Project Instructions — Stage 03: Python Fundamentals

Today's Project Contribution:
Today you'll complete a piece of your full data project.
This task aligns with the **Python Fundamentals** lifecycle stage, where you will:
• Practice working with Python, NumPy, and pandas using mock or toy data.
• Write and save at least one reusable utility function for use in later stages.
• Ensure your project includes foundational scripts and structure to support future work.

By the end of this assignment, your project should include the elements listed below.
Deliverable Options (from Stage Scaffold):

Required:

- `notebooks/python_fundamentals_summary.ipynb` demonstrating use of Python, NumPy, and pandas (with dummy data).
- `src/utils.py` containing at least one reusable function (e.g., column cleaner, date parser).

Optional (Choose One):

- Add markdown documentation explaining each function and its future use.
- Add a second utility function or refactor code for reusability.
- Add a `tests/` folder with a basic test for your utility function(s).

How This Fits Into Your Final Project:
Your work today builds toward a complete, end-to-end project by establishing **modular, reusable Python code** for later stages such as preprocessing, EDA, and modeling.

Before next class:

- Save files to appropriate folders (`/src/`, `/notebooks/`).
- Commit and push changes to GitHub.
- Review any assumptions, notes, or reusable code patterns — these will carry across your stages.

Explicit Chain:
In your **homework**, you explored basic `pandas` and `NumPy` operations and utility function design.
Now, you will adapt that work to formalize your project's **reusable codebase**, ensuring functions are clearly written, documented, and ready for import into later stages.

By the end of the course, your full project will follow the complete lifecycle.