PIZZA SALES ANALYSIS USING MySQL
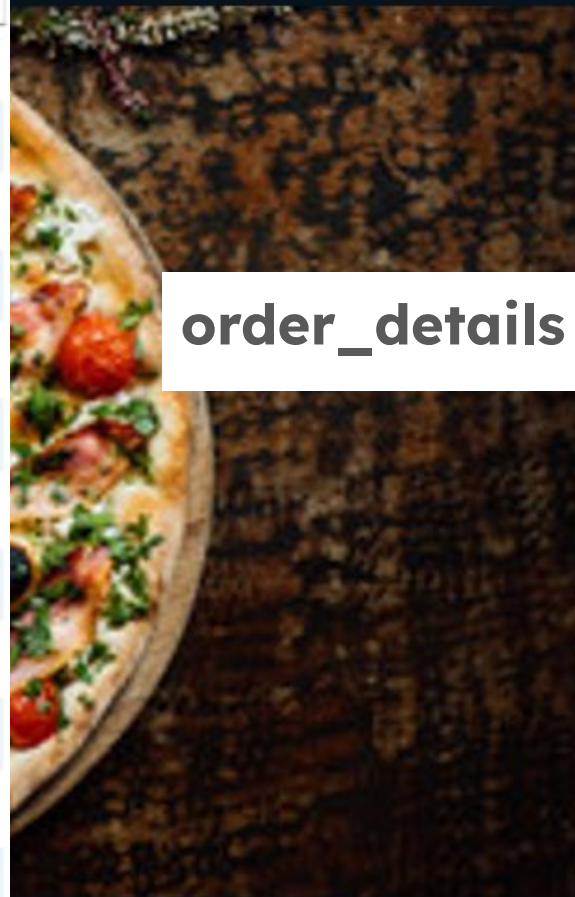
DATA OVERVIEW

order_details_id	order_id	pizza_id	quantity
1	1	hawaiian_m	1
2	2	classic_dlx_m	1
3	2	five_cheese_l	1
4	2	ital_supr_l	1
5	2	mexicana_m	1
6	2	thai_ckn_l	1
7	3	ital_supr_m	1
8	3	prsc_argla_l	1
9	4	ital_supr_m	1
10	5	ital_supr_m	1
11	6	bbq_ckn_s	1
12	6	the_greek_s	1
13	7	spinach_sup...	1

order_details

orders

order_id	date	time
1	2015-01-01	11:38:36
2	2015-01-01	11:57:40
3	2015-01-01	12:12:28
4	2015-01-01	12:16:31
5	2015-01-01	12:21:30
6	2015-01-01	12:29:36
7	2015-01-01	12:50:37
8	2015-01-01	12:51:37
9	2015-01-01	12:52:01
10	2015-01-01	13:00:15
11	2015-01-01	13:02:59
12	2015-01-01	13:04:41
13	2015-01-01	13:11:55

pizza_type_id	name	category	ingredients
bbq_ckn	The Barbecue Chicken Pi...	Chicken	Barbecued Chicken, Red ...
cali_ckn	The California Chicken Pi...	Chicken	Chicken, Artichoke, Spin...
ckn_alfredo	The Chicken Alfredo Pizza	Chicken	Chicken, Red Onions, Re...
ckn_pesto	The Chicken Pesto Pizza	Chicken	Chicken, Tomatoes, Red...
southw_ckn	The Southwest Chicken ...	Chicken	Chicken, Tomatoes, Red...
thai_ckn	The Thai Chicken Pizza	Chicken	Chicken, Pineapple, Tom...
big_meat	The Big Meat Pizza	Classic	Bacon, Pepperoni, Italia...
classic_dlx	The Classic Deluxe Pizza	Classic	Pepperoni, Mushrooms, ...
hawaiian	The Hawaiian Pizza	Classic	Sliced Ham, Pineapple, ...
ital_cpcllo	The Italian Capocollo Piz...	Classic	Capocollo, Red Peppers, ...
napolitana	The Napolitana Pizza	Classic	Tomatoes, Anchovies, G...
pep_msh_pep	The Pepperoni, Mushroo...	Classic	Pepperoni, Mushrooms, ...
pepperoni	The Pepperoni Pizza	Classic	Mozzarella Cheese, Pepp...
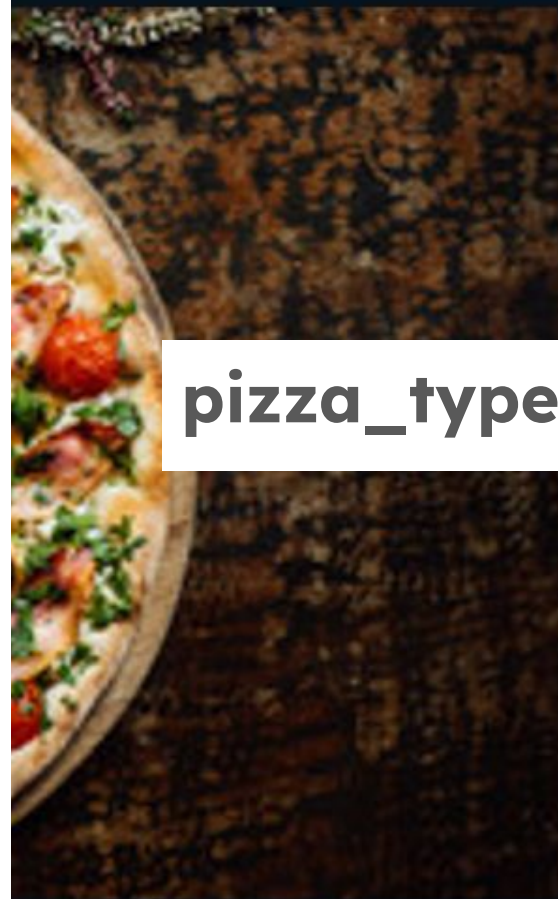
pizza_types

pizzas

pizza_id	pizza_type_id	size	price
bbq_ckn_s	bbq_ckn	S	12.75
bbq_ckn_m	bbq_ckn	M	16.75
bbq_ckn_l	bbq_ckn	L	20.75
cali_ckn_s	cali_ckn	S	12.75
cali_ckn_m	cali_ckn	M	16.75
cali_ckn_l	cali_ckn	L	20.75
ckn_alfredo_s	ckn_alfredo	S	12.75
ckn_alfredo_m	ckn_alfredo	M	16.75
ckn_alfredo_l	ckn_alfredo	L	20.75
ckn_pesto_s	ckn_pesto	S	12.75
ckn_pesto_m	ckn_pesto	M	16.75
ckn_pesto_l	ckn_pesto	L	20.75
southw_ckn_s	southw_ckn	S	12.75

Q1) Retrieve the total number of orders placed.

```sql
1  SELECT count(order_id)
2  as total FROM orders;
```
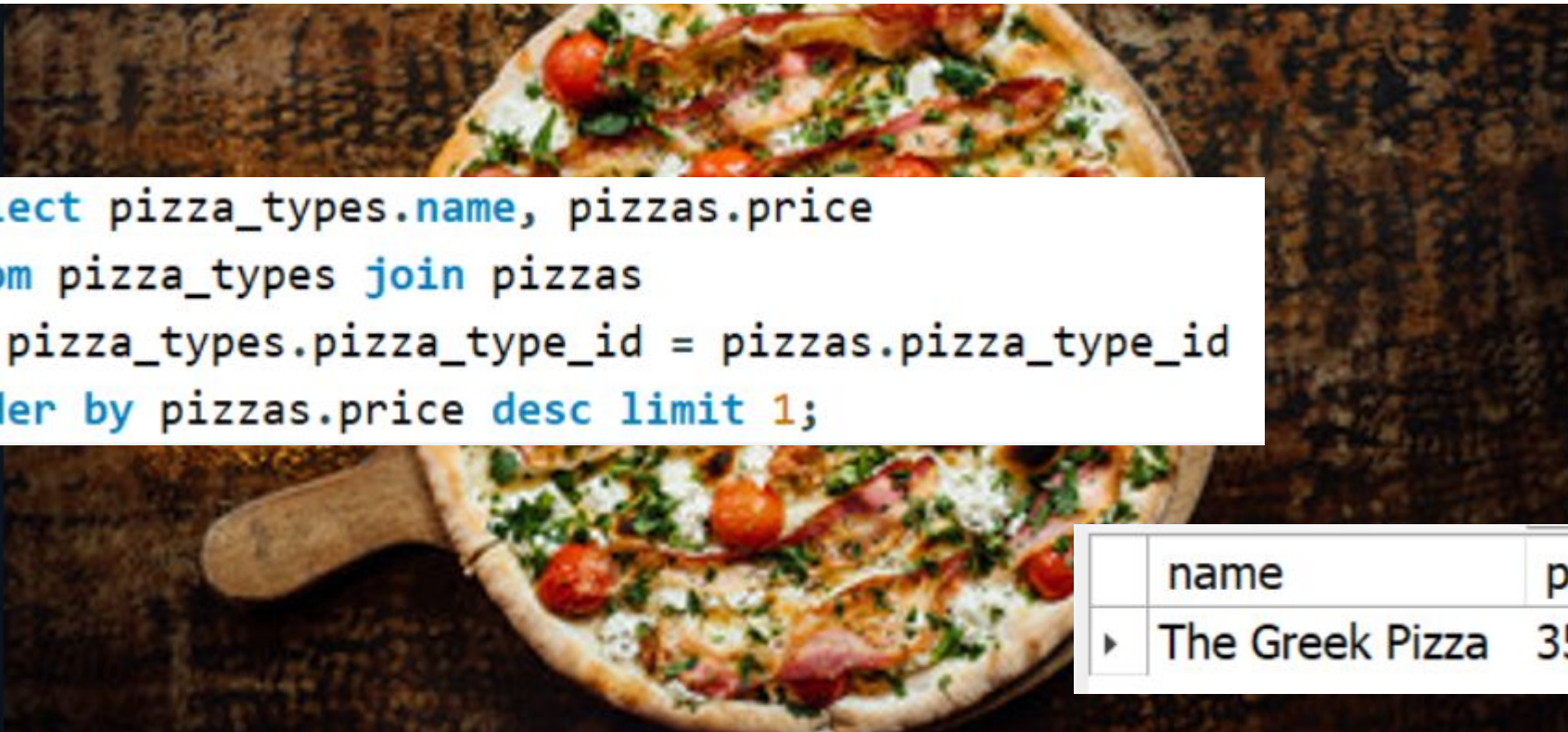
total
▸ 19214

Q2) Calculate the total revenue generated by the pizza sales?

```sql
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

Q3) Identify highest priced pizza

```sql
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

Q4) Identify the most common pizza size ordered

```sql
SELECT
    pizzas.size,
    COUNT(order_details.order_details_id) AS order_count
FROM
    pizzas
        JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
GROUP BY pizzas.size
ORDER BY order_count DESC;
```
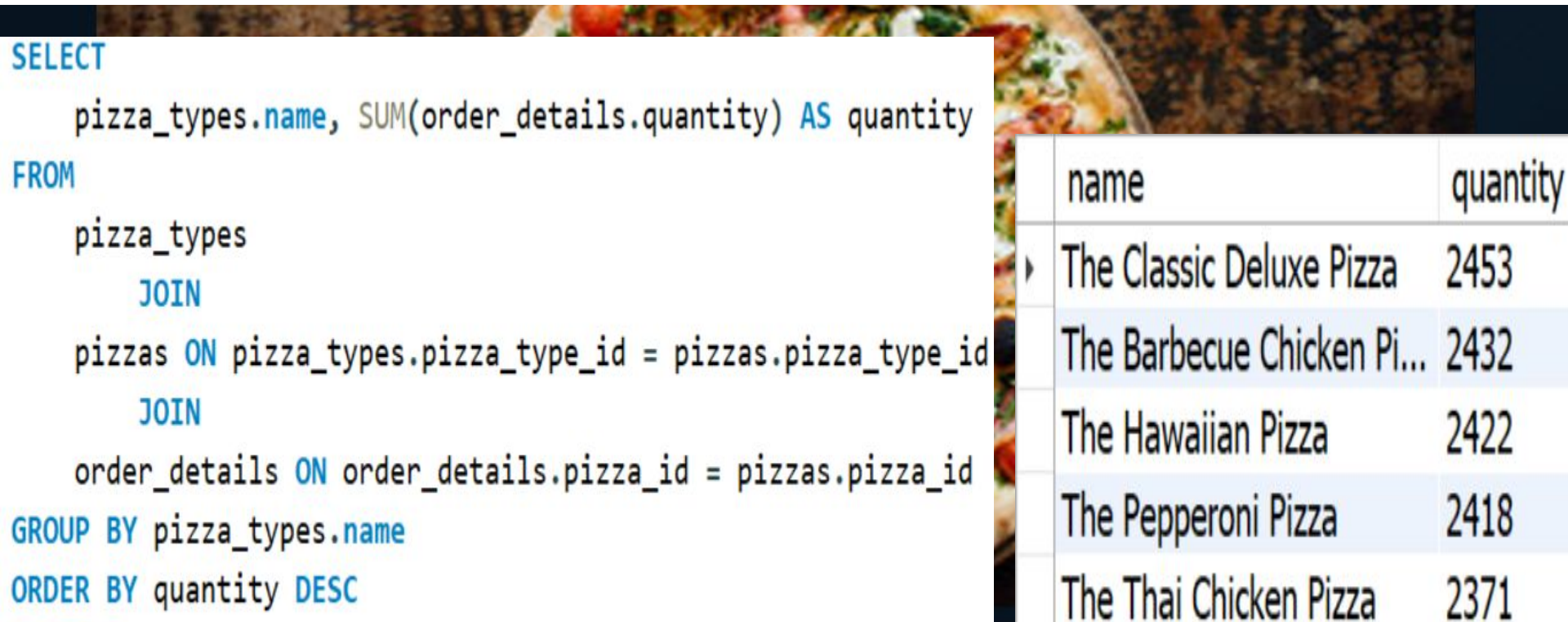
size	order_count
L	18526
M	15385
S	14137
XL	544
XXL	28

Q5) List the top 5 most ordered pizza types along with their quantities.

```sql
SELECT
    pizza_types.name, SUM(order_details.quantity) AS quantity
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 quantity DESC
LIMIT 5;
```
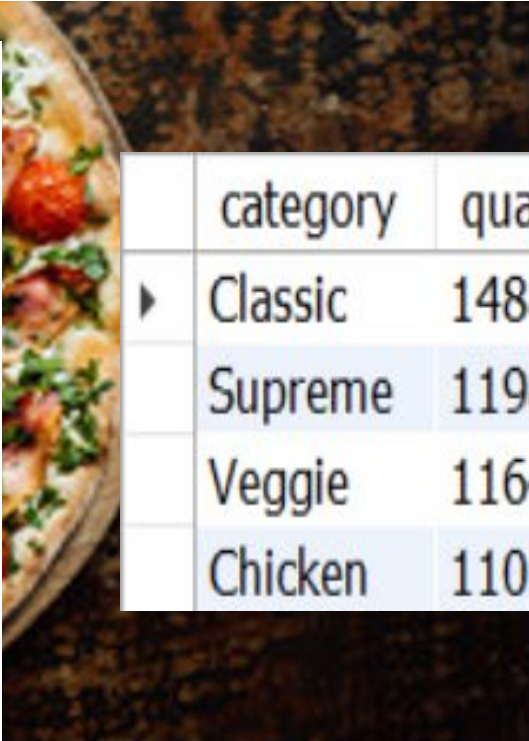
name	quantity
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pi...	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

Q6) Join the necessary tables to find the total quantity of each pizza category ordered.

```sql
SELECT
    pizza_types.category, SUM(order_details.quantity) AS quantity
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 quantity DESC;
```

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Q7) Determine the distribution of orders by hour of the day.

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

hour	order_count
11	1104
12	2242
13	2211
14	1347
15	1334
16	1737
17	2110
18	2160
19	1774
20	1469

Q8) Join relevant tables to find the category-wise distribution of pizzas.

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

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

Q9) Determine the top 3 most ordered pizza types based on revenue.

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

Q 10) Calculate the percentage contribution of each pizza type to total revenue.

```sql
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

Q 11) Analyze the cumulative revenue generated over time.

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

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