

# Data Cleaning Summary

## 1. Handled Missing Values:

- Replaced empty strings with NaN (missing values).
- Found 1 missing value in the 'Order Date' column.

## 2. Removed Duplicate Rows:

- Removed 1 exact duplicate row (duplicate Order ID 1004).

## 3. Standardized Text Values:

- Converted all 'Gender' values to lowercase (e.g., 'Female' -> 'female').
- Standardized 'Country' names (e.g., 'USA', 'U.S.A' -> 'United States').

## 4. Converted Date Format:

- Converted 'Order Date' to datetime format (day-first: dd/mm/yyyy).
- Handled invalid/missing dates using 'errors="coerce"'.

## 5. Renamed Column Headers:

- Renamed headers to lowercase with underscores (e.g., 'Order Date' -> 'order\_date').

## 6. Checked and Fixed Data Types:

- 'quantity': int
- 'price', 'total': float
- 'order\_date': datetime64