Air Quality Data Analysis & Prediction Dashboard

1. Project Summary (What is it?)

This project is a comprehensive data analysis tool built to monitor and predict Air Quality Index (AQI) levels. Using a dataset of various pollutants across multiple Indian cities, the project identifies pollution patterns, seasonal trends, and the most hazardous pollutants affecting urban health.

2. Key Objectives

- **Data Cleaning:** Handling missing values and normalizing pollutant levels (e.g., $PM2.5, SO_2, O_3$).
- **Trend Analysis:** Visualizing how air quality changes over months and years.
- **City-wise Comparison:** Identifying which cities are most polluted and which pollutants are the primary drivers of high AQI.
- **Predictive Insights:** Providing a foundation to forecast future AQI levels based on historical data.

3. Tools & Technologies Used

- **Power BI:** For creating interactive dashboards and data visualization.
- **Excel/CSV:** For raw data storage and initial sorting.
- **DAX (Data Analysis Expressions):** Used within Power BI to create custom metrics and calculated columns.