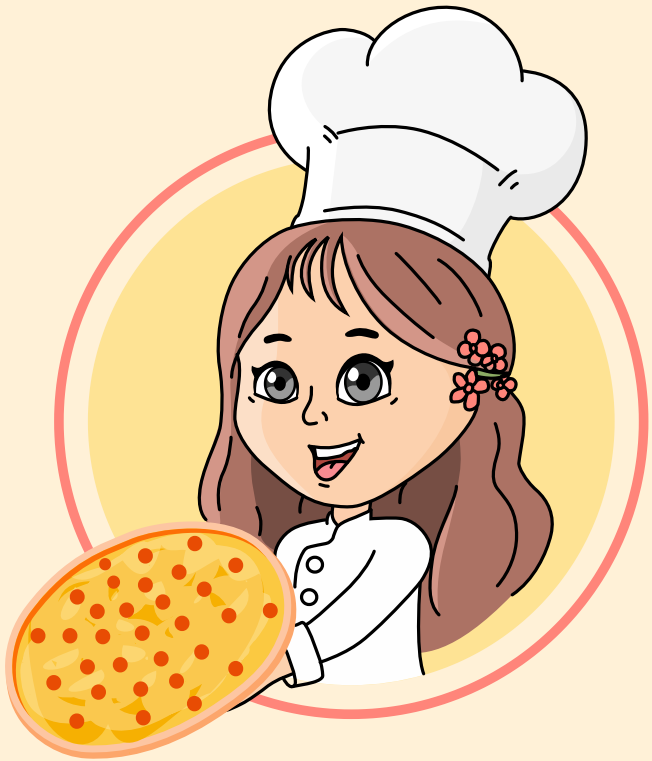
PIZZA SALES

USING SQL

A COMPREHENSIVE DATA ANALYSIS PROJECT



AUTHOR: HIMANI D B

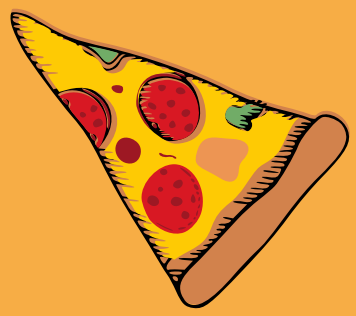
INTRODUCTION

Objective:

- To provide actionable insights into pizza sales trends and performance metrics.

Project Overview:

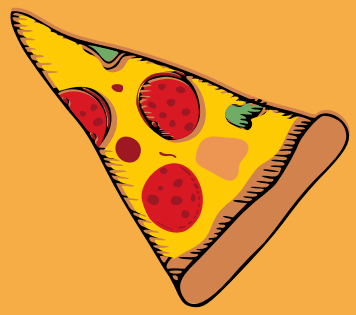
- This project analyzes pizza sales data to derive insights on orders, revenue, popular items, and more.
- Utilizes SQL queries to extract and analyze data from various tables.



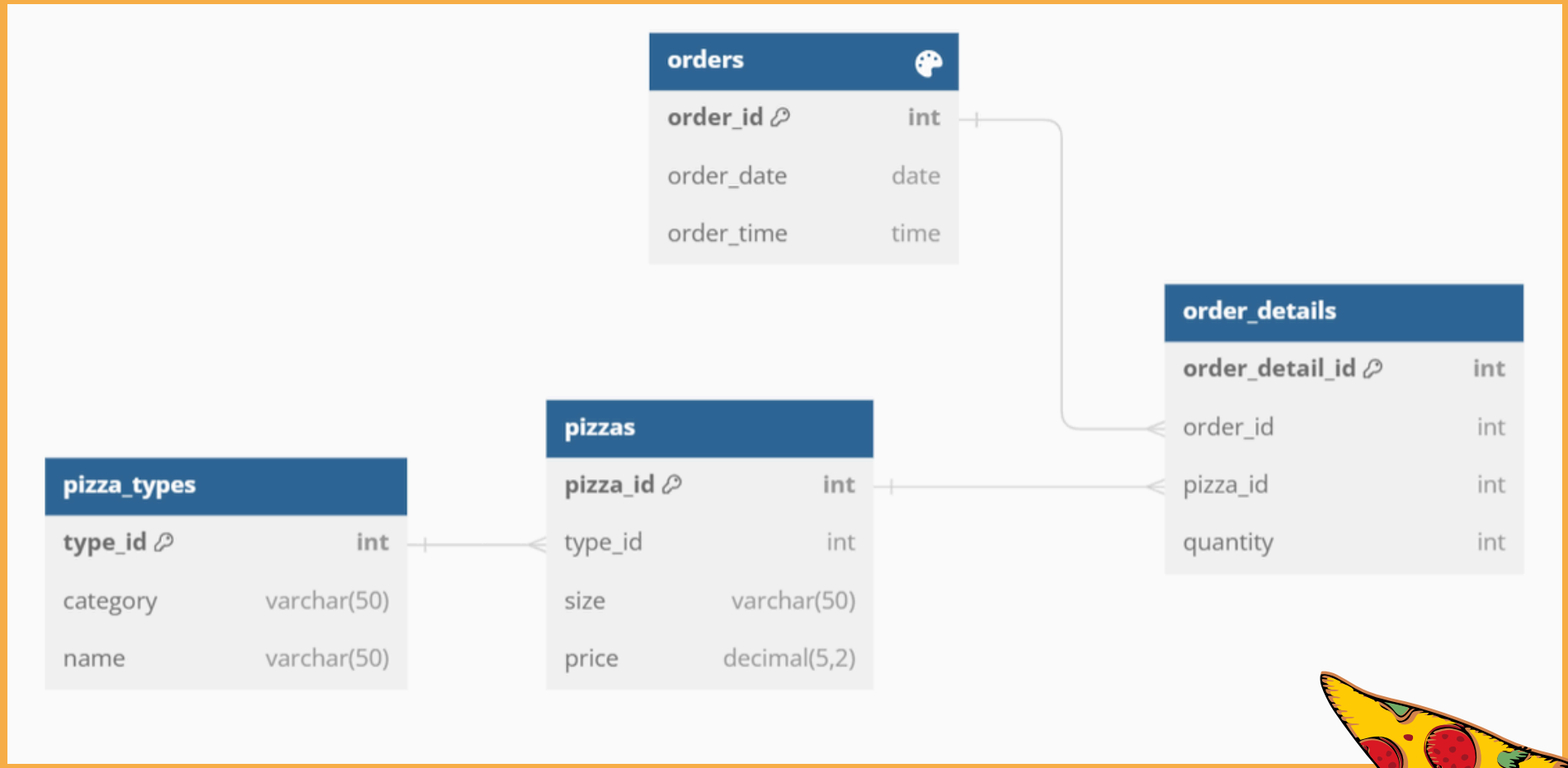
Dataset Description

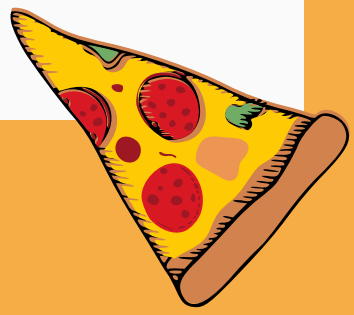
Tables Used:

- Orders: Contains order details including order ID, order time, and order date.
- Order_Details: Includes details of each order such as quantity and pizza ID.
- Pizzas: Provides information about pizza types and prices.
- Pizza_Types: Describes the category and size of each pizza.



Schema Diagram



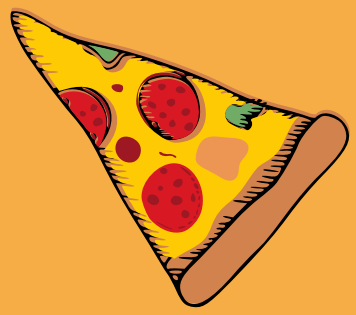


Retrieve the total number of orders placed.

```
SELECT
    COUNT(order_id) Total_orders
FROM
    orders;
```

Result Grid

	Total_orders
▶	21350

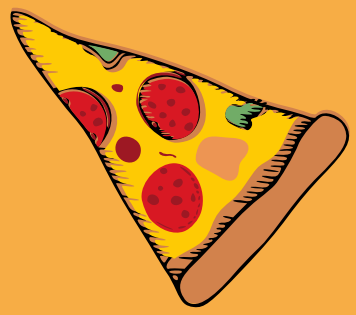


Calculate the total revenue generated from pizza sales.

```sql
SELECT
    ROUND(SUM(price * quantity), 2) Total_pizza_revenue
FROM
    pizzas
        NATURAL JOIN
    order_details;
```

Result Grid | Filter Rows:

	Total_pizza_revenue
▶	817860.05

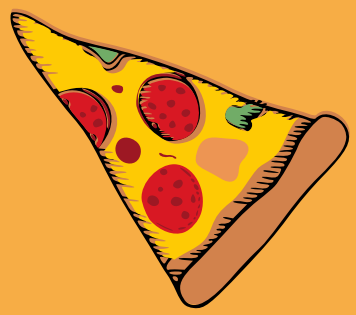


Identify the highest-priced pizza.

```
SELECT
    name, price
FROM
    pizzas
        NATURAL JOIN
    pizza_types
WHERE
    price = (SELECT
            MAX(price)
        FROM
            pizzas);
```

Result Grid | Filter Rows:

	name	price
▶	The Greek Pizza	35.95

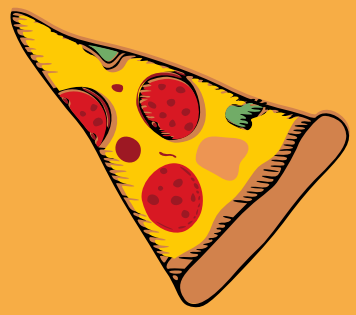


Identify the most common pizza size ordered.

```sql
SELECT
    size, COUNT(quantity) count
FROM
    order_details
        NATURAL JOIN
    pizzas
GROUP BY size
ORDER BY count DESC
LIMIT 1;
```

Result Grid

	size	count
▶	L	18526

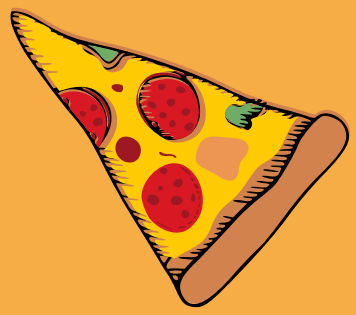


List the top 5 most ordered pizza types along with their quantities.

```sql
SELECT
    name, sum(quantity) quantity
FROM
    order_details
        NATURAL JOIN
    pizzas
        NATURAL JOIN
    pizza_types
GROUP BY name
ORDER BY quantity DESC
LIMIT 5;
```

Result Grid | Filter Rows:

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

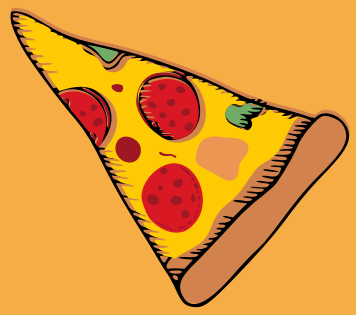


Join the necessary tables to find the total quantity of each pizza category ordered.

```
SELECT
    category, SUM(quantity) count
FROM
    pizza_types
        NATURAL JOIN
    pizzas
        NATURAL JOIN
    order_details
GROUP BY category;
```

Result Grid | Filter Rows:

category	count
Classic	14888
Veggie	11649
Supreme	11987
Chicken	11050

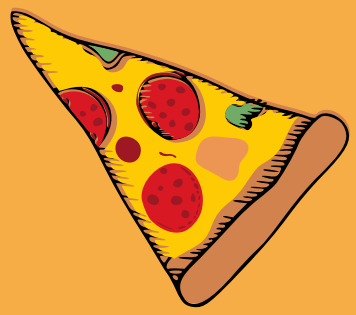


Determine the distribution of orders by hour of the day.

```sql
SELECT
    HOUR(order_time) hour, COUNT(order_id) quantity
FROM
    orders
GROUP BY hour;
```

Result Grid | Filter Rows:

hour	quantity
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

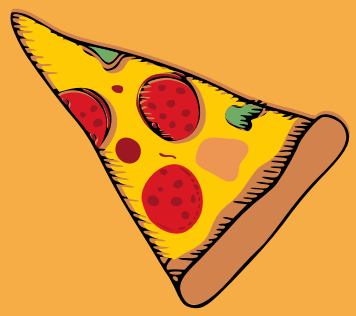


Join relevant tables to find the category-wise distribution of pizzas.

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

Result Grid | Filter Rows:

	category	quantity
▶	Chicken	6
	Classic	8
	Supreme	9
	Veggie	9

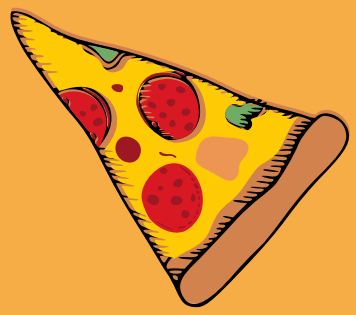


Group the orders by date and calculate the average number of pizzas ordered per day.

```sql
SELECT
    ROUND(AVG(quantity), 0) avg_no_of_pizzas_per_day
FROM
    (SELECT
        order_date, SUM(quantity) quantity
    FROM
        orders
    NATURAL JOIN order_details
    GROUP BY order_date) dt;
```

Result Grid | Filter Rows:

avg_no_of_pizzas_per_day
138

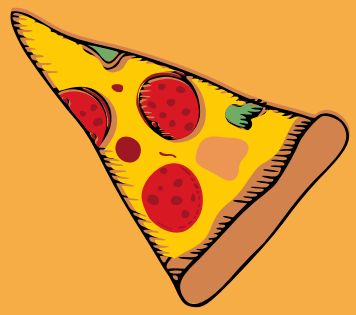


Determine the top 3 most ordered pizza types based on revenue.

```sql
SELECT
    name, ROUND(SUM(price * quantity), 2) revenue
FROM
    order_details
        NATURAL JOIN
    pizzas
        NATURAL JOIN
    pizza_types
GROUP BY name
ORDER BY SUM(price) DESC
LIMIT 3;
```

Result Grid | Filter Rows:

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

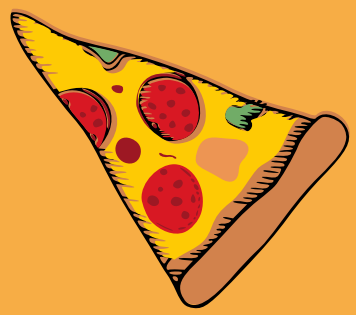


Calculate the percentage contribution of each pizza type to total revenue.

```
SELECT
    category,
    ROUND(SUM(price * quantity) / (SELECT
                    SUM(price * quantity)
                FROM
                    pizzas
                        NATURAL JOIN
                    order_details) * 100,
            4) contribution
FROM
    pizza_types
        NATURAL JOIN
    pizzas
        NATURAL JOIN
    order_details
GROUP BY category;
```

Result Grid | Filter Rows

category	contribution
Classic	26.906
Veggie	23.6826
Supreme	25.4563
Chicken	23.9551

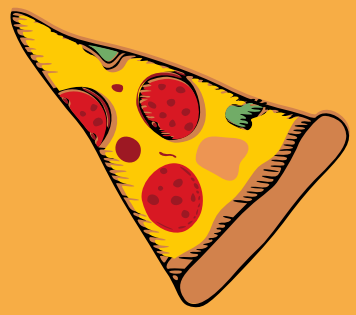


Analyze the cumulative revenue generated over time.

```sql
SELECT
    order_date,
    ROUND(SUM(revenue) OVER (ORDER BY order_date),2) cum_revenue
FROM
    (SELECT
        order_date,
        SUM(quantity*price) revenue
    FROM
        orders
            NATURAL JOIN
        order_details
            NATURAL JOIN pizzas
    GROUP BY order_date) dt;
```

Result Grid | Filter Rows:

order_date	cum_revenue
2015-01-01	2713.85
2015-01-02	5445.75
2015-01-03	8108.15
2015-01-04	9863.6
2015-01-05	11929.55

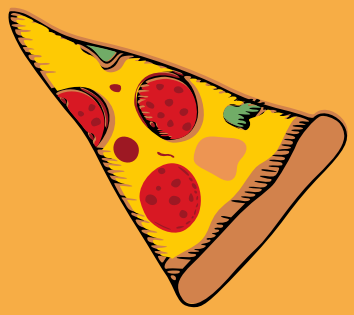


Determine the top 3 most ordered pizza types based on revenue for each pizza category.

```sql
SELECT
    category, name, revenue
FROM
    (SELECT
        category, name, revenue, RANK() OVER(PARTITION BY  category ORDER BY revenue DESC) rn
    FROM
        (SELECT
            category, name, SUM(quantity*price) revenue
        FROM
            order_details
                NATURAL JOIN
            pizzas
                NATURAL JOIN
            pizza_types
        GROUP BY category,name) dt ) dt2
WHERE rn<=3;
```

Result Grid | Filter Rows: | Export:

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	32265.70000000065
Veggie	The Mexicana Pizza	26780.75
Veggie	The Five Cheese Pizza	26066.5



CONCLUSION

Summary of Findings:

- Total orders and revenue insights.
- Popular pizza types and sizes.
- Category-wise performance and revenue contributions.

Implications:

- Insights can help optimize inventory, pricing, and marketing strategies.

Future Work:

- Further analysis could include customer demographics, seasonal trends, and promotional impacts.

References

https://github.com/Ayushi0214/pizza-sales---SQL