Sales Data Analysis using Python

This is a complete beginner-friendly Python Data Analytics project. It analyzes a sample sales dataset using pandas, matplotlib, and seaborn, and provides key business insights and charts.

Project Files

File Name	Description
sales_analysis.py	Main Python script for data analysis
Sales.csv	Input dataset (sales records)
monthly_summary.csv	Auto-generated output file (monthly totals)
README.md	Documentation and instructions

Libraries Used

pip install pandas matplotlib seaborn

Sample Data Preview (Sales.csv)

Order ID	Product	Category	Region	Customer	Date	Quantity	Price	Sales	Profit
1001	Laptop	Electronics	North	A	2023-01-01	1	800	800	160
1002	Monitor	Electronics	South	B	2023-01-08	2	200	400	80
1003	Keyboard	Accessories	East	C	2023-01-15	3	50	150	30

Features Performed

- Data cleaning: removing duplicates, converting dates

- Created Month column from Date

- Grouped by region, category, product

- Generated graphs:

  - Monthly Sales Trend (bar chart)

  - Region-wise Sales (bar chart)

  - Top 5 Products (bar chart)

  - Profit Share by Category (pie chart)

- Exported CSV: monthly_summary.csv

Sample Output: monthly_summary.csv

Month	Sales	Profit
2023-01	1700	340.0
2023-02	1200	240.0
2023-03	850	170.0

Key Business Insights

- Electronics generated highest revenue

- Laptop was the best-selling product

- North and South regions had most sales

- Sales peaked in specific months

Visuals (Shown on Run)

- Bar chart: Monthly sales trend

- Bar chart: Region-wise sales

- Bar chart: Top 5 products

- Pie chart: Profit share by category

How to Run This Project

1. Clone or download this repository

2. Ensure Sales.csv is in the same folder

3. Run the Python file:

```
python sales_analysis.py
```

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