ABC Analysis Code Description

Overall Purpose:
The code performs an ABC Analysis on a sales dataset to classify items (SKUs) into three categories — A, B, C —
based on their contribution to the overall inventory value.
This helps in inventory management by identifying the most valuable items that need stricter control (A),
moderately important items (B), and least critical items (C).

Step-by-Step Explanation:

1. Load the Dataset
- Reads the sales data from SalesKaggle3.csv using Pandas.

2. Rename Columns
- Renames the dataset columns to more meaningful names for analysis:
* SKU_number → Item_ID
* SoldCount → Annual_Usage
* PriceReg → Cost_Per_Unit

3. Calculate Total Value per Item
- Computes Total_Value = Annual_Usage × Cost_Per_Unit.
- This represents the yearly consumption cost for each SKU.

4. Sort Items by Total Value
- Orders the items in descending order of Total_Value, so the most valuable items are considered first.

5. Cumulative Contribution
- Calculates running totals to see how much each item contributes to the overall value:
* Cumulative_Value – progressive sum of item values.
* Cumulative_Percentage – percentage share of each item's contribution to the total.

6. ABC Classification
- Splits items into 3 categories using the Pareto principle (80/20 rule) style:
* A (High-value items) → First ~70% of cumulative value.
* B (Moderate value items) → Next 20% (70–90%).
* C (Low-value items) → Last 10% (90–100%).

7. View Results
- Displays the top 10 items of the analysis with all computed fields.
- Shows the counts of items in each ABC category.

8. Save Results
- Exports the final classified dataset into a new file: ABC_Analysis_New_Result.csv.
- Columns included in the output:
* Item_ID, Annual_Usage, Cost_Per_Unit, Total_Value, Cumulative_Percentage, ABC_Category

In Simple Words:
You took a raw sales dataset, cleaned and prepared it, calculated each item's yearly consumption value,
ranked items by importance, and categorized them into A, B, or C groups.
Finally, you saved the results into a new CSV for further inventory decision-making.