TASK 03 : SQL for Data Analysis

📊 Executive Summary – Pizza Hut Sales Analysis

This analysis explores transactional sales data from Pizza Hut to derive insights on ordering trends, revenue distribution, and product performance. The SQL script performs comprehensive queries ranging from basic metrics to advanced revenue breakdowns, aiming to support strategic decisions for sales optimization and inventory management.

◆ **Basic Insights**

1. **Total Number of Orders Placed:**

   ○ The total number of unique orders was calculated using distinct `order_id`s, providing an overview of overall customer activity.

2. **Total Revenue from Pizza Sales:**

   ○ Revenue was derived by multiplying the unit price of pizzas by their quantities across all orders, giving the total monetary inflow from pizza sales.

3. **Highest-Priced Pizza:**

   ○ The query retrieved the pizza with the highest `price` from the `pizza_types` table, identifying premium offerings.

4. **Most Common Pizza Size Ordered:**

   ○ Aggregated order data revealed the pizza size (S, M, L, etc.) with the highest total quantity sold.

5. **Top 5 Most Ordered Pizza Types (by Quantity):**

   ○ The top 5 pizzas by quantity were listed, highlighting customer favorites based on frequency.

◆ Intermediate Insights

1. **Total Quantity by Pizza Category:**

   ○ By joining `order_details`, `pizzas`, and `pizza_types`, the script grouped orders by category (e.g., Classic, Veggie) and summed quantities to show category popularity.

2. **Distribution of Orders by Hour:**

   ○ Timestamps from order data were parsed to extract hourly trends, uncovering peak business hours.

3. **Category-wise Distribution of Pizzas:**

   ○ A joined query grouped pizza types by their category, showing how many types belong to each category, useful for inventory and menu planning.

4. **Average Number of Pizzas Ordered per Day:**

   ○ Orders were grouped by `order_date`, with the average quantity calculated to assess daily demand.

5. **Top 3 Pizza Types by Revenue:**

   ○ Revenue per pizza type was calculated (price × quantity), and the top 3 highest-earning pizzas were identified.

▲ Advanced Insights

1. **Revenue Contribution per Pizza Type:**

   ○ Each pizza type's revenue was expressed as a percentage of the total, identifying products that contribute most to business revenue.

2. **Cumulative Revenue Over Time:**

   ○ By ordering data chronologically and summing revenue cumulatively, the script illustrated financial growth trends.

3. **Top 3 Revenue-Generating Pizzas by Category:**

    ○ The script segmented data by pizza category and calculated revenue to identify top 3 pizzas per category, allowing for targeted promotional strategies.

✅ Conclusion

This SQL-based analysis offers a deep dive into Pizza Hut's sales patterns, revealing:

- Strong performers by order volume and revenue

- The most preferred sizes and categories

- Revenue trends over time and by product

These insights can inform decisions around marketing, pricing, and product development, ensuring data-driven growth in a competitive food service environment.