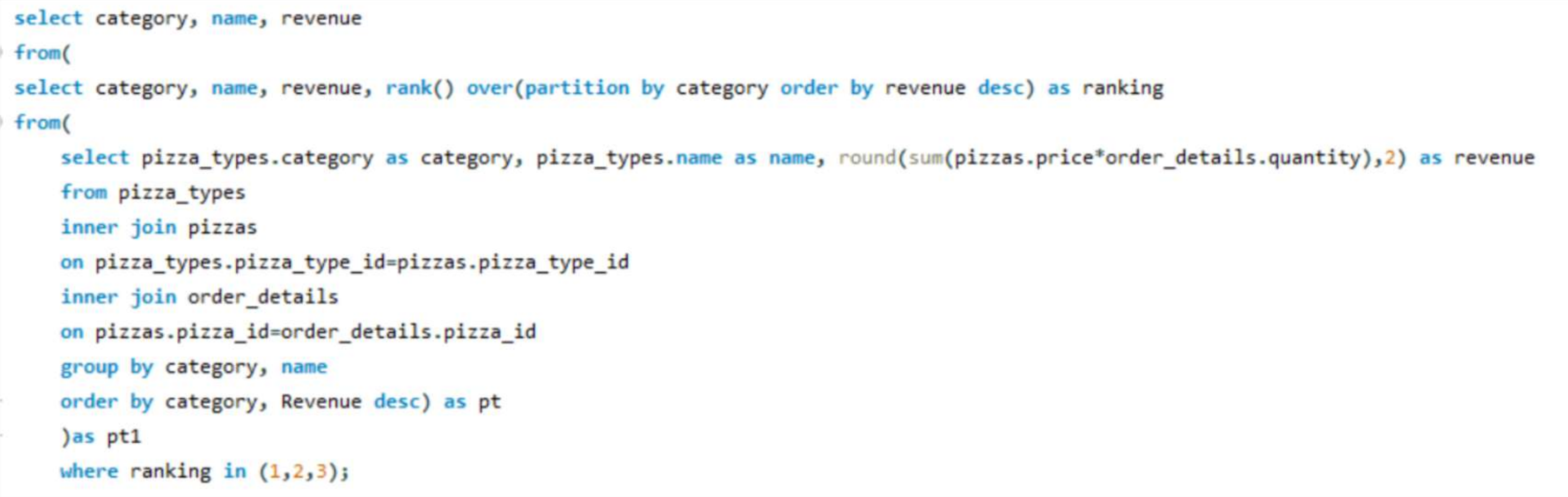
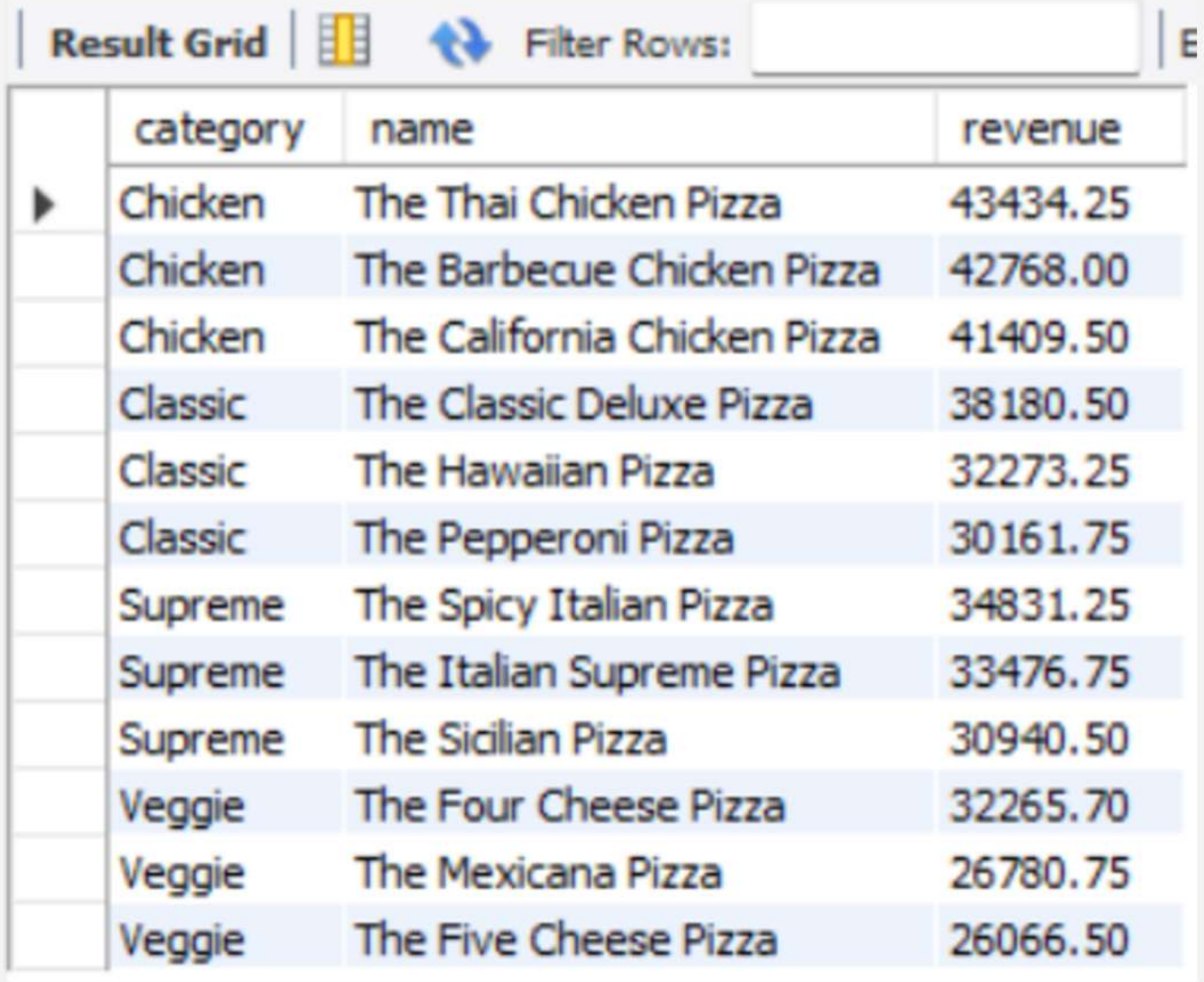
Advanced Analytics & Revenue Insights

Top 3 Pizza Types by Revenue for Each Category



```
select category, name, revenue
from(
select category, name, revenue, rank() over(partition by category order by revenue desc) as ranking
from(
    select pizza_types.category as category, pizza_types.name as name, round(sum(pizzas.price*order_details.quantity),2) as revenue
    from pizza_types
    inner join pizzas
    on pizza_types.pizza_type_id=pizzas.pizza_type_id
    inner join order_details
    on pizzas.pizza_id=order_details.pizza_id
    group by category, name
    order by category, Revenue desc) as pt
    )as pt1
    where ranking in (1,2,3);
```



category	name	revenue
Chicken	The Thai Chicken Pizza	43434.25
Chicken	The Barbecue Chicken Pizza	42768.00
Chicken	The California Chicken Pizza	41409.50
Classic	The Classic Deluxe Pizza	38180.50
Classic	The Hawaiian Pizza	32273.25
Classic	The Pepperoni Pizza	30161.75
Supreme	The Spicy Italian Pizza	34831.25
Supreme	The Italian Supreme Pizza	33476.75
Supreme	The Sicilian Pizza	30940.50
Veggie	The Four Cheese Pizza	32265.70
Veggie	The Mexicana Pizza	26780.75
Veggie	The Five Cheese Pizza	26066.50

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Thank you for your attention
comment your views on querying and analysis on Pizza Hut database