**Bengaluru Cab Traffic Analysis – Project Documentation**

This project demonstrates an end-to-end data analytics pipeline using **Python**, **MySQL**, and **Power BI** to analyse synthetic cab trip data for Bengaluru city.

**Objective:**

To identify ride patterns, peak hour congestion, area-wise demand, and revenue distribution by analysing 2000+ cab trip records.

**Tools & Technologies Used:**

* **Python (pandas)** – Data cleaning and preprocessing
* **MySQL** – Data storage and SQL-based querying
* **Power BI** – Interactive dashboard and data visualization

**Project Structure:**

Bengaluru\_Cab\_Traffic\_Analysis/

* data/
* bengaluru\_cab\_data\_raw.csv
* bengaluru\_cab\_data\_cleaned.csv
* python/
* test.py
* sql/
* create\_table.sql
* insights\_queries.sql
* Power Bi/
* Bengaluru\_Traffic\_Dashboard.pbix
* Bengaluru\_Traffic\_Dashboard.pdf

**Steps Performed:**

1. **Data Cleaning (Python)**

* Removed missing and duplicate records
* Created “is\_peak” column based on time of day
* Exported cleaned data to CSV

2. **Data Storage (MySQL)**

* Created a relational table
* Imported cleaned data using “LOAD DATA INFILE”
* Queried for traffic insights by area, time, and ride type

3. **Dashboard (Power BI)**

* Built visuals: KPIs, peak hour trends, ride type share, pickup area volume, heatmap
* Enabled slicers to filter by weekday, peak time, and ride type
* Key Insight: 34.8% of rides occur during peak hours

**Sample SQL Insight:**

SELECT pickup\_area, COUNT (\*) AS total\_trips

FROM bengaluru\_trips

GROUP BY pickup\_area

ORDER BY total\_trips DESC;

**Key Insights:**

* **Koramangala** and **Whitefield** had the highest trip demand
* **Ola** accounted for the highest revenue share
* Peak trip volume occurred between **8–10 AM** and **5–7 PM**
* **34.8%** of trips occurred during peak hours

**Outcome:**

A production-style project simulating real-world data flow from raw data to business-ready dashboards — suitable for resume, interview discussions, and BI portfolios.

**Created By**

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