**Title:**

**Sales Performance Analysis of a Commercial Store**

**Objective:**

To analyse sales data of a commercial store to gain insights into product performance, customer behaviour, and regional trends. The goal is to support strategic decision-making by identifying best-selling products, peak sales periods, and top customers.

**Dataset Description:**

The dataset used contains **300 synthetic sales records** from January to March 2025. It includes the following columns:

* Date: Transaction date
* Product: Name of the product sold
* Category: Product category
* Price: Unit price of the product
* Quantity: Quantity sold
* Total Sale: Total revenue from each transaction
* Customer ID: Unique ID for each customer
* Location: City of purchase

**Methodologies Used:**

| **Task** | **Technique Used** |
| --- | --- |
| Data Aggregation | pandas.groupby() |
| Trend Analysis | Line Chart with matplotlib.pyplot |
| Product and Category Ranking | Bar & Pie Charts for grouping and sorting |
| Customer Segmentation | Revenue aggregation by Customer ID |
| Regional Sales | Grouping and bar chart by Location |

**Analysis Performed:**

1. **Total Sales Over Time**
   * Line chart to observe daily sales trends
   * Identifies peak periods of customer purchases
2. **Top-Selling Products**
   * Bar chart showing which products generate the highest revenue
3. **Sales by Category**
   * Pie chart visualizing contribution of each product category
4. **Sales by Location**
   * Bar chart analyzing regional sales performance
5. **Top 5 Customers**
   * Bar chart highlighting most valuable customers by revenue

**Key Insights:**

* Certain products such as *iPhone 13* and *Dell Laptop* dominate revenue share
* Sales show peaks around mid-February, suggesting seasonal patterns
* *Mumbai* and *Bangalore* are leading cities in terms of sales
* A few customers contribute significantly to the store's revenue, indicating potential for loyalty programs

**Conclusion:**

This analysis helps stakeholders make informed decisions regarding:

* Inventory planning
* Marketing strategies
* Regional expansion
* Customer retention campaigns