Merge and reshape data from multiple DataFrames to create complex analytical datasets.

1. Add Task Description:

   Objective: Merge and reshape data from multiple DataFrames to create structured analytical datasets for deeper insights. This involves combining datasets based on shared keys and transforming data into a format suitable for various analytical operations. This task is essential for data preprocessing in data science and business intelligence workflows.

2. Attach Screenshot Of Output.:

```
Merged DataFrame:
   TransactionID  CustomerID  ProductID  Amount CustomerName ProductName  \
0              1         101       1001     200        Alice      Laptop
1              2         102       1002     150          Bob       Phone
2              3         101       1003     300        Alice      Tablet
3              4         103       1001     100      Charlie      Laptop

      Category
0  Electronics
1  Electronics
2  Electronics
3  Electronics

Aggregated Data:
  CustomerName     Category  TotalSales
0        Alice  Electronics         500
1          Bob  Electronics         150
2      Charlie  Electronics         100

Reshaped Data:
Category      Electronics
CustomerName
Alice                 500
Bob                   150
Charlie               100
```

3. Describe Widget/Algorithm Used In Task:

Merging DataFrames:

- **pandas.merge**:
  - Combines two or more DataFrames based on common columns or indices.
  - Supports various types of joins: inner, outer, left, and right, making it flexible for different merging scenarios.
- **Usage**: Frequently used in integrating related datasets (e.g., sales data and customer data).

Reshaping Data:

- **pandas.melt**:
  - Converts wide-format data (columns as variables) into long-format data (rows as variables).
  - Useful for tidying datasets to suit analytical tools.
- **pandas.pivot and pandas.pivot_table**:
  - Reshapes long-format data into a wide format, summarizing information across categories.
  - pivot_table can apply aggregation functions, like mean or sum, for grouped data.

Use Cases:

- Combining sales, product, and customer datasets to analyze sales trends by region and category.
- Reshaping data for visualization tools, such as heatmaps or time-series analysis.