**Project Overview: Exploratory Data Analysis of Company Sales Data**

This project focuses on performing exploratory data analysis (EDA) on a company's sales data using Python within a Jupyter Notebook environment. The main objective is to uncover insights that can inform strategic decisions for the company.

**Key Steps and Tools Used**

**1. Data Cleaning and Manipulation**

**Data Cleaning:** Ensured data quality by handling missing values, removing duplicates, and correcting data types.

**Data Manipulation:** Transformed the data to facilitate analysis. This included operations such as grouping, aggregating, and filtering using the Pandas library.

**2. Libraries Utilized**

**Pandas:** For data manipulation and DataFrame operations.

**NumPy:** For numerical operations and handling arrays.

**Seaborn:** For creating visually appealing and informative statistical graphics.

**Matplotlib:** For basic plotting and visualization, providing foundational support for Seaborn.

**Analysis Conducted**

The analysis aimed to identify key areas for the company to focus on, including:

**Important States:** Analyzed the sales data by state to determine which states contribute the most to the company's revenue. This helps in targeting marketing efforts and resource allocation.

**Occupations:** Investigated the sales distribution across different customer occupations to understand which segments are the most lucrative.

**Products:** Evaluated product performance by examining sales figures for different products. This can guide inventory management and product promotion strategies.

**Age Groups:** Examined the sales data across different age groups to identify which demographics are the most active customers.

**Visualizations**

To facilitate understanding and communicate findings effectively, various visualizations were created using Seaborn and Matplotlib. These included:

Bar Plots: For comparing sales figures across different categories (e.g., states, products, age groups).

Count Plots: For showing the frequency of sales within specific categories.

**Conclusion**

The insights gained from this exploratory data analysis can help the company make data-driven decisions, optimise marketing strategies, and improve overall business performance. By focusing on high-performing states, lucrative customer segments, and popular products, the company can enhance its sales and customer satisfaction.