Exploratory Data Analysis (EDA) and Business Insights

1. **Overview:**
   The exploratory data analysis (EDA) was conducted on an eCommerce transactions dataset, consisting of three files: `Customers.csv`, `Products.csv`, and `Transactions.csv`.
   The goal was to uncover patterns, trends, and actionable business insights.

2. **Key Insights:**
   Insight 1:
   Regional Distribution of Customers: South America leads with 59 customers, followed by Europe (50), North America (46), and Asia (45).
   Focused regional marketing can yield better engagement and sales.
   Insight 2:
   Top-Selling Products by Revenue: Top products include ActiveWear Smartwatch ($39,097), SoundWave Headphones ($25,212), and SoundWave Novel ($24,508).
   Targeted promotions on these products can maximize revenue.
   Insight 3:
   Seasonal Trends in Revenue: January 2024 saw the highest revenue of $66,376, indicating strong seasonal demand.
   Seasonal campaigns during January can capitalize on this trend.
   Insight 4:
   High-Value Customers: A small group of customers generates a significant portion of revenue.
   Launching loyalty programs for these customers can enhance retention and sales.
   Insight 5:
   Product Categories Driving Sales: Electronics and books dominate sales, consistently driving revenue across months.
   Introducing complementary products in these categories may boost cross-selling opportunities.

3. **Recommendations:**
   Regional Marketing: Allocate marketing resources more heavily towards South America.
   Product Promotions: Prioritize advertising and discounts for top-selling products.
   Seasonal Campaigns: Develop focused strategies for peak seasons like January.
   Customer Loyalty: Establish loyalty programs for high-value customers to increase retention.
   Category Expansion: Explore additional product lines in high-performing categories.

4. **Methodology:**
   Data Cleaning: Addressed missing values and converted date columns to datetime format.
   EDA Techniques: Analyzed customer distribution, revenue by product and category, and monthly trends.
   Tools Used: Python, pandas, and matplotlib for analysis and visualization.

5. **Conclusion:**
   This analysis has provided actionable insights to improve the company's marketing strategies, product promotions, and customer engagement initiatives.
   Focusing on the identified areas can drive growth and maximize profitability.

Top 10 Customers by Total Spending

Top 10 Products by Quantity Sold