PhonePe Transaction Insights

# 1. Project Overview

Project Title: PhonePe Transaction Insights  
Domain: Finance / Payment Systems  
Skills Learned: Python, SQL, Data Visualization, Streamlit, Analytical Thinking  
  
Objective:  
- Analyze user transactions, payment categories, and insurance data.  
- Visualize insights using charts and dashboards.  
- Build a beginner-friendly interactive dashboard using Streamlit.

# 2. Data Source

Data obtained from the GitHub repository of PhonePe transactions.  
Types of data (9 datasets):  
1. Aggregated User Data – Total users, new users, active users per state.  
2. Aggregated Transaction Data – Total transactions by state/district.  
3. Aggregated Insurance Data – Insurance transactions by type.  
4. Map User Data – Mapping info for users per region.  
5. Map Transaction Data – Mapping transaction values to state/district.  
6. Map Insurance Data – Insurance mapping per region.  
7. Top User Data – Top users by total transaction amount.  
8. Top Map Data – Top states, districts, and pin codes by transaction.  
9. Top Insurance Data – Top insurance categories by transaction amount.

# 3. Tools & Technologies

- Python – Data analysis  
- SQL – Querying and aggregating data  
- Streamlit – Interactive dashboards  
- Libraries – Pandas, Matplotlib, Seaborn, Plotly

# 4. Methodology

Step 1: Data Extraction  
- Loaded CSV/JSON data into Python using Pandas.  
- Connected to SQL database to store and query data.  
  
Step 2: SQL Database Setup  
- Created tables for aggregated data, mapping, and top performers.  
- Example Table Names: aggregated\_transaction, top\_user, map\_insurance.  
  
Step 3: Data Analysis  
- Performed SQL queries to find totals by state, district, category, and top performers.  
- Loaded results into Python DataFrames for further analysis.  
  
Step 4: Visualizations  
- Bar charts for top states, districts, and users.  
- Pie charts for payment categories and insurance types.  
- Interactive dashboard created in Streamlit.

# 5. Key Findings

- Certain states dominate PhonePe transactions.  
- Recharge & Bill category is highly popular.  
- Life insurance is the most purchased insurance type.  
- Top users and districts contribute significantly to total transactions.

# 6. Conclusion

- Learned how to extract, analyze, and visualize real-world data.  
- Developed beginner-level SQL and Python skills.  
- Built a simple interactive dashboard in Streamlit for easy exploration.  
- Gained insights useful for marketing, product development, and business analysis.