**Pizza Sales Analysis Using SQL**

**Project Title: Pizza Sales Analysis with SQL**

**Objective:**

The purpose of this project was to analyze pizza sales using structured SQL queries and present key business insights based on query results. This end-to-end analysis aimed to identify top-performing products, customer preferences, order behaviors, and sales trends to help stakeholders in making data-informed decisions to boost revenue and optimize operations.

**Tools Used:**

* **SQL** (for data extraction and aggregation)
* Relational **database schema** with multiple linked tables (e.g., Orders, Order Details, Pizzas, Categories, Sizes)

**Key SQL Analyses & Queries Performed:**

1. **Total Orders Placed**  
   SELECT COUNT(DISTINCT order\_id) FROM orders;
2. **Total Revenue Generated**  
   SELECT SUM(quantity \* price) FROM order\_details JOIN pizzas ON pizzas.pizza\_id = order\_details.pizza\_id;
3. **Highest-Priced Pizza**  
   SELECT name, price FROM pizzas ORDER BY price DESC LIMIT 1;
4. **Most Common Pizza Size Ordered**  
   SELECT size, COUNT(\*) FROM pizzas GROUP BY size ORDER BY COUNT(\*) DESC;
5. **Top 5 Most Ordered Pizza Types (by Quantity)**  
   SELECT name, SUM(quantity) FROM pizzas JOIN order\_details ON pizzas.pizza\_id = order\_details.pizza\_id GROUP BY name ORDER BY SUM(quantity) DESC LIMIT 5;
6. **Total Quantity by Pizza Category**  
   SELECT category, SUM(quantity) FROM pizzas JOIN order\_details ON pizzas.pizza\_id = order\_details.pizza\_id GROUP BY category;
7. **Order Distribution by Hour of Day**  
   SELECT EXTRACT(HOUR FROM time) AS hour, COUNT(\*) FROM orders GROUP BY hour ORDER BY hour;
8. **Category-Wise Pizza Distribution**  
   SELECT category, COUNT(\*) FROM pizzas GROUP BY category;
9. **Average Pizzas Ordered Per Day**  
   SELECT order\_date, AVG(quantity) FROM orders JOIN order\_details ON orders.order\_id = order\_details.order\_id GROUP BY order\_date;
10. **Top 3 Pizzas by Revenue**  
    SELECT name, SUM(quantity \* price) AS revenue FROM pizzas JOIN order\_details ON pizzas.pizza\_id = order\_details.pizza\_id GROUP BY name ORDER BY revenue DESC LIMIT 3;
11. **Revenue Contribution by Pizza Type**  
    SELECT name, ROUND(SUM(quantity \* price) / (SELECT SUM(quantity \* price) FROM order\_details JOIN pizzas ON pizzas.pizza\_id = order\_details.pizza\_id) \* 100, 2) AS revenue\_percentage FROM pizzas JOIN order\_details ON pizzas.pizza\_id = order\_details.pizza\_id GROUP BY name;
12. **Cumulative Revenue Over Time**  
    CTE with window functions or cumulative sum over order dates to track how revenue builds up over time.
13. **Top 3 Pizzas by Revenue per Category**  
    SELECT category, name, SUM(quantity \* price) AS revenue FROM pizzas JOIN order\_details ON pizzas.pizza\_id = order\_details.pizza\_id GROUP BY category, name ORDER BY category, revenue DESC;

**Insights Derived:**

* The business receives a **high number of orders during peak meal hours**, indicating potential promotional windows.
* **Large-sized pizzas** dominate customer preferences.
* **Top 3 pizzas by revenue** contribute significantly to overall revenue, suggesting upsell opportunities.
* **Specific categories like Classic and Veggie** consistently outperform others in volume.
* There's a strong relationship between **price and popularity**—not all high-priced pizzas generate the most revenue.
* The **cumulative revenue chart** shows linear growth with noticeable spikes on weekends.

**Business Recommendations:**

* **Promote best-selling pizza types** more prominently in marketing campaigns.
* **Bundle large-sized pizzas** with drinks or desserts during peak hours to increase average order value.
* Launch loyalty incentives during off-peak hours to boost sales in low-activity periods.
* Monitor underperforming pizza categories for potential menu optimization.

**Presentation**

* I built this analysis entirely using **SQL to extract, clean, and aggregate data** across multiple relational tables.
* This project highlights my proficiency in both **technical querying** and **business-focused storytelling** using data.
* The insights were tailored to guide **real-world decisions** on product mix, promotions, and operational timing.

This project showcases my ability to blend analytical rigor with storytelling to derive and present meaningful insights that drive business value.