Blinkit Sales - Project Documentation

# 1. Project Overview

This project analyzes sales data from Blinkit to uncover trends, sales patterns, and the performance of different product categories across outlets. Using Python and data visualization techniques, we identify key insights into how factors like fat content, product type, location tier, and establishment year influence sales.

# 2. Dataset Description

Source file: blinkit\_data.csv  
Number of records: [From Notebook]  
Number of features: [From Notebook]  
  
Key columns:  
- Item Fat Content – Fat classification of the product (Low Fat, Regular, etc.)  
- Item Type – Product category.  
- Outlet Location Type – Tier classification of the outlet (Tier 1, Tier 2, Tier 3)  
- Outlet Establishment Year – Year in which the outlet began operation.  
- Sales – Total sales amount.

# 3. Tools & Libraries

- pandas – Data manipulation  
- numpy – Numerical computations  
- matplotlib – Basic plotting  
- seaborn – Enhanced visualizations

# 4. Methodology

1. Data Loading: The dataset was imported into a pandas DataFrame.  
2. Exploratory Data Analysis (EDA):  
 - Checked dataset shape, missing values, and data types.  
 - Performed grouping and aggregations for key analyses.  
3. Visualization:  
 - Generated pie, bar, grouped bar, and line charts to show trends and distributions.  
4. Insight Extraction:  
 - Derived observations based on charts.

# 5. Visualizations & Insights

## 5.1 Sales by Fat Content

Chart Type: Pie Chart  
Grouping:  
df.groupby('Item Fat Content')['Sales'].sum()  
Insight: The Regular category had the largest sales share, followed by Low Fat.

## 5.2 Total Sales by Item Type

Chart Type: Vertical Bar Chart  
Grouping:  
df.groupby('Item Type')['Sales'].sum().sort\_values(ascending=False)  
Insight: Certain categories (e.g., Fruits & Vegetables, Snack Foods) are top revenue contributors.

## 5.3 Outlet Tier by Item Fat Content

Chart Type: Grouped Bar Chart  
Grouping:  
df.groupby(['Outlet Location Type', 'Item Fat Content'])['Sales'].sum().unstack()[['Regular', 'Low Fat']]  
Insight: Tier 3 outlets show higher sales for both Regular and Low Fat products compared to Tier 1 and Tier 2.

## 5.4 Total Sales by Outlet Establishment Year

Chart Type: Line Chart with markers  
Grouping:  
df.groupby('Outlet Establishment Year')['Sales'].sum().sort\_index()  
Insight: Sales performance does not show a simple increasing or decreasing pattern with outlet age, but certain establishment years perform significantly better.

# 6. Key Insights

- Most Profitable Category: Regular-fat products dominate total sales.  
- Category Impact: Food-related categories generate the majority of revenue.  
- Location Factor: Higher-tier outlets tend to have better sales figures.  
- Historical Trends: Some older outlets maintain competitive sales.

# 7. Conclusion

The analysis offers valuable guidance for Blinkit to focus marketing and stocking strategies:  
- Increase inventory for high-performing product types.  
- Leverage Regular-fat product popularity in promotions.  
- Target Tier 3 outlet expansions.  
- Study successful older outlets for operational best practices.