Project on

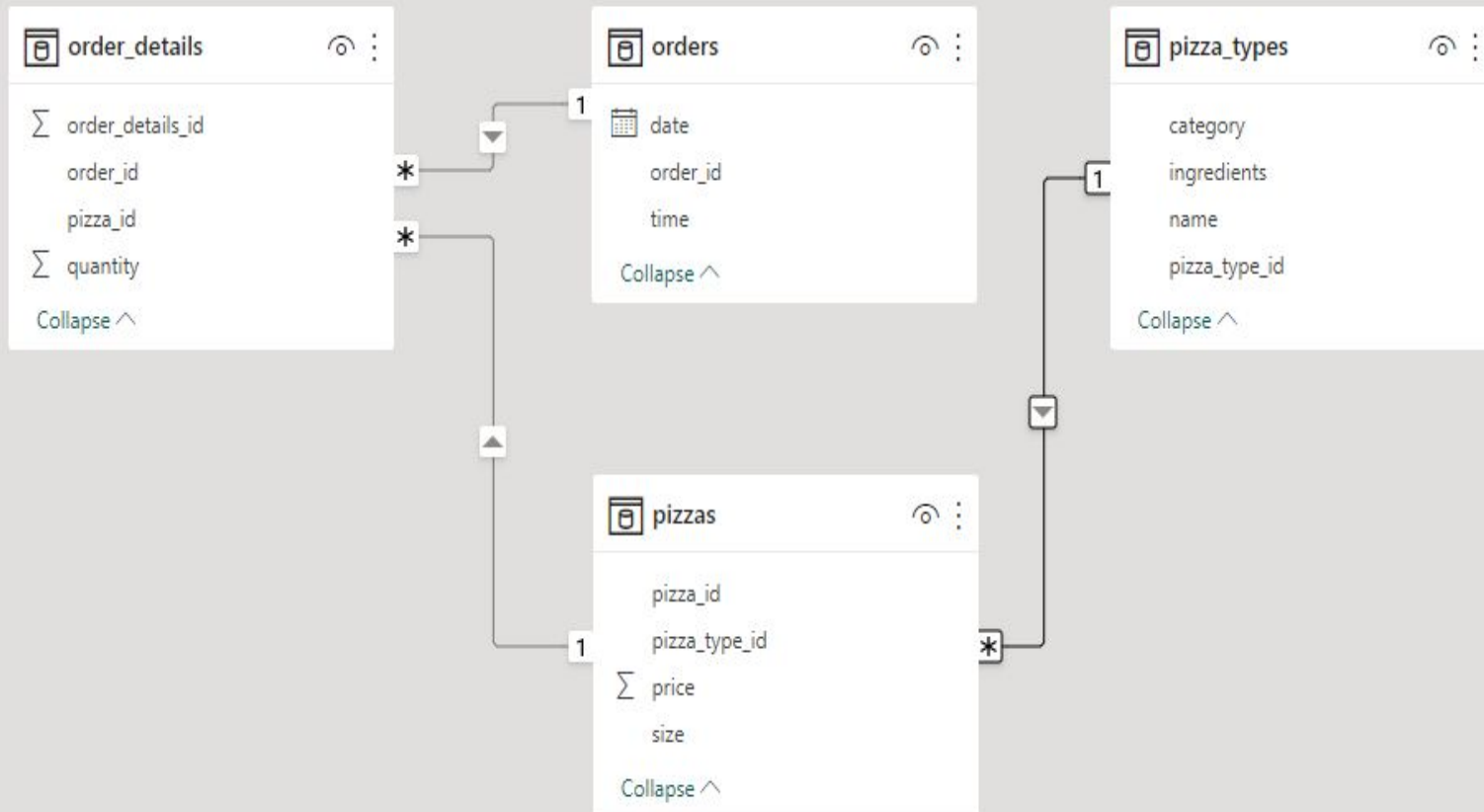# PIZZA SALES ANALYSIS

BY

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01

Introduction

This project is based on Pizza Sales for the year 2015. The analysis is completed using SQL Queries.

Data Schema
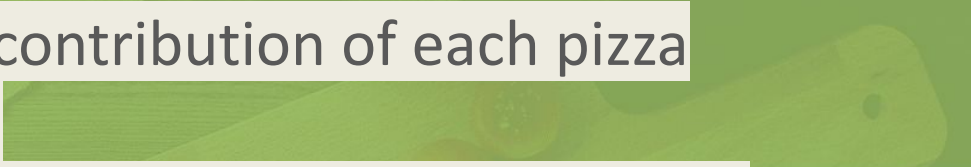
Case Study

- Retrieve the total number of orders placed.
- Calculate the total revenue generated from pizza sales.
- Calculate the quarter-wise revenue.
- Calculate the monthly Revenue from sales.
- Identify the highest-priced pizza.
- Find out the number of orders per month.
- Identify the most common pizza size ordered.
- List the top 5 most ordered pizza types along with their quantities.
- Join the necessary tables to find the total quantity of each pizza category ordered.

Case Study

- 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.
- Calculate the percentage contribution of each pizza category 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.

-- Retrieve the total number of orders placed.

```sql
SELECT
    COUNT(order_id) AS 'Total Orders'
FROM
    orders;
```

Total Orders ▲
21350

-- Calculate the total revenue generated from pizza sales.

```sql
SELECT
    ROUND((SUM(od.quantity * p.price)), 2) AS 'Total Sales'
FROM
    order_details AS od
        JOIN
    pizzas AS p ON od.pizza_id = p.pizza_id;
```

Total Sales
817860.05

-- calculate the Quarter-wise Revenue

```sql
select quarter(o.order_date) as Quarter, round(sum(od.quantity*p.price),2) as Revenue
from order_details as od
join orders as o
    on od.order_id = o.order_id
join pizzas as p
    on od.pizza_id = p.pizza_id
group by quarter(o.order_date)
order by Revenue desc ;
```

Quarter	Revenue
2	208369.75
1	205350
3	205016.2
4	199124.1

-- calculate the monthly revenue from sales

```sql
select monthname(o.order_date) as order_month, round(sum(od.quantity*p.price),2) as Revenue
from order_details as od
join orders as o
    on od.order_id = o.order_id
join pizzas as p
    on od.pizza_id = p.pizza_id
group by monthname(o.order_date)
order by Revenue desc ;
```

order_month	Revenue
July	72557.9
May	71402.75
March	70397.1
November	70395.35
January	69793.3
April	68736.8
August	68278.25
June	68230.2
February	65159.6
December	64701.15
September	64180.05
October	64027.6

-- Identify the highest-priced pizza.

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

name	price
The Greek Pizza	35.95

-- Find out the number of orders per month

```sql
select monthname(order_date) as month_name, count(order_id) as total_orders

from orders

group by monthname(order_date)

order by total_orders desc ;
```

month_name	total_orders
July	1935
May	1853
January	1845
August	1841
March	1840
April	1799
November	1792
June	1773
February	1685
December	1680
September	1661
October	1646

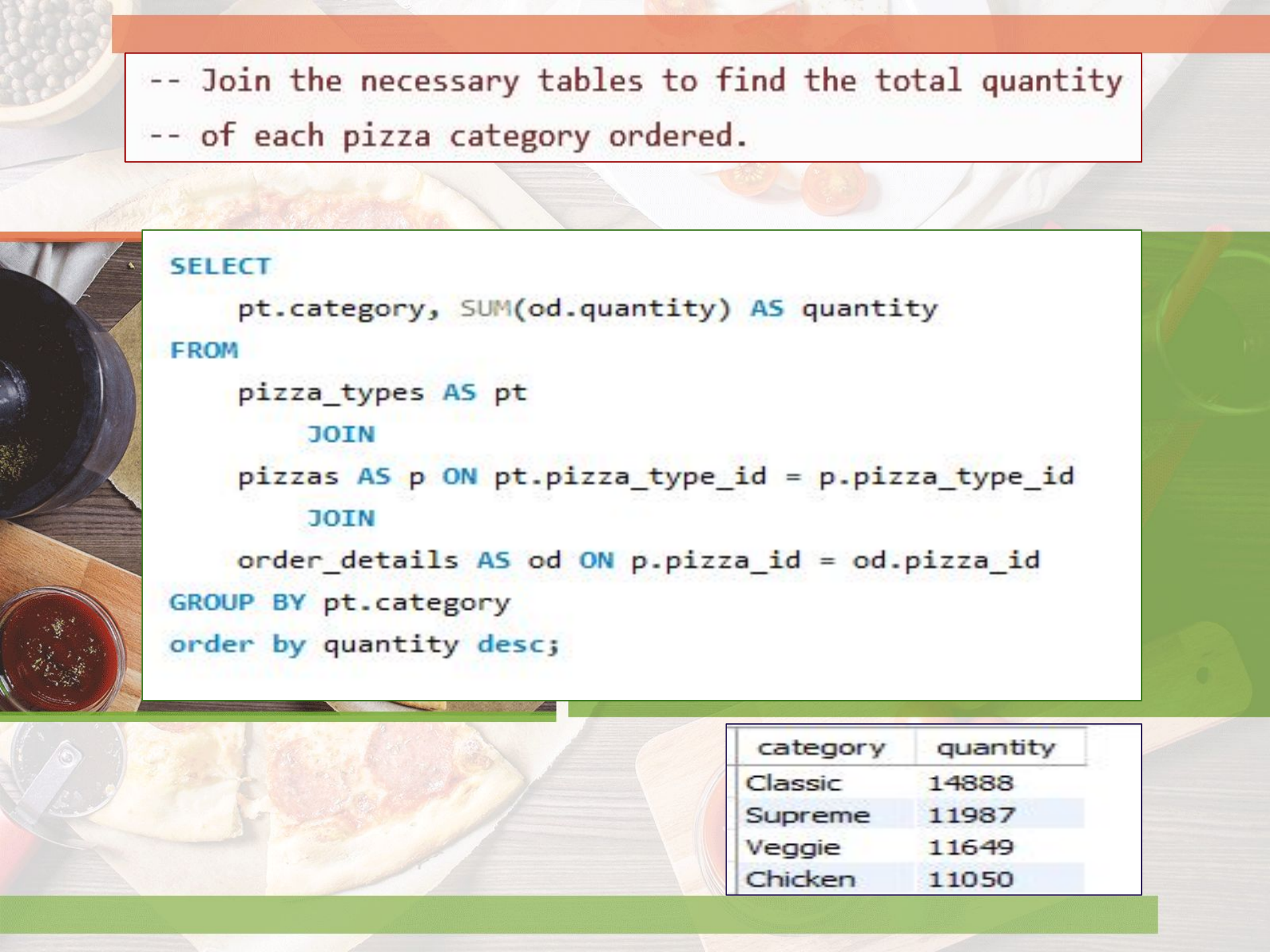-- Identify the most common pizza size ordered.

```sql
SELECT
    p.size, COUNT(od.order_details_id) AS 'Order Count'
FROM
    pizzas AS p
        JOIN
    order_details AS od ON p.pizza_id = od.pizza_id
GROUP BY p.size
ORDER BY COUNT(od.order_details_id) DESC
LIMIT 1;
```

size	Order Count
L	18526

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

```sql
SELECT
    pt.name, sum(od.quantity) AS quantity
FROM
    pizzas AS p
        JOIN
    order_details AS od ON p.pizza_id = od.pizza_id
        JOIN
    pizza_types AS pt ON p.pizza_type_id = pt.pizza_type_id
GROUP BY pt.name
ORDER BY quantity DESC
LIMIT 5;
```

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.

```sql
SELECT
    pt.category, SUM(od.quantity) AS quantity
FROM
    pizza_types AS pt
        JOIN
    pizzas AS p ON pt.pizza_type_id = p.pizza_type_id
        JOIN
    order_details AS od ON p.pizza_id = od.pizza_id
GROUP BY pt.category
order by quantity desc;
```

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

-- Determine the distribution of orders
-- by hour of the day.
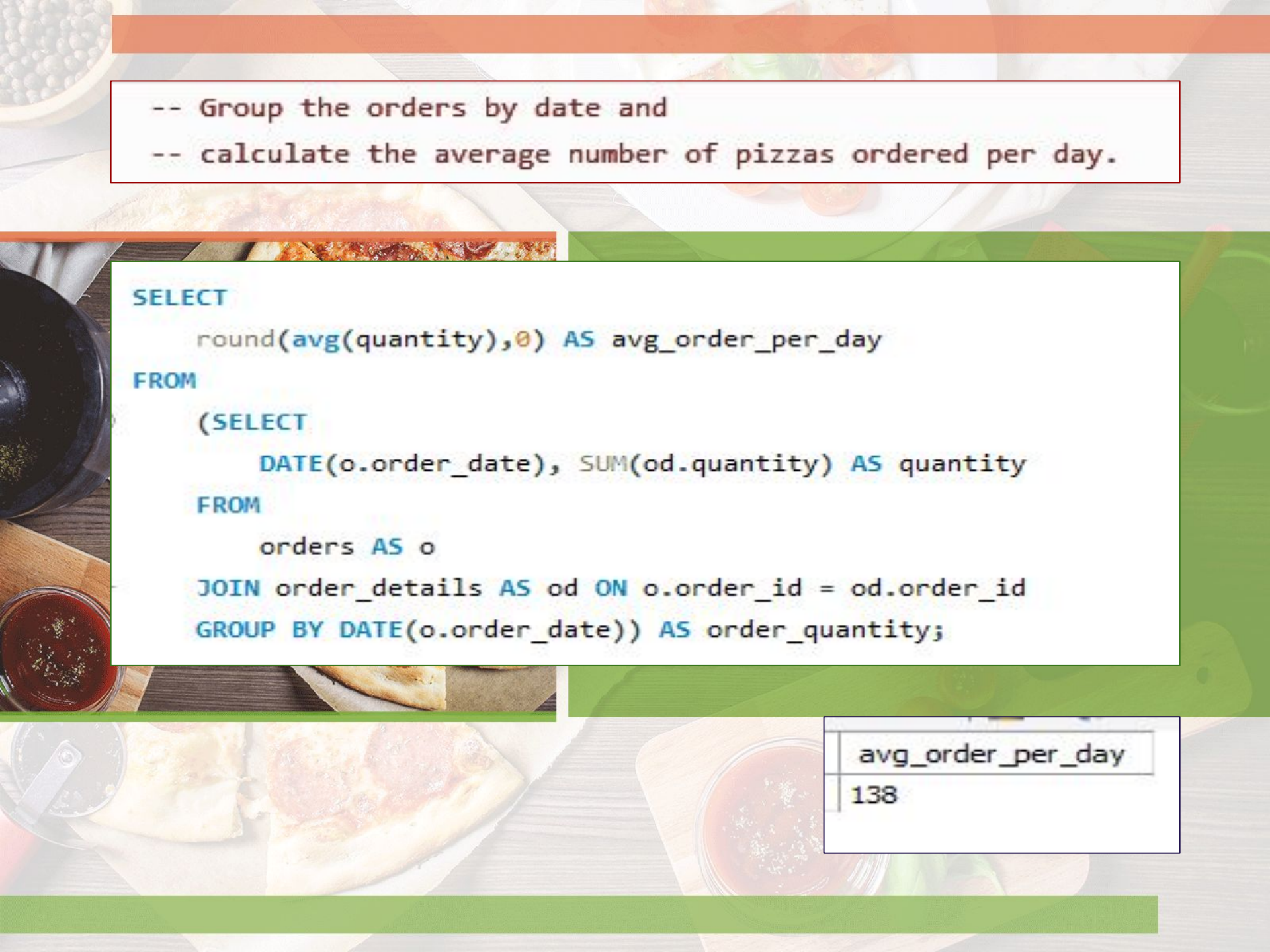
```sql
SELECT
    HOUR(order_time) AS 'Hour of the day',
    COUNT(order_id) 'Orders'
FROM
    orders
GROUP BY HOUR(order_time)
ORDER BY Orders DESC;
```

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

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

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

category	types
Chicken	6
Classic	8
Supreme	9
Veggie	9

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

```sql
SELECT
    round(avg(quantity),0) AS avg_order_per_day
FROM
    (SELECT
        DATE(o.order_date), SUM(od.quantity) AS quantity
    FROM
        orders AS o
    JOIN order_details AS od ON o.order_id = od.order_id
    GROUP BY DATE(o.order_date)) AS order_quantity;
```

avg_order_per_day
138

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

```sql
select pt.name, sum(od.quantity * p.price) as revenue
from pizzas as p
join pizza_types as pt
on p.pizza_type_id = pt.pizza_type_id
join order_details as od
on p.pizza_id = od.pizza_id
group by pt.name
order by revenue desc limit 3;
```

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

-- Calculate the percentage contribution
-- of each pizza category to total revenue.

```sql
select pt.category, round((sum(od.quantity * p.price) / (select sum(od.quantity * p.price) as total_revenue
                                                          from pizzas as p
                                                          join order_details as od
                                                            on p.pizza_id = od.pizza_id) * 100),2)as revenue_perc
from pizzas as p
join pizza_types as pt
    on p.pizza_type_id = pt.pizza_type_id
join order_details as od
    on p.pizza_id = od.pizza_id
group by pt.category ;
```

category	revenue_perc
Classic	26.91
Veggie	23.68
Supreme	25.46
Chicken	23.96

-- Analyze the cumulative revenue generated over time.

```sql
select order_date, revenue, sum(revenue) over (order by order_date) as cumulative_revenue
from      (select o.order_date, round(sum(od.quantity * p.price),2) as revenue
          from pizzas as p
          join order_details as od
              on p.pizza_id = od.pizza_id
          join orders as o
              on od.order_id = o.order_id
          group by order_date) as sales ;
```

order_date	revenue	cumulative_revenue
2015-01-01	2713.85	2713.85
2015-01-02	2731.9	5445.75
2015-01-03	2662.4	8108.15
2015-01-04	1755.45	9863.6
2015-01-05	2065.95	11929.55
2015-01-06	2428.95	14358.5
2015-01-07	2202.2	16560.7
2015-01-08	2838.35	19399.05
2015-01-09	2127.35	21526.399999999998

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

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

category	name	revenue
Chicken	The Thai Chicken Pizza	43434.25
Chicken	The Barbecue Chicken Pizza	42768
Chicken	The California Chicken Pizza	41409.5
Classic	The Classic Deluxe Pizza	38180.5
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	30940.5
Veggie	The Four Cheese Pizza	32265.700
Veggie	The Mexicana Pizza	26780.75
Veggie	The Five Cheese Pizza	26066.5

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Insights

★ The Classic Deluxe Pizza is the most ordered

★ The Thai Chicken Pizza contributes the highest Revenue

★ Month of July shows a highest sales of $ 72557.9

★ Second quarter of the year has more orders and revenue contribution

★ 4th quarter is the least revenue earned in the year

★ The Most ordered pizza size is Large

★ Classic category has the highest orders of pizzas & contributes to the 26.9 % of revenue followed by supreme with 25.46%

Suggestions

➢ **concentrate on the sales of the 2nd quarter of the year**

➢ **Increase the production of Thai Chicken Pizza which brings the highest revenue**

➢ **Include more varieties in Classic pizza and reduce the veg pizzas to top 3 varieties**

➢ **Concentrate on Afternoon to evening sales (peak time 12 pm -5 pm)**

➢ **Increase marketing during the 3rd & 4th quarter of the year**

THANK YOU