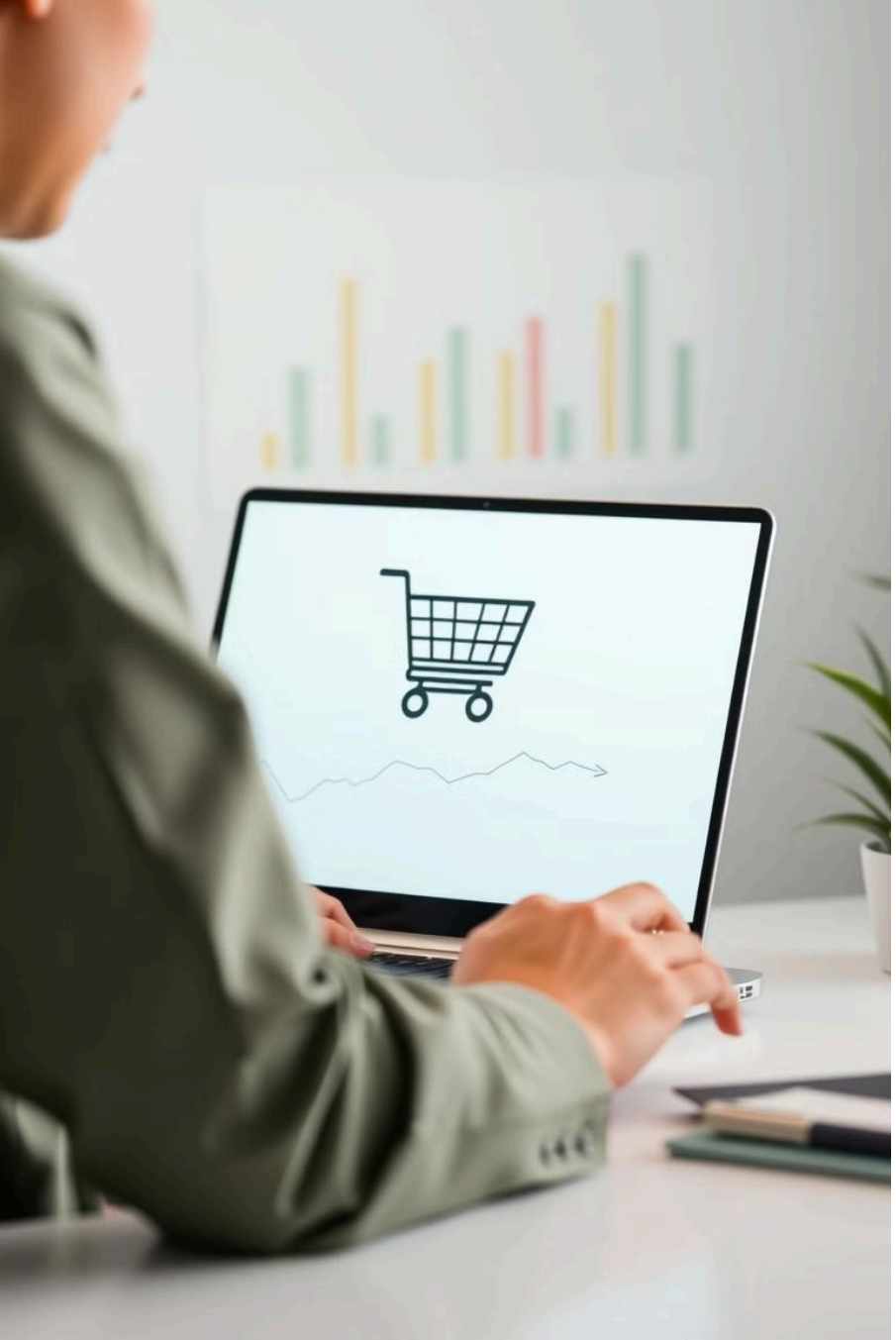


E-commerce Data Analysis Using Python

Introduction to the Project

Project Goal

To gain insights from e-commerce data for improved customer experience, marketing, and sales.

Data Source

We will use a hypothetical dataset containing customer transactions, product information, and website interactions.

Data Collection and Preprocessing

Data Sources

Gather data from Sample -Superstore.csv

Data Cleaning

Remove duplicates, handle missing values, and standardize data formats for consistency.

Exploratory Data Analysis (EDA)

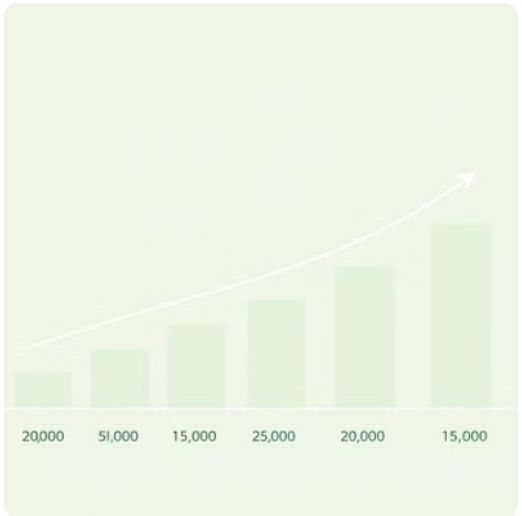
Descriptive Statistics

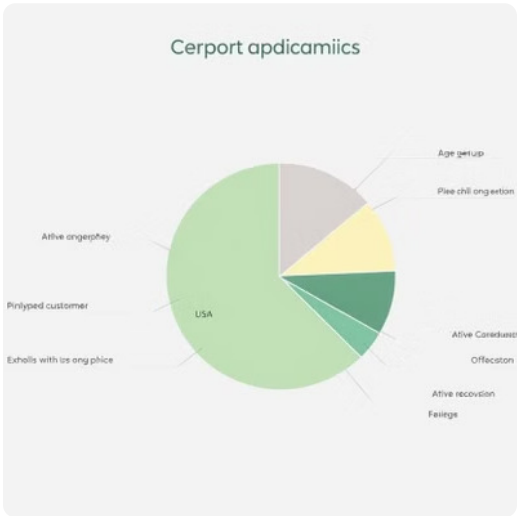
Calculate measures like mean, median, and standard deviation to understand data distribution.

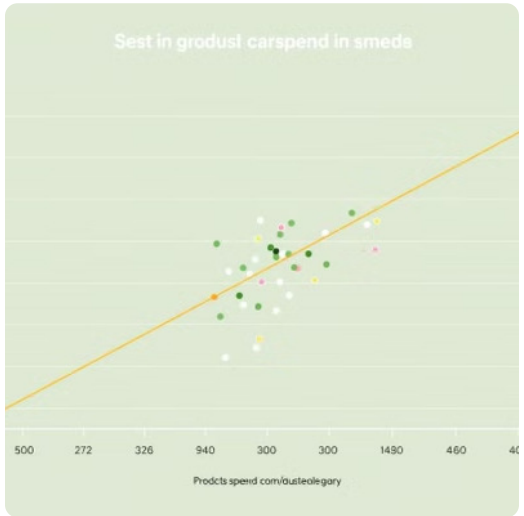
Data Visualization

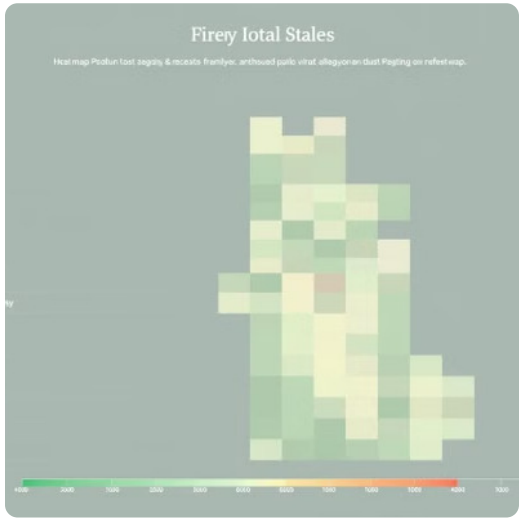
pie chart, line chart, and bar chart to identify trends and patterns.

Visualization and Insights







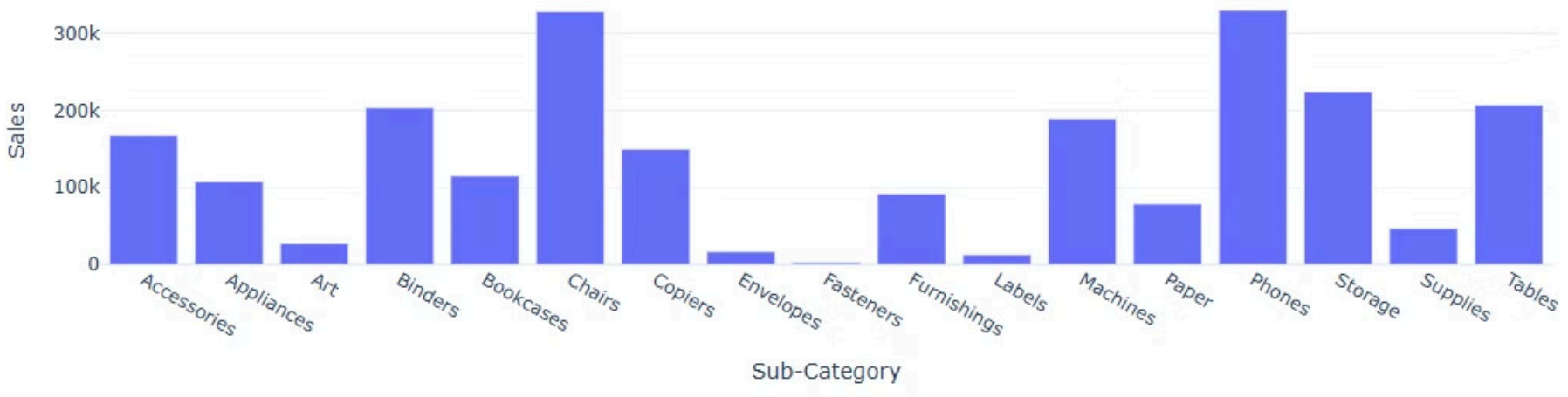


You need to calculate the monthly sales of the store and identify which month had the highest sales and which month had the lowest sales.

You need to analyze sales based on product categories and determine which category has the lowest sales and which category has the highest sales.

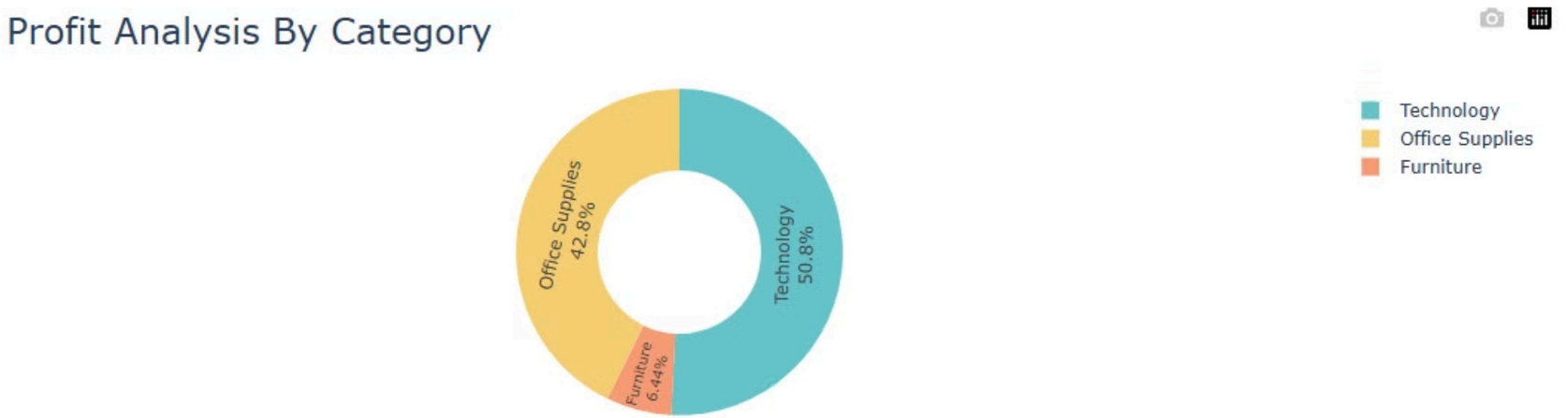
Furniture has the highest sales, while Office Supplies has the lowest sales.

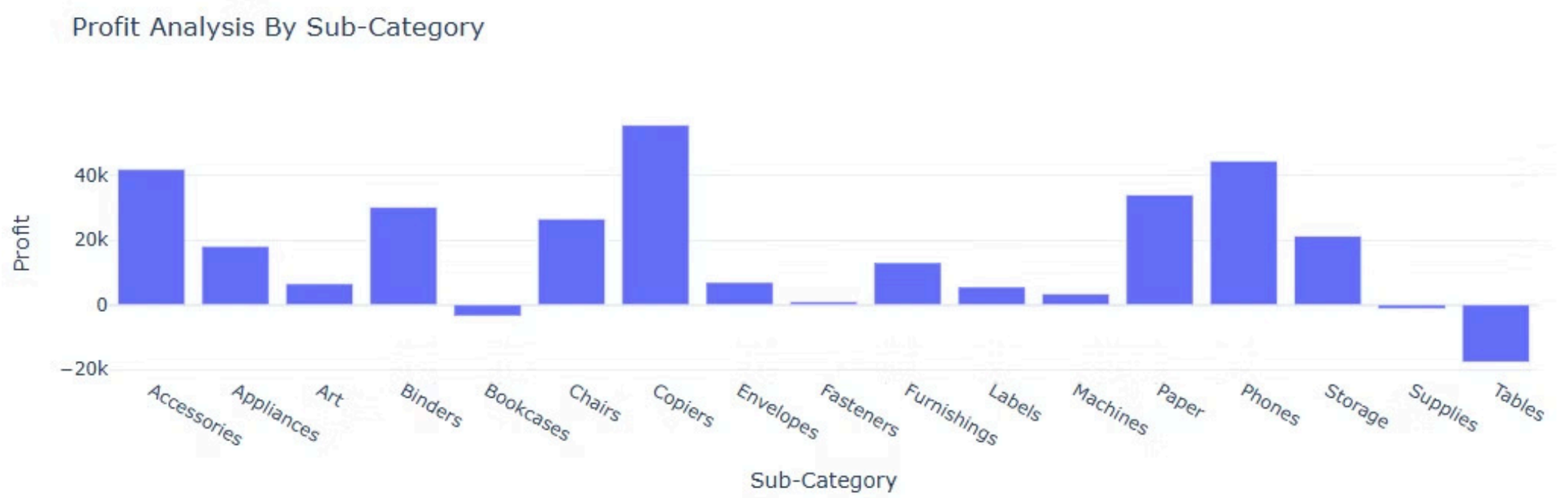
Sales Analysis by Sub-Category



You need to analyze the monthly profit from sales and determine which month had the highest profit.

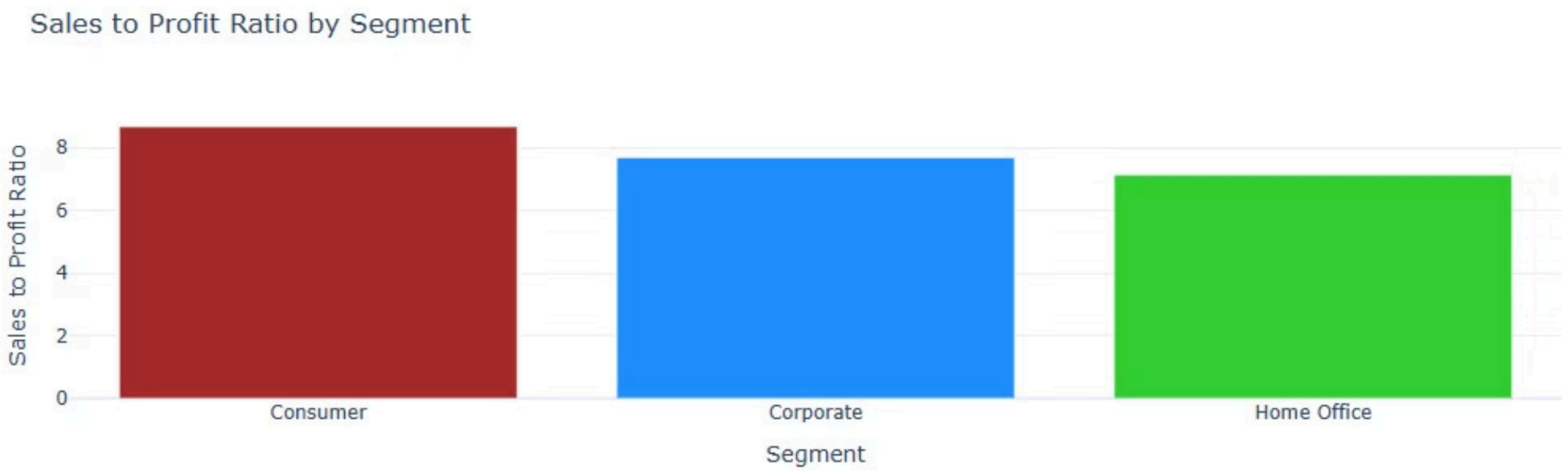
Analyze the profit by category and sub-category.





Sales and Profit by Customer Segment

Analyze the sales to profit ratio.



Conclusion

Technology and Consumer segments drive the highest sales and profits, while sub-categories like Fasteners and Tables need focus for improvement. December remains critical for performance with both high sales and profit trends.