Customer Satisfaction Analysis

🎯 Objective:

This project aims to analyze customer satisfaction data from Kashmir Cafe to identify key factors influencing customer experiences and develop strategies for improving service quality. SQL will be used for data processing, while Power BI or Tableau will be used to visualize the insights effectively.

By the end of this project, learners will:

- Perform data cleaning and transformation using SQL.
- Conduct exploratory data analysis (EDA) to uncover satisfaction trends.
- Build interactive dashboards in Power BI/Tableau to visualize key insights.
- Provide actionable recommendations based on data analysis.

📌 Project Overview:

The dataset contains customer feedback data from Kashmir Cafe, including ratings for delivery experience, food quality, and delivery speed, along with order accuracy details. The goal is to understand the overall satisfaction level and pinpoint areas for improvement, such as food quality, delivery speed, and order accuracy.

Learners will:

- Import and preprocess the dataset using SQL.
- Clean and standardize the data for consistent analysis.
- Perform exploratory data analysis (EDA) with SQL queries.
- Create dynamic dashboards in Power BI/Tableau to present findings.
- Provide actionable insights and business recommendations based on the analysis.

📂 Dataset Details

- **Dataset Name**: Customer Feedback Data
- **Dataset Format**: CSV / Excel
- **Total Records**: 10,600+ Records

Columns Overview:

1. **Customer**: Unique identifier for each customer.
2. **Overall Delivery Experience (Rating)**: Rating scale (1-5).
3. **Food Quality (Rating)**: Rating scale (1-5).
4. **Speed of Delivery (Rating)**: Rating scale (1-5).
5. **Order Accuracy**: Yes/No (Whether the order was accurate or not).

🛠️ Tasks to be Performed:

Task 01: Data Preparation

1. **Import & Load Data**:
   - Upload the dataset into an SQL database using LOAD DATA or relevant import tools.
2. **Clean and Preprocess**:
   - Remove duplicates and handle missing values (drop or impute).
   - Standardize the columns (e.g., convert Yes/No in Order Accuracy to 1/0).
   - Ensure consistency in column names (e.g., renaming columns for clarity).
   - Convert ratings to numeric types if needed.

Task 02: Exploratory Data Analysis (EDA) with SQL

1. **SQL Queries**:
   - Analyze customer distribution by region (if available) and age group.
   - Identify the most common ratings for delivery experience, food quality, and delivery speed.
   - Investigate how order accuracy impacts customer satisfaction.
   - Explore correlations between various ratings (e.g., food quality vs. delivery speed, overall satisfaction).

Task 03: Interactive Dashboards in Power BI/Tableau

1. **Page 1: Customer Satisfaction Overview**
   - **KPIs**:
     - Total Customers
     - Average Delivery Rating
     - Total Orders
   - **Visualizations**:
     - Bar Chart: Most common delivery experiences.
     - Pie Chart: Distribution of order accuracy (Yes/No).
     - Line Chart: Trends in ratings over time (if date is available).
2. **Page 2: Rating Analysis Dashboard**
   - **Visualizations**:
     - Scatter Plot: Relationship between food quality and delivery speed ratings.
     - Heatmap: Order accuracy trends by month or region.
     - Matrix: Ratings comparison (food quality, delivery speed) across customer groups.
   - **Filters & Slicers**:
     - Region-based analysis.
     - Rating type filters (food quality, delivery speed).
     - Satisfaction levels (low, medium, high).

Task 04: Data Analysis & Insights

1. **SQL Analysis**:
    - Identify the most common pain points (e.g., low food quality, slow delivery).
    - Segment customers by satisfaction levels and identify the key factors driving satisfaction.
    - Analyze the relationship between Order Accuracy and overall satisfaction.
2. **Insights Example**:
    - Customers with low delivery ratings tend to have lower satisfaction across other categories.
    - Accurate orders are strongly correlated with higher overall satisfaction.
    - Food quality ratings fluctuate based on delivery time.

Task 05: Recommendations

- **Improvement Strategies**:
    - Focus on improving food quality by assessing vendor or recipe changes.
    - Implement faster delivery systems or partner with logistics for quicker service.
    - Enhance quality control for order accuracy to improve customer experience.

📜 Final Report & Submission Guidelines:

1. **Deliverables**:
    - SQL Outputs (Saved as .csv or .xlsx files).
    - Interactive Power BI/Tableau Dashboards.
    - A detailed report documenting analysis, insights, and recommendations.

2. **Submission Checklist**:
    - **SQL Scripts**: Queries for data processing and analysis.
    - **Power BI Dashboard**: Fully functional with visuals and slicers.
    - **Report Structure**:
        - Introduction & Objective
        - EDA & SQL Queries
        - Key Findings & Trends
        - Visual Analysis Screenshots
        - Conclusion & Business Insights

3. **Evaluation Criteria**:
    - Data Cleaning & SQL Queries (25%)
    - EDA & SQL Insights (25%)
    - Power BI/Tableau Dashboards (25%)
    - Report Quality & Interpretation (25%)

4. **Submission Details**:
    - **Report Format**: PDF
    - **Dashboard File**: .pbix (Power BI) / .twbx (Tableau)
    - **SQL Code**: Documented .sql file
    - **GitHub Repository**: Provide a link to your project repository.
    - **Email**: Submit all files and links via email projects@emergingindiagroup.com