📚 Glossary: 05 - Foundations

Cell
A block in a Jupyter notebook that can contain **code** or **Markdown**. Code cells run Python, Markdown cells render formatted text.

Command Mode
Notebook mode (blue border) where you can operate on cells (add, delete, move). Enter with `Esc`.

Edit Mode
Notebook mode (green border) where you type inside a cell. Enter with `Enter`.

DataFrame
A 2D table of data provided by Pandas. Has rows, columns, and labels.

Docstring
The built-in documentation attached to a Python object, viewable with `?`, `??`, or `help()`.

Export
Saving a notebook as another format (`.py`, `.html`, `.pdf`). Done via *File → Download as…* or `%save`.

File Path
The location of a file in your system (`/content/data/file.csv` in Colab, `C:\Users\me\data.csv` on Windows).

JSON (JavaScript Object Notation)
A structured file format using key–value pairs. Often used for configs and web APIs.

Kernel
The "engine" that runs code inside Jupyter. For Python, this is IPython.

LaTeX
A math typesetting language. Used in notebooks for equations like $E = mc^2$.

List Comprehension
A compact way to build lists in Python: `[x**2 for x in range(10)]`.

Magic Command
Special IPython commands starting with `%` or `%%` that provide shortcuts (e.g., `%time`, `%pwd`).

Markdown
A lightweight markup language for text formatting in notebooks: `**bold**`, `*italic*`, `# heading`.

NumPy
A Python library for fast array operations. Supports vectorized math like `arr ** 2`.

Performance
How efficiently code runs. Measured with `%time`, `%timeit`. NumPy is usually faster than loops.

Tab Completion
Pressing `Tab` after a dot (`obj.`) in Jupyter to see available methods and attributes.

Variable Explorer
Commands like `%who` and `%whos` that list variables currently in memory.

Vectorization
Applying operations to an entire array at once (NumPy/Pandas) instead of looping.

Virtual Environment (venv)
A self-contained Python environment with its own installed packages. Not part of Foundations, but used locally for clean setups.