Task 1: Exploratory Data Analysis (EDA)

We analyzed the given eCommerce dataset containing customer and transaction details. Below are key findings and insights derived from the dataset.

Key Findings from EDA:

- **Customer Distribution:** Customers are spread across multiple regions, with some regions having significantly more customers than others.

- **Transaction Patterns:** Certain products are sold more frequently, contributing to higher revenue.

- **Revenue Distribution:** A small percentage of customers contribute to a large portion of the total revenue (Pareto principle).

- **Seasonality:** Transactions exhibit seasonal trends, peaking in certain months.

Business Insights

1. **High-Value Customers Drive Revenue**

   o A small group of customers contributes to the majority of the revenue. Implementing loyalty programs can help retain these valuable customers.

2. **Region-Based Marketing Strategy**

   o Certain regions have more customers and generate higher revenue. Focused marketing campaigns in these regions can boost sales further.

3. **Popular Products Optimization**

   o Some products are purchased more frequently than others. Increasing stock and running promotional discounts on these items can enhance revenue.

4. **Seasonal Trends Impact Sales**

   o Transaction volumes peak during specific months. Businesses should plan inventory and marketing strategies accordingly to maximize profits.

5. **Customer Segmentation for Personalized Offers**

   o Segmenting customers based on purchase history and preferences allows personalized promotions, increasing customer engagement and retention.