**Project Title: Ecommerce Sales Analysis Using Python and SQL**

**Project Overview:**

This project leverages Python and SQL to conduct an in-depth analysis of eCommerce sales, extracting meaningful insights into customer behavior, geographical patterns, and order trends. By connecting to a MySQL database, the analysis covers various aspects of sales data from unique city listings to annual order counts, highlighting specific metrics and trends valuable for business decision-making.

**Tools/Technologies**:

* **Languages:** Python and SQL
* **Python Libraries:** Pandas, NumPy, Matplotlib, Seaborn, MySQL Connector
* **Jupyter Notebook**

**Skills Demonstrated:**

* **SQL Querying**: Proficient use of SQL for extracting, filtering, and manipulating data within MySQL.
* **Data Manipulation and Visualization**: Utilized Python libraries to analyze, clean, and visualize the data effectively.
* **Database Management**: Experienced in handling data through SQL in a MySQL environment, enabling dynamic and complex data querying.

**Objectives:**

* **Database Connection & Data Retrieval**: Established a connection to a MySQL database using mysql.connector to retrieve and analyze eCommerce data.
* **Sales Trends by Year**: Analyzed the number of orders placed over specific years (e.g., 2017), which aids in understanding yearly trends.
* **Python & SQL Integration**: Combined SQL queries and Python's data manipulation libraries (Pandas, Matplotlib, and Seaborn) to seamlessly process and visualize data.

**Key Features:**

* **Comprehensive Data Retrieval with SQL**: Connected to MySQL and executed SQL queries to retrieve specific eCommerce data, such as unique customer locations and order counts.
* **Data Cleaning and Preparation**: Processed raw data to ensure consistency and relevance, setting a foundation for accurate analysis and visualization.
* **Data Visualization and Reporting**: Leveraged Python’s data visualization libraries (Matplotlib and Seaborn) to create clear, actionable visual reports that illustrate trends and key insights.

**Outcome:**

* **Sales Performance Trends**: Determined sales volumes across different years, allowing for trend analysis and strategic forecasting.

**Conclusion:**

This project provided a comprehensive analysis of eCommerce sales data, demonstrating how SQL and Python can be combined for effective data processing and visualization. The analysis identified critical trends, including customer distribution across cities and yearly order volumes, empowering the business with actionable insights for strategic planning. The project showcases the potential of SQL and Python in handling and analyzing complex datasets, underscoring the importance of data-driven decision-making in eCommerce.