INTRODUCTION

This project showcases my SQL skills through advanced queries on a pizza sales dataset. The aim is to extract meaningful insights and trends from the data.

PROJECT OBJECTIVES

- Understand customer preferences
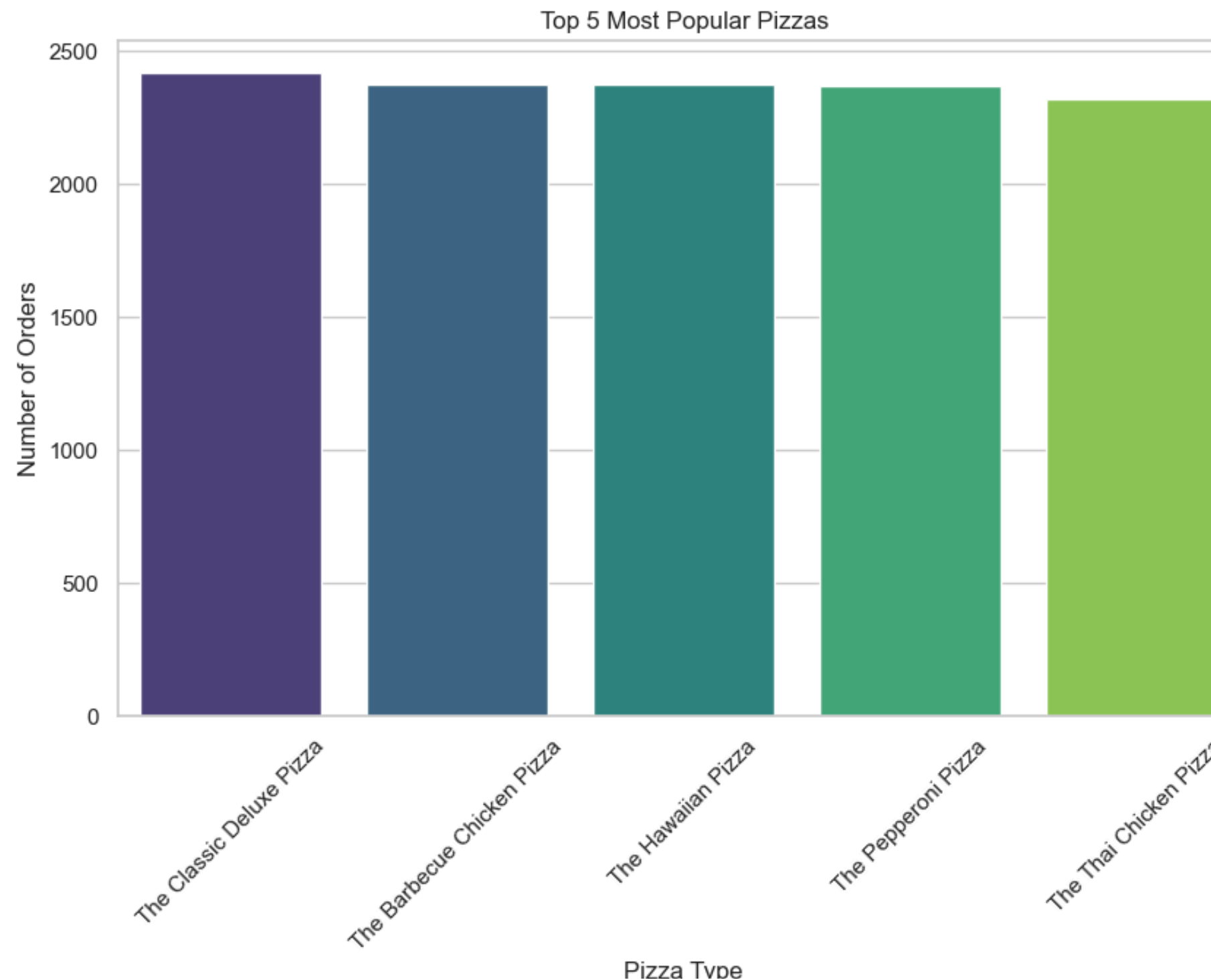- Analyze sales trends
- Provide actionable insights

DATA OVERVIEW

The dataset includes four CSV files:
orders, order details, pizzas, and **pizza types**.

KEY STATISTICS

- Total orders: 21350
- Total pizzas: 48620
- Total pizza types: 32

TOP 5 MOST POPULAR PIZZAS

Top 5 Most Popular Pizzas


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

The Classic Deluxe Pizza" is the most ordered pizza type with 2453 orders.
The preferences show a mix of traditional and specialty pizzas, suggesting a diverse palate among the customer base.

SALES TREND OVER TIME

```sql
SELECT
    DATE(o.order_date) AS order_date,
    COUNT(od.order_id) AS total_orders
FROM
    orders o
        JOIN
    order_details od ON
    o.order_id = od.order_id
GROUP BY order_date
ORDER BY order_date;
```
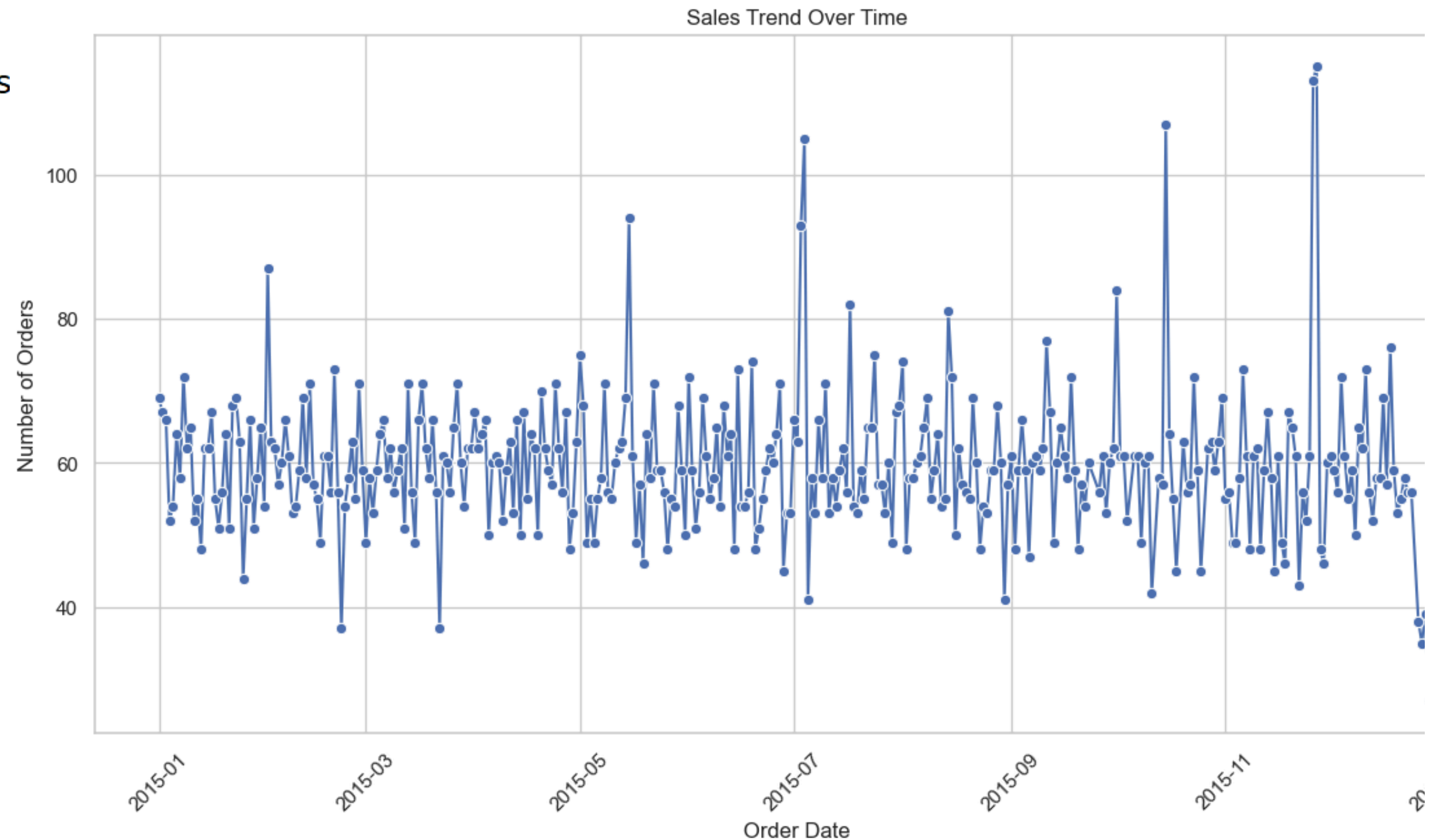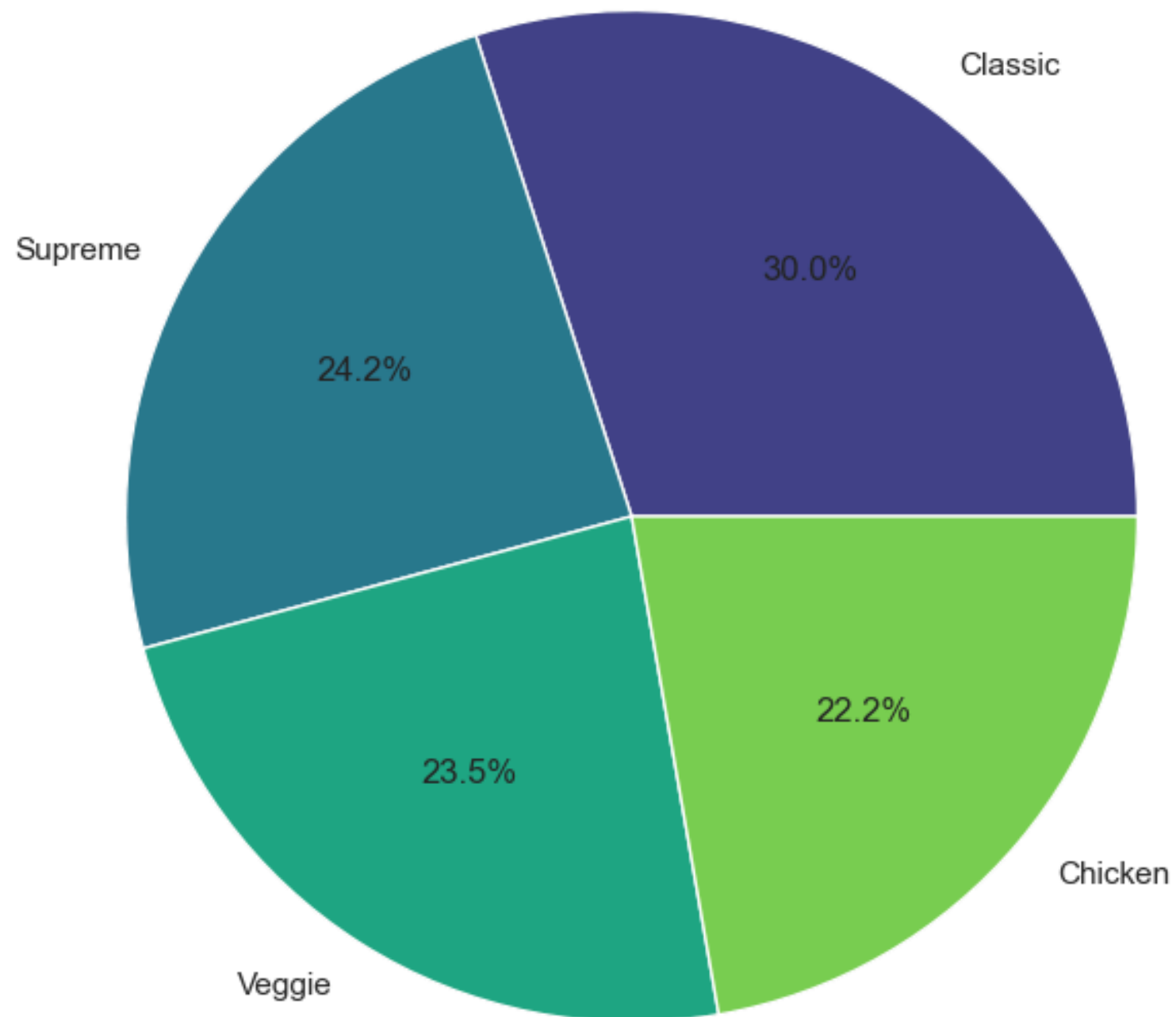
The sales trend shows a high degree of variability with some peaks indicating promotions or special events.

Sales Trend Over Time

TOP CATEGORIES BY REVENUE

Top Categories by Revenue


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

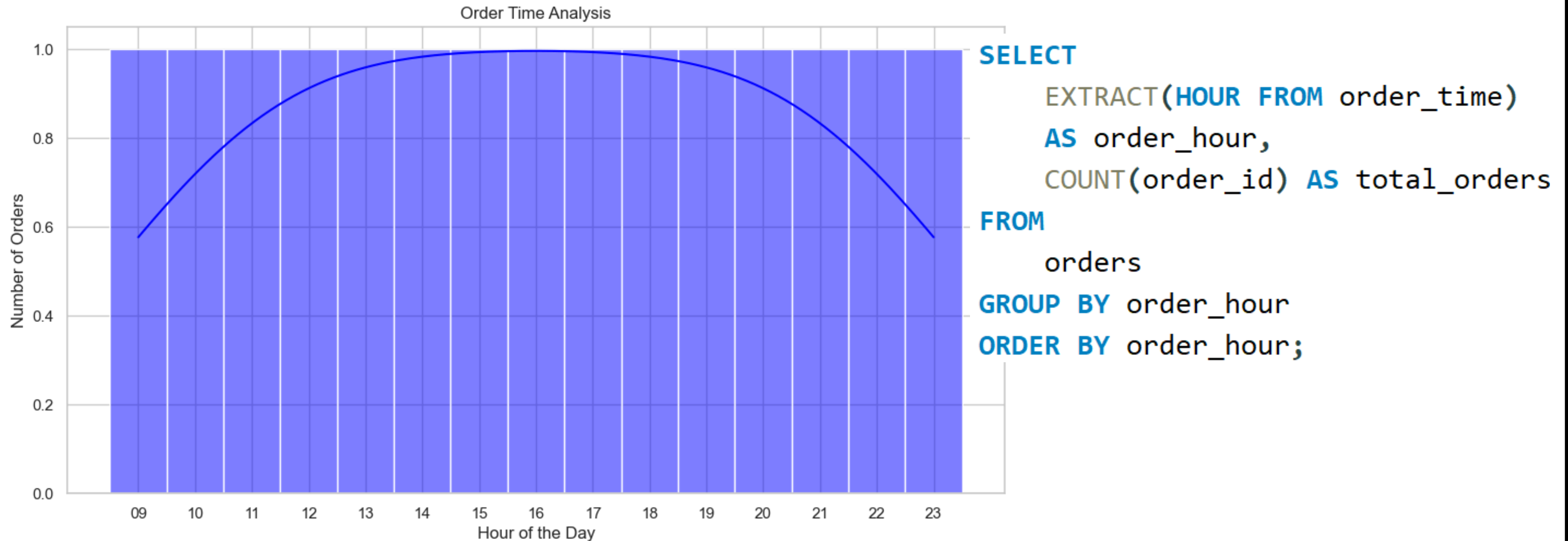The 'Classic' category contributes the most to the revenue at 30%.

AVERAGE ORDER VALUE

```sql
SELECT
    ROUND(AVG(total_order_value), 2) AS average_order_value
FROM
    (SELECT
        o.order_id, SUM(p.price * od.quantity) AS total_order_value
    FROM
        orders o
    JOIN order_details od ON o.order_id = od.order_id
    JOIN pizzas p ON od.pizza_id = p.pizza_id
    GROUP BY o.order_id) AS a;
```

Average Order Value: $38.31

The average order value can be used to set sales targets and forecasts and create strategies to increase the average order value, such as upselling and cross-selling.

ORDER TIME ANALYSIS


```sql
SELECT
    EXTRACT(HOUR FROM order_time)
    AS order_hour,
    COUNT(order_id) AS total_orders
FROM
    orders
GROUP BY order_hour
ORDER BY order_hour;
```

The number of orders peaks around noon and remains high until the evening and orders start declining after 8 PM.

REVENUE CONTRIBUTION BY PIZZA SIZE

```sql
SELECT
    p.size, SUM(od.quantity * p.price) AS total_revenue
FROM
    order_details od
        JOIN
    pizzas p ON od.pizza_id = p.pizza_id
GROUP BY p.size
ORDER BY total_revenue DESC;
```

The largest contribution to revenue comes from large pizzas (45.9%), indicating a preference for larger-sized pizzas.

PIZZA TYPE DIVERSITY IN ORDER
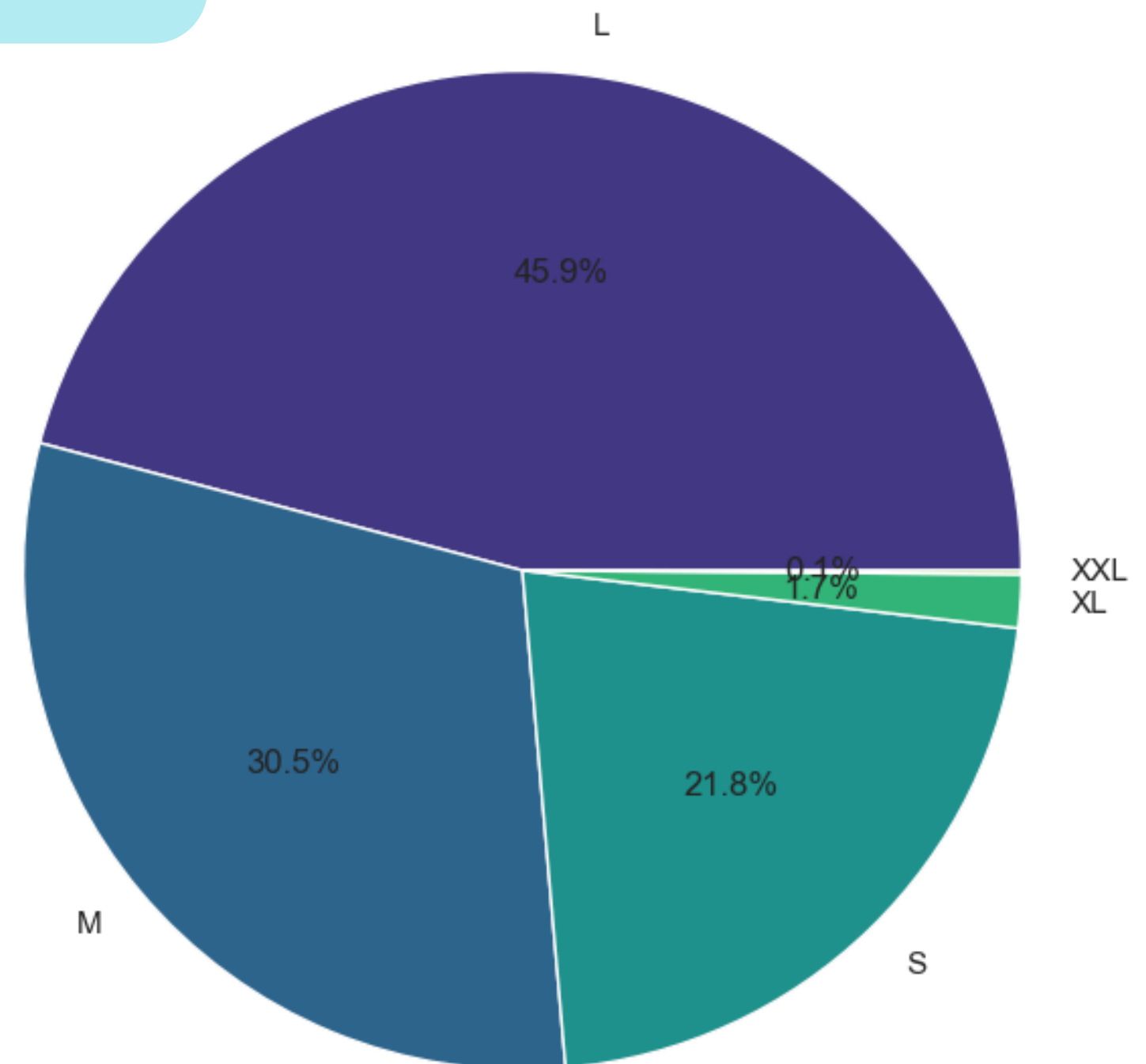
Pizza Type Diversity in Orders
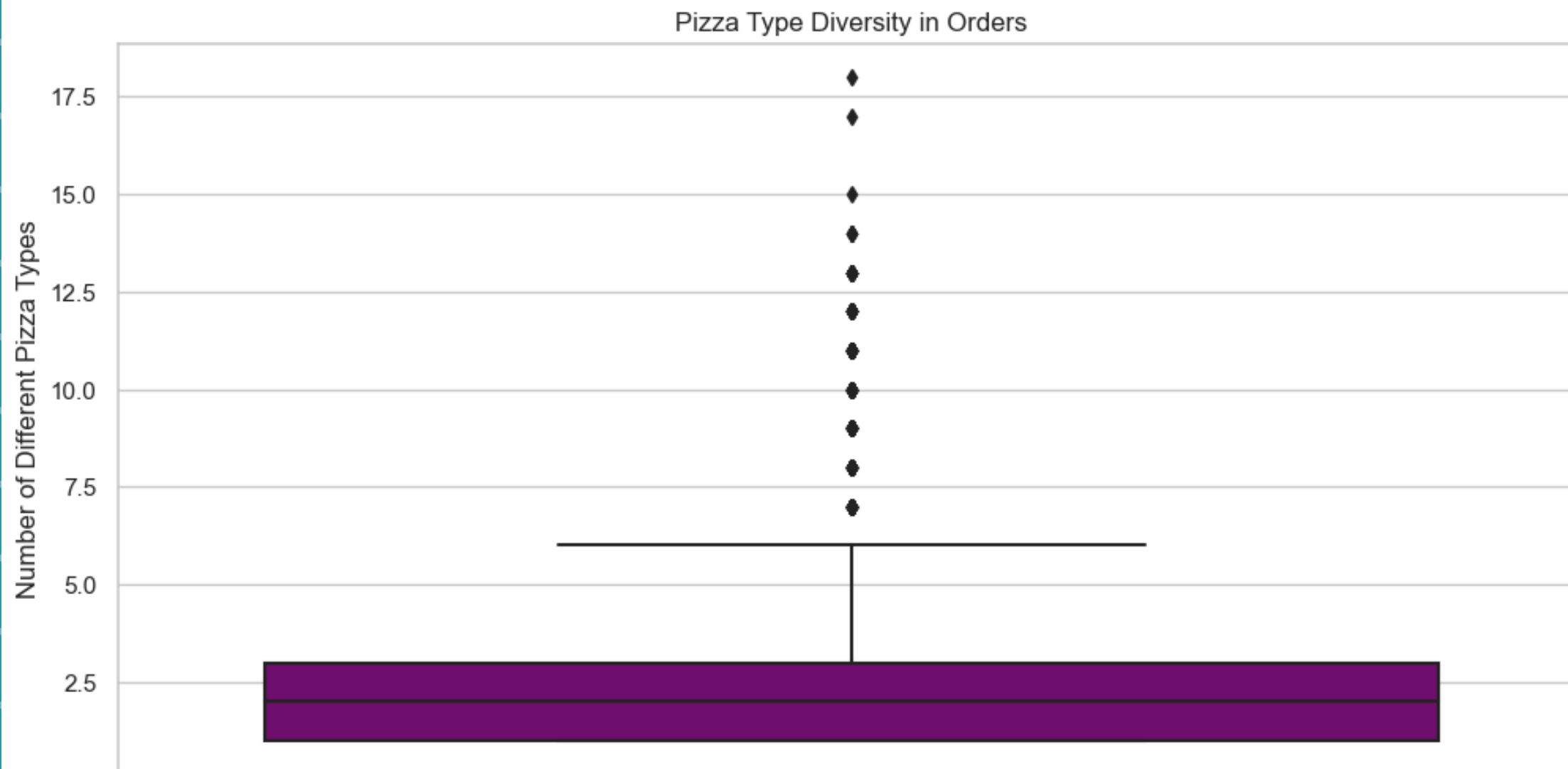

```
SELECT
    order_id, COUNT(DISTINCT pizza_type_id)
    AS pizza_type_count
FROM
    order_details od
        JOIN
    pizzas p ON od.pizza_id = p.pizza_id
GROUP BY order_id;
```

The median number of different pizza types in an order is approximately 2.5, suggesting that customers tend to order a small variety of pizzas in a single order.
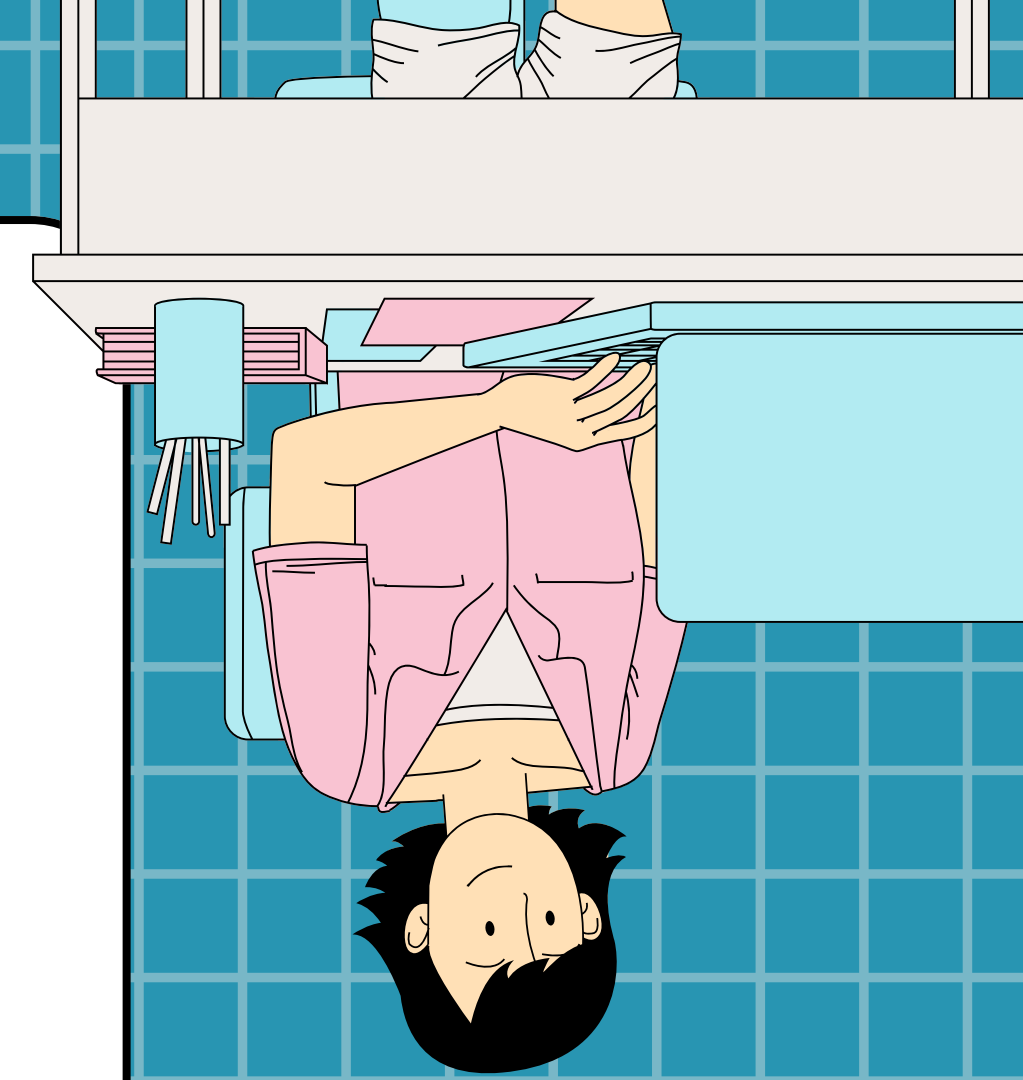
CONCLUSION

Key Findings:

- Diverse customer preferences.

- Peak sales during specific periods.

- Significant revenue from large pizzas.

Business Implications:

- Focus on popular pizza types.

- Leverage peak periods for promotions.

- Optimize inventory for large pizzas.

FUTURE SCOPE

This project highlighted key trends and insights from the pizza sales data. The findings can help in making data-driven decisions for menu optimization, inventory management, and marketing strategies.

Future work could include more detailed customer analysis and sales forecasting to enhance business strategies further.

SKILLS AND TOOLS USED

MySQL Workbench
Data extraction
and querying

Python
Data analysis
and visualization

Jupyter Notebook
Interactive coding
and visualization

Canva
Presentation
design