Analyzing Customer Orders Using Python Write-Up

Project Title :

Analyzing Customer Orders Using Python

Objective :

To analyze e-commerce customer order data using Python data structures and extract actionable business insights.

Key Functional Areas :

1. **Store Customer Orders**
   - Used lists and dictionaries to store customer names and order details (product, price, category).
2. **Classify Products by Category**
   - Created mappings and used sets to manage and display unique product categories.
3. **Analyze Customer Orders**
   - Loops and conditionals were used to calculate total spending and classify customers into:
     - High Value (> ₹100)
     - Moderate Value (₹50–₹100)
     - Low Value (< ₹50)
4. **Generate Business Insights**
   - Computed:
     - Revenue per category
     - Top 3 highest-spending customers
     - Unique products
     - Customers who bought Electronics
     - Multi-category buyers
5. **Display Organized Results**
   - Displayed summaries using print statements and set operations.

Key Insights:

Area	Insight
High-Spending Customers	Charlie, Eva, and Alice spend the most—target them with loyalty offers.
Electronics Popularity	Most customers purchase electronics—focus marketing on this segment.
Multi-category Purchases	Customers like Eva and Alice shop across multiple categories.
Cross-category Interest	Electronics + Clothing are a strong combination for bundling deals.
Revenue Leaders	Electronics generate the most revenue—optimize inventory here.

Conclusion:

This project demonstrates how Python's built-in data structures and control flow can be effectively used for real-world e-commerce data analysis. It enables business managers to make **data-driven decisions** for **customer segmentation**, **inventory planning**, and **targeted marketing**.