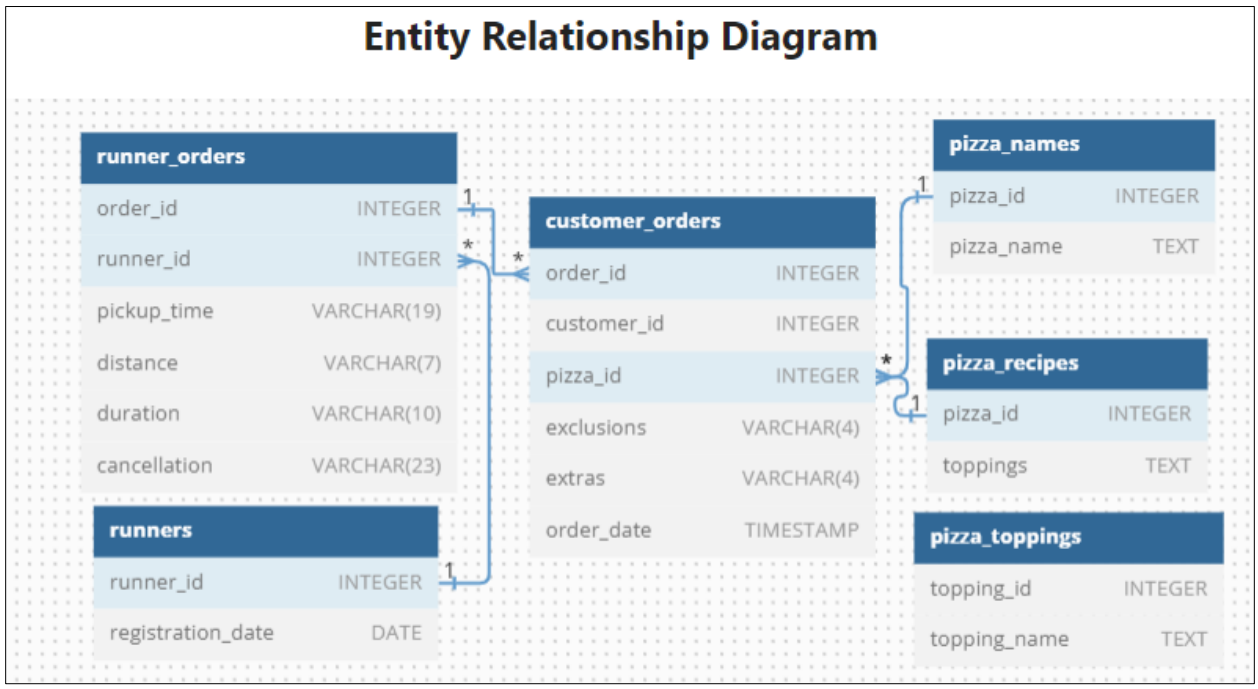
Pizza Runner Sales Analysis



1. Handled Null Values

- **Explanation:**
    - Null values often represent missing or incomplete data. Handling them correctly is crucial for accurate analysis.
    - You might have used methods like replacing nulls with default values, excluding them from analysis, or filling them with averages or other appropriate substitutions.
- **Importance:**
    - Ensures the integrity of the dataset and avoids errors or misleading results in subsequent analyses.

2. Normalized Data using Recursive and GROUP_CONCAT Functions

- **Explanation:**
    - **Normalising Data:** This refers to transforming columns into rows, which is useful when dealing with wide tables that need to be analyzed in a more normalized form.
    - **Recursive Function:** You might have used a recursive common table expression (CTE) to generate sequences or perform operations repeatedly until a condition is met, which is helpful in breaking down complex data structures.

- **GROUP_CONCAT Function:** This function concatenates values from multiple rows into a single string, often used when aggregating data to get a combined list of items (e.g., all toppings used in a pizza).

- **Importance:**
  - Normalizing makes the data easier to work with, especially when performing analysis that requires row-wise operations.
  - Using recursive functions and GROUP_CONCAT allows you to manipulate and analyze data that might otherwise be difficult to handle, enabling a more detailed and accurate analysis.

3. Analyzed Pizza Metrics, Runner Performance, and Ingredient Usage

- **Explanation:**
  - **Pizza Metrics:** This could include metrics like the number of orders, popular pizzas, revenue generated, etc.
  - **Runner Performance:** Analysis of delivery performance, such as delivery times, distances travelled, and possibly the number of successful deliveries.
  - **Ingredient Usage:** Understanding which ingredients are most commonly used, which might run out, and optimizing their use to reduce waste.
- **Importance:**
  - Provides insights into various aspects of the business, from operational efficiency (runner performance) to inventory management (ingredient usage).

4. Generated Insights into Order Volumes, Delivery Times, and Ingredient Optimization

- **Explanation:**
  - **Order Volumes:** Understanding peak times, most popular order types, etc.
  - **Delivery Times:** Analyzing how long deliveries take, identifying bottlenecks, and finding ways to improve delivery speed.
  - **Ingredient Optimization:** Finding ways to optimize the use of ingredients to minimize waste and ensure availability, which can be critical for cost management and customer satisfaction.
- **Importance:**
  - Insights help in making informed business decisions, improving customer experience, and optimizing operations to enhance profitability and efficiency.

Overall Summary:

Your project involved advanced data handling techniques, including cleaning and transforming data, analyzing different aspects of the pizza business, and deriving valuable insights that could drive better business decisions. The use of SQL functions like recursive CTEs and GROUP_CONCAT shows your capability in managing and analyzing complex datasets.

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In my "Pizza Store Sales Analysis" project for January 2024, I focused on transforming and analyzing data to uncover key insights that could drive business decisions. I began by cleaning the dataset, handling null values, and splitted the multivalued column data using recursive functions and the GROUP_CONCAT function. This allowed me to normalize the data, making it easier to analyze critical metrics such as order volumes, runner performance, and ingredient usage. Through this process, I identified patterns in customer preferences, delivery times, and ingredient demand, which laid the foundation for my analysis.

Based on the insights generated, I observed that certain pizzas were consistently ordered during peak hours, while delivery times varied significantly depending on distance and runner availability. To optimize operations, I recommended adjusting staffing levels during peak times, implementing route optimization for runners, and refining ingredient inventory management to prevent shortages of popular toppings. These suggestions aimed to improve overall efficiency, enhance customer satisfaction, and reduce operational costs for the pizza store.