

Task 1: Exploratory Data Analysis (EDA)

- **Business insights**

1. **Most Purchased Product Categories:**

By analyzing the merged dataset, we can see which product categories are the most purchased.

This insight helps identify customer preferences, allowing the company to focus on stocking popular categories.

Books is the most popular category, followed by Electronics

2. **Average Transaction Value by Region:**

The average transaction value varies by region, indicating differences in spending power or product demand across continents.

This can guide region-specific marketing or promotional campaigns.

South America customers have the highest average transaction value

3. **Top Customers by Spending:**

Identifying the top-spending customers helps recognize VIP customers who contribute significantly to revenue.

These customers can be targeted with loyalty programs or special offers.

Customers like C0141 and C0054 are top contributors to revenue.

Special loyalty programs for these customers could boost retention.

4. **Monthly Sales Trend:**

Visualizing monthly sales shows how the company performs over time, including seasonal peaks or troughs.

For example, if sales peak in between July and August.

5. **Popular Product Categories per Region:**

Heatmaps of product categories per region show localized preferences, helping the company optimize inventory for specific regions.

Heatmap showing Books dominating in Asia, while Books is more popular in South America