Classroom Assignment <1>: Sales Dataset Analysis using Pandas

Learning Objective:

Perform **statistical and correlation analysis** on a real-world sales dataset using Pandas.
Understand how to compute **percentiles**, **variance**, and **correlations** to uncover insights about customer purchasing behavior.

Expected Completion Time:

Best Case: 20 minutes
Average Case: 25 minutes

Assignment Details:

Dataset Provided

File Name: **SalesDataSet.csv**

Create a Python script named **sales_dataset_analysis.py** that reads the CSV and answers the following questions.

1. What is the **25th percentile** of the *Total Amount*?
2. What is the **median (50th percentile)** of the *Total Amount*?
3. What is the **75th percentile** of the *Total Amount*?
4. What is the **variance** in *Total Amount* across all transactions?
5. What is the **variance** in *Quantity* sold?
6. What is the **correlation** between *Age* and *Total Amount*?
7. What is the **correlation** between *Quantity* and *Total Amount*?
8. What is the **correlation** between *Price per Unit* and *Total Amount*?

Hints to Solve:

- Import Libraries
- Load Dataset.
- Perform Analysis: Apply the functions mentioned above.
- Display Results: Print each result clearly with labels.

Expected Outcome:

Upon completion, you should be able to:

- Calculate **percentiles** to understand data spread.
- Measure **variance** to analyze sales fluctuations.
- Determine **correlations** to identify which factors influence sales the most (e.g., Age, Quantity, or Price).
- Interpret patterns for better sales insights.