**📊 Blinkit Sales Analysis ReportLocation**

**Objective:**

The goal of this project was to analyze sales data from Blinkit to uncover patterns in product categories, pricing, and outlet characteristics that influence overall sales performance.

**Tools & Libraries Used:**

* **Python**
* **Pandas & NumPy** – Data cleaning, manipulation, and numerical analysis
* **Matplotlib & Seaborn** – Data visualization
* **Correlation Heatmap** – Custom feature to identify variable relationships

**Process & Methodology:**

1. **Data Cleaning & Preparation**
   * Handled missing values in features such as Item\_Weight.
   * Standardized categorical variables for consistency.
   * Removed duplicates and ensured data types were correct.
2. **Exploratory Data Analysis (EDA)**
   * Distribution of item weights, visibility, MRP, and sales studied.
   * Sales trends analyzed by **item category, outlet type, and outlet size**.
   * Boxplots and histograms used to identify outliers and skewness in sales.
3. **Correlation Heatmap (Custom Addition)**
   * Implemented a correlation heatmap to visualize linear relationships between numerical features.
   * Found meaningful patterns: e.g., higher MRP items often correlated with higher sales volume.

**Key Insights:**

* **Outlet size & type** play a major role in sales distribution.
* **Item MRP** is strongly related to sales, highlighting customer demand patterns.
* Smaller outlets showed limited diversity in sales, while supermarkets had higher sales across categories.
* The **correlation heatmap** revealed strong positive correlation between Item\_MRP and Item\_Outlet\_Sales.

**Outcome:**

* Successfully derived insights into sales drivers and outlet performance using Python-based EDA.
* Enhanced the analysis by integrating a correlation heatmap, improving interpretability of feature relationships.
* Demonstrated practical skills in **data cleaning, visualization, and exploratory analysis**.