**E-commerce Sales Analysis (Python Project)**

Project Description

This project involves analyzing eCommerce sales data using Python to uncover key insights into sales trends, customer behavior, and product performance. The goal was to showcase Python programming and data analysis skills by transforming raw data into actionable insights. The analysis leveraged Python libraries to clean, explore, and visualize the data effectively.

Tools/Technologies: Python, Pandas, Numpy, Matplotlib, Seaborn, Plotly, Jupyter Notebook

**Project Goals or Objectives**

The main objectives were:

1. Analyze sales trends over time.
2. Identify top-selling products, regions, and customer segments.
3. Evaluate the impact of discounts on profitability and sales volume.
4. Provide actionable insights for business decision-making.

**What I Learned or Achieved**

* Improved skills in Python for data manipulation and visualization.
* Mastered EDA techniques to uncover trends, patterns, and outliers in data.
* Gained hands-on experience in creating both static and interactive visualizations.
* Developed business insights, such as identifying the most profitable regions and optimal discount strategies.

**Detailed Steps or Methodology**

1. Data Collection:  
   Used an eCommerce dataset in CSV format as the primary data source.
2. Data Cleaning:
   * Addressed missing values and ensured data integrity.
   * Removed duplicates and standardized formats for analysis.
3. Data Analysis:
   * Used Python libraries like pandas and numpy to perform data aggregation and manipulation.
   * Explored metrics such as sales, profits, discounts, and regional performance.
   * Visualized data trends using matplotlib, seaborn, and Plotly.
4. Report Generation:  
   Created a detailed analysis report with visualizations highlighting key insights into sales performance and customer behavior.