# Blinkit Data Analytics Project

## 1. Overview

This project focuses on analyzing Blinkit's business performance using data analytics techniques. The goal is to uncover insights into sales performance, customer behavior, and product profitability through data cleaning, exploration, SQL queries, and Power BI dashboard visualization.

## 2. Dataset

The dataset contains transactional and product-level details, including item identifiers, outlet information, sales amounts, visibility, weight, and categorical attributes. It provides a comprehensive view of Blinkit's retail operations, helping identify trends and improvement areas.

## 3. Tools & Technologies

• Python – for loading, cleaning, and exploring the dataset  
• SQL (MSSQL, Oracle SQL, MySQL) – for running analytical queries and data validation  
• Power BI – for building an interactive dashboard to visualize insights  
• Excel – for preliminary data review and exports

## 4. Steps & Process

1. Loaded and inspected the dataset using Python.  
2. Performed exploratory data analysis (EDA) to understand distributions and identify missing or inconsistent values.  
3. Cleaned and transformed data for accurate analysis.  
4. Executed SQL queries on multiple database systems (MSSQL, Oracle, MySQL) for data validation and comparative analysis.  
5. Connected cleaned data to Power BI to design visuals and KPIs.  
6. Created an interactive Power BI dashboard summarizing key insights.

## 5. Power BI Dashboard

The Power BI dashboard provides a visual summary of Blinkit's key performance indicators, including:  
• Total sales and average sales by outlet type  
• Product visibility and performance metrics  
• Category-wise and outlet-wise sales breakdowns  
• Yearly trends and profit comparisons  
These visuals enable data-driven decision-making for sales and marketing teams.

## 6. Results & Insights

• Identified high-performing outlet types and underperforming categories.  
• Discovered correlation between item visibility and sales volume.  
• Highlighted the need for optimization in low-selling regions and products.  
• Improved understanding of consumer purchasing patterns through interactive analytics.

## 7. How to Run

1. Open the Power BI dashboard file (Blinkit Project.pbix) in Power BI Desktop.  
2. Ensure the dataset path is correctly mapped.  
3. Refresh the data source to view updated analytics.  
4. Navigate through dashboard tabs to explore insights interactively.

## 8. Conclusion

This project demonstrates the complete data analytics workflow — from raw data cleaning to visualization. It highlights how business insights can be extracted using Python, SQL, and Power BI, aiding strategic decisions for performance improvement and growth.