**Pizza Sales Analysis Project Documentation**

**Project Overview**

The "Pizza Sales Analysis" project aims to analyze and generate insights from pizza sales data. The data is stored in a MySQL database called pizzahut, which contains four key tables: pizzas, pizza\_types, orders, and order\_details. This project serves as an introduction to using MySQL, helping to understand the process of uploading data, creating tables, and writing complex SQL queries, including those using window functions and JOIN

**Database Structure**

The database pizzahut is designed to store all relevant information for pizza sales, categorized into four tables:

1. **pizzas** - This table contains information about different pizzas available for sale. It includes details such as pizza ID, pizza name, and price.
2. **pizza\_types** - This table holds information regarding different types of pizzas, such as "Margherita," "Pepperoni," etc. It is linked to the pizzas table through a foreign key.
3. **orders** - This table records each customer order, with details such as the order ID, customer details, order date, and the total amount of the order.
4. **order\_details** - This table contains the breakdown of each order, showing the specific pizzas ordered, quantity, price, and other related information. It is linked to both the orders and pizzas tables.

**Step-by-Step Breakdown of the Project**

**1. Uploading Data to MySQL Server**

The project begins with setting up the MySQL server and creating the pizzahut database. Once the database is created, data for the pizzas and pizza\_types tables are directly uploaded since they consist of a relatively small amount of data.

**2. Creating and Importing Data into orders and order\_details Tables**

The orders and order\_details tables are more complex and need to be created via SQL queries. These tables are populated with the sales data from external sources (such as CSV files or other databases), which is imported into MySQL using table data import wizard option

**3. Writing SQL Queries to Solve 13 Analysis Questions**

The primary goal of this project was to write and execute SQL queries to answer a set of 13 different analysis questions. These queries provided insights into the pizza sales, including revenue, popular pizza types, and customer preferences. The queries used various SQL techniques such as:

* **JOINs:** To combine data from multiple tables (pizzas, pizza\_types, orders, and order\_details).
* **Window Functions:** To calculate running totals, ranks, and other calculations across a set of rows.
* **Aggregate Functions:** To summarize sales data (e.g., SUM (), COUNT (), AVG ()) and group by different categories.

**4. Insights and Learnings**

Throughout this project, several valuable insights were derived from analyzing the data. For example:

* Identifying the top-selling pizza types.
* Analyzing sales trends over time.
* Understanding customer preferences and behavior.
* Recognizing which pizzas are most profitable.

In addition to the insights, the project helped develop critical skills in MySQL, particularly in writing complex SQL queries and using advanced features such as JOINs and window functions.

**Conclusion**

This project allowed me to gain hands-on experience with MySQL, develop an understanding of database structure, and practice writing complex SQL queries. By completing the project, I have enhanced my ability to work with databases, perform detailed analyses, and uncover actionable insights that can be used in real-world business scenarios.

This project also served as a foundation for further exploring advanced database techniques and expanding my skills in SQL query writing.