TASK 1:

Business Insights from EDA

# 1. Top-Selling Categories

The analysis of top-selling categories shows that certain product categories consistently generate higher sales compared to others. This indicates a clear customer preference for certain products, and businesses should consider focusing their marketing efforts, inventory management, and stock replenishment on these top categories. Additionally, analyzing category performance over time could help identify trends and provide insights into shifts in customer preferences, enabling businesses to adapt quickly to market changes.

# 2. Seasonal Trends in Transactions

The seasonal trends in transactions reveal noticeable fluctuations in sales throughout the year. Certain months demonstrate significantly higher transaction values, suggesting seasonal factors or special events may be driving demand. This insight allows businesses to anticipate peak periods and plan targeted promotions, inventory stocking, and staffing adjustments to maximize sales during high-demand months, such as holidays or special seasons.

# 3. Average Transaction Value

The analysis of the average transaction value provides a crucial metric for understanding customer spending behavior. The average transaction value is an essential KPI for pricing strategies and assessing the overall performance of the business. If the value is lower than expected, businesses may want to implement strategies to encourage customers to purchase more items or increase the average order size, such as bundle offers or upselling.

# 4. Customer Segments by Total Transaction Value

The identification of high-value customers based on total transaction value is an important business insight. A small group of customers is contributing a significant portion of the overall sales, which suggests that these customers are highly valuable and should be nurtured through loyalty programs, personalized offers, and excellent customer service. Retaining and growing these high-value segments can significantly impact overall profitability.

# 5. Sales Trends by Day of the Week

The sales analysis by day of the week indicates that certain weekdays generate more sales than others. This insight helps businesses optimize their operations by focusing promotions or discounts on the days with lower sales to balance performance throughout the week. Additionally, businesses may consider adjusting store hours or staffing levels to align with peak demand days.