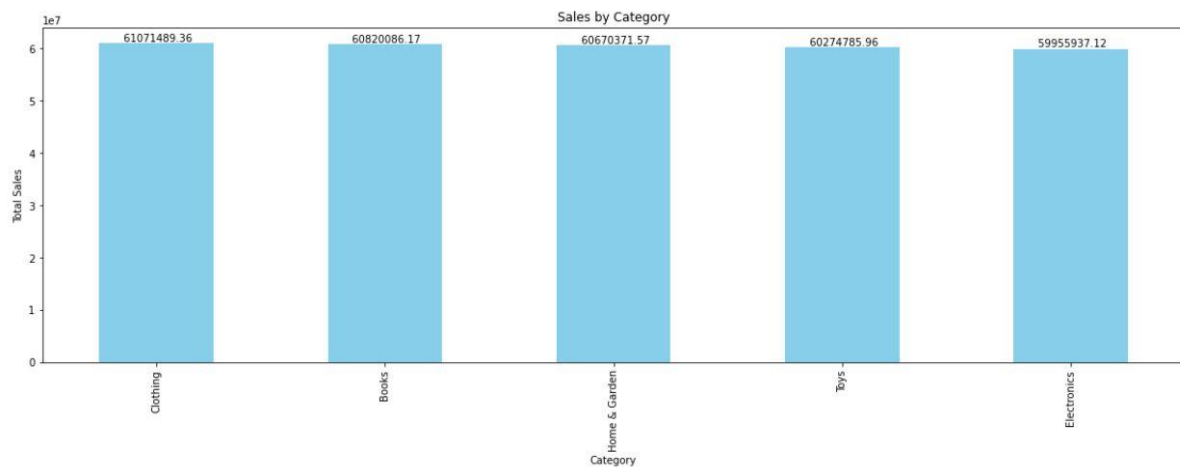


## E-Commerce Sales Analysis using Python

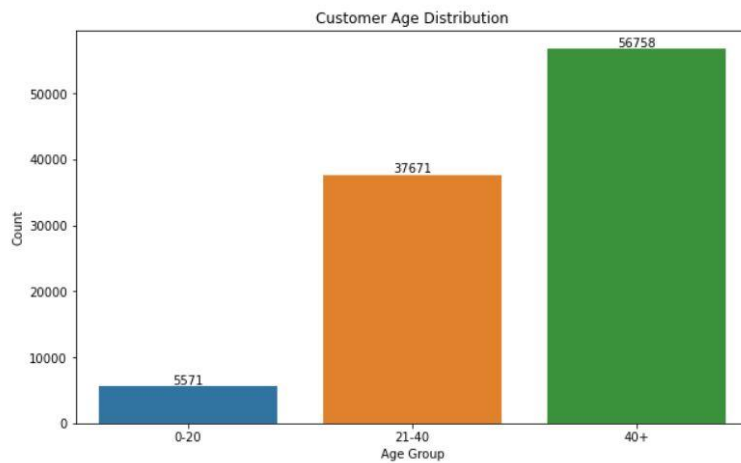
Performed e-commerce sales analysis using Python (NumPy, Pandas, Matplotlib, Seaborn) to derive key sales insights and trends.

Created visualizations using Python data visualization libraries (Matplotlib and Seaborn) to derive crucial sales insights, facilitating data-driven decision-making.

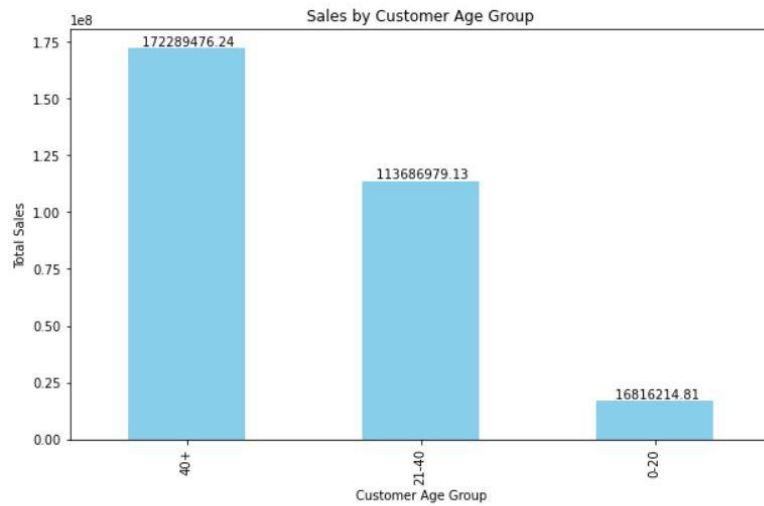
Analyzed sales data by product category to determine best-performing category and least-performing category. Explored the sales contributions of different customer segments and identified the month with the highest and lowest sales.



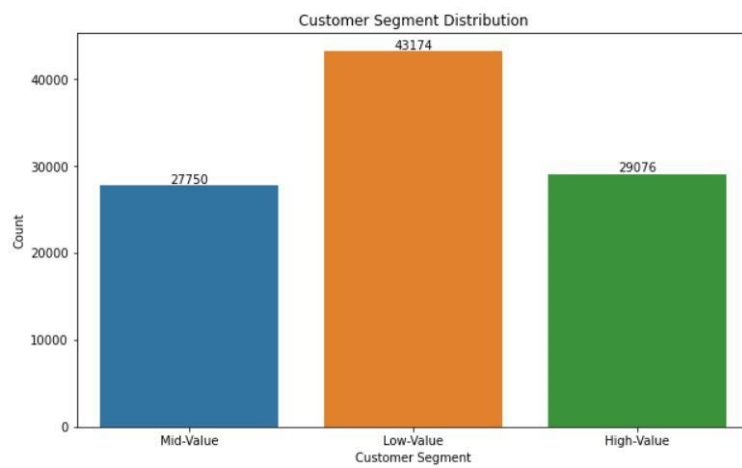
# Category with Highest Sales: Clothing, and Category with Lowest Sales: Electronics.



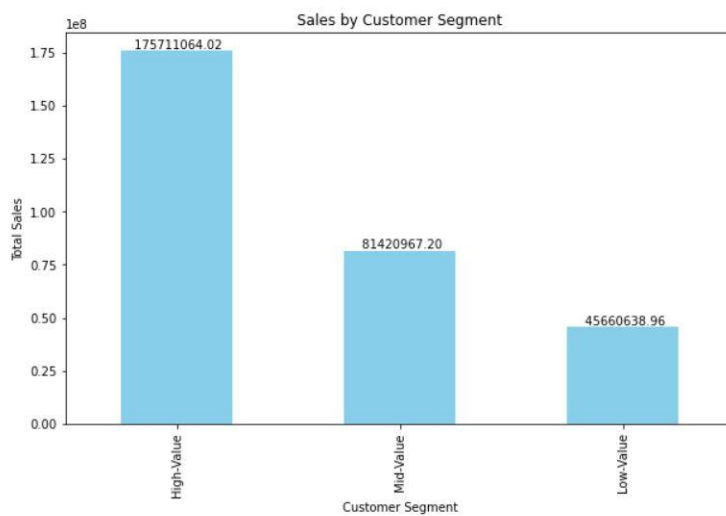
# Age Group with the most customers: 40+ (56,758), and Age Group with the fewest customers: 0-20 (5,571).



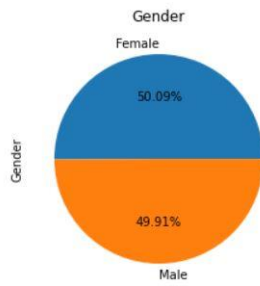
# Age Group with the Highest Sales: 40+ Age Group, and Age Group with the Lowest Sales: 0-20 Age Group.



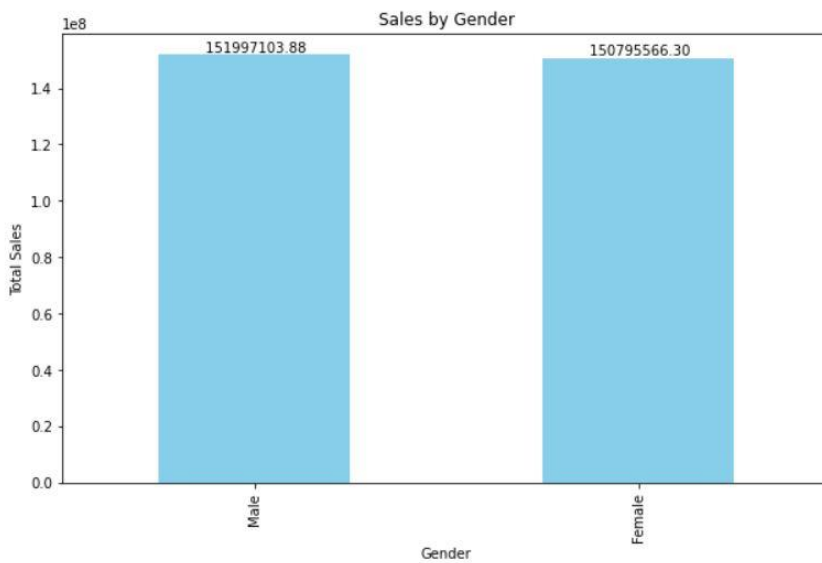
# Customer Segment with the most customers: Low-Value (43,174),  
# and Customer Segment with the fewest customers: Mid-Value (27,750).



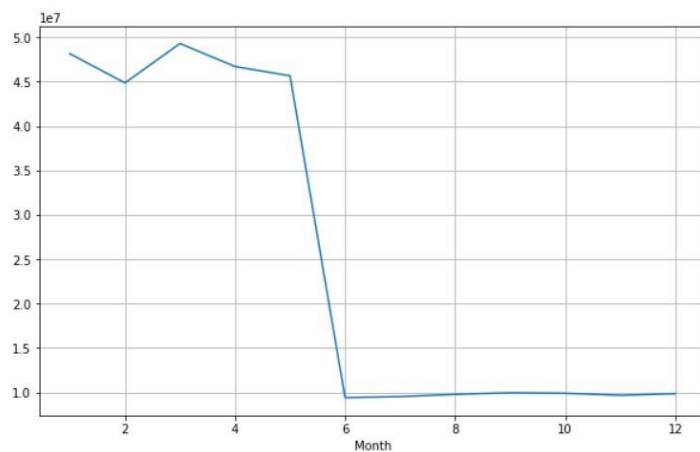
# Customer Segment with the Highest Sales: High-Value, and Customer Segment with the Lowest Sales: Low-Value.



# There are more female customers (50090, 50.09%) than male customers (49910, 49.91%).



# Male customers contribute more to total sales than female customers.



# Month with the highest sales: 3rd Month (March), and Month with the lowest sales: 6th Month (June).

### Insights:

Category with Highest Sales: Clothing, and Category with Lowest Sales: Electronics.

Age Group with the most customers: 40+ (56,758), and Age Group with the fewest customers: 0-20 (5,571).

Age Group with the Highest Sales: 40+ Age Group, and Age Group with the Lowest Sales: 0-20 Age Group.

Customer Segment with the most customers: Low-Value (43,174), and Customer Segment with the fewest customers: Mid-Value (27,750).

Customer Segment with the Highest Sales: High-Value, and Customer Segment with the Lowest Sales: Low-Value.

There are more female customers (50090, 50.09%) than male customers (49910, 49.91%).

Male customers contribute more to total sales than female customers.

Month with the highest sales: 3rd Month (March), and Month with the lowest sales: 6th Month (June).

### **Conclusion:**

High-Value customers are responsible for the highest sales, and the 40+ age group has both the most customers and the highest sales. Concentrating marketing and product development on this group is the most efficient path to revenue growth.

Clothing has the highest overall sales, so investing in promotions within this category will likely yield the best return.

While female customers are the majority, they contribute less to total sales than male customers. Offer promotions on high-cost items or bundles that provide greater value for customers.

The "High-Value" segment contributes the most sales, increasing loyalty programs and personalized outreach to this group will likely drive repeat business and increase their overall lifetime value.

Sales peak in March. Focusing promotional efforts during these times will take advantage of existing positive trends to maximize sales.