

Retail Sales Data Analysis using Python

1. Introduction

This project analyzes retail sales data to discover business insights such as sales trends, customer behavior, and product performance using Python data analysis libraries.

2. Objectives

- 1 Analyze overall sales performance
- 2 Identify top selling product categories
- 3 Understand customer purchasing behavior
- 4 Find monthly sales trends
- 5 Detect high-value customers

3. Technologies Used

- 1 Python
- 2 Pandas for data manipulation
- 3 Matplotlib for visualization

4. Data Processing Steps

- 1 Load dataset
- 2 Clean missing values
- 3 Convert data types
- 4 Perform aggregation analysis
- 5 Generate visualizations

5. Analysis Performed

- 1 Total sales calculation
- 2 Sales by product category
- 3 Sales by gender
- 4 Sales by age group
- 5 Monthly sales trend
- 6 Top customers identification

6. Output

The project generates summary statistics and bar chart visualizations showing sales distribution across different dimensions.

7. Applications

- 1 Business decision making

- 2 Marketing strategy planning
- 3 Customer segmentation
- 4 Inventory management