Introduction to Jupyter Notebooks

A Tool for Interactively Developing and Presenting Data Science Projects

What is a “notebook”?

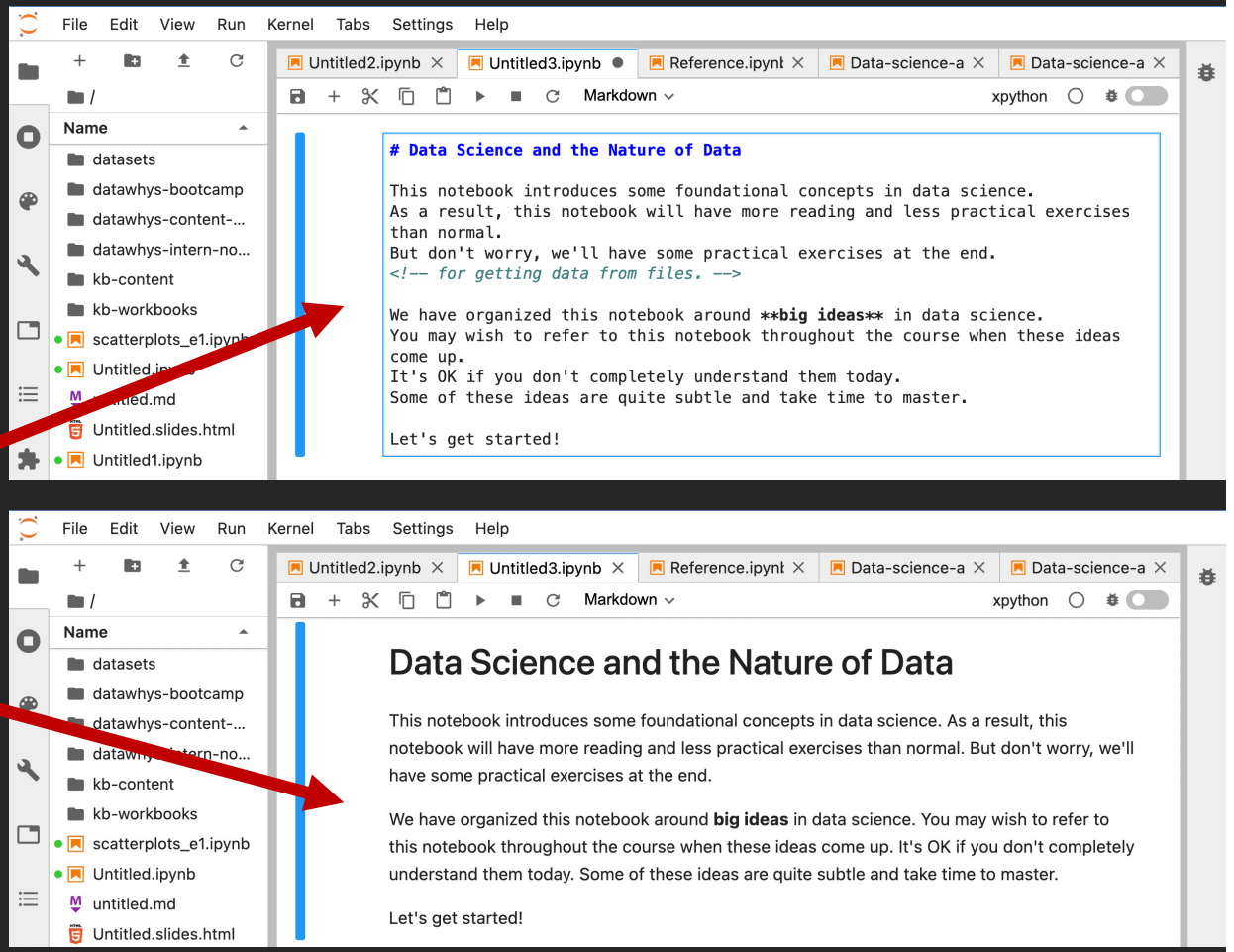
- It is a **computational document**.
- Computational documents allow users to create a single file with:
  - Prose elements
  - Images
  - Embedded code fragments
  - Code execution outputs
  - Formulas
  - Charts
- How are these elements combined?

Cells

- Each notebook is made up of distinct **cells**
- Each cell is **executable**
- Each cell has a **cell-type**
- Cells of different types can be used to make different document elements
- Two main types of cells:
  - **Markdown cells**
  - **Code cells**

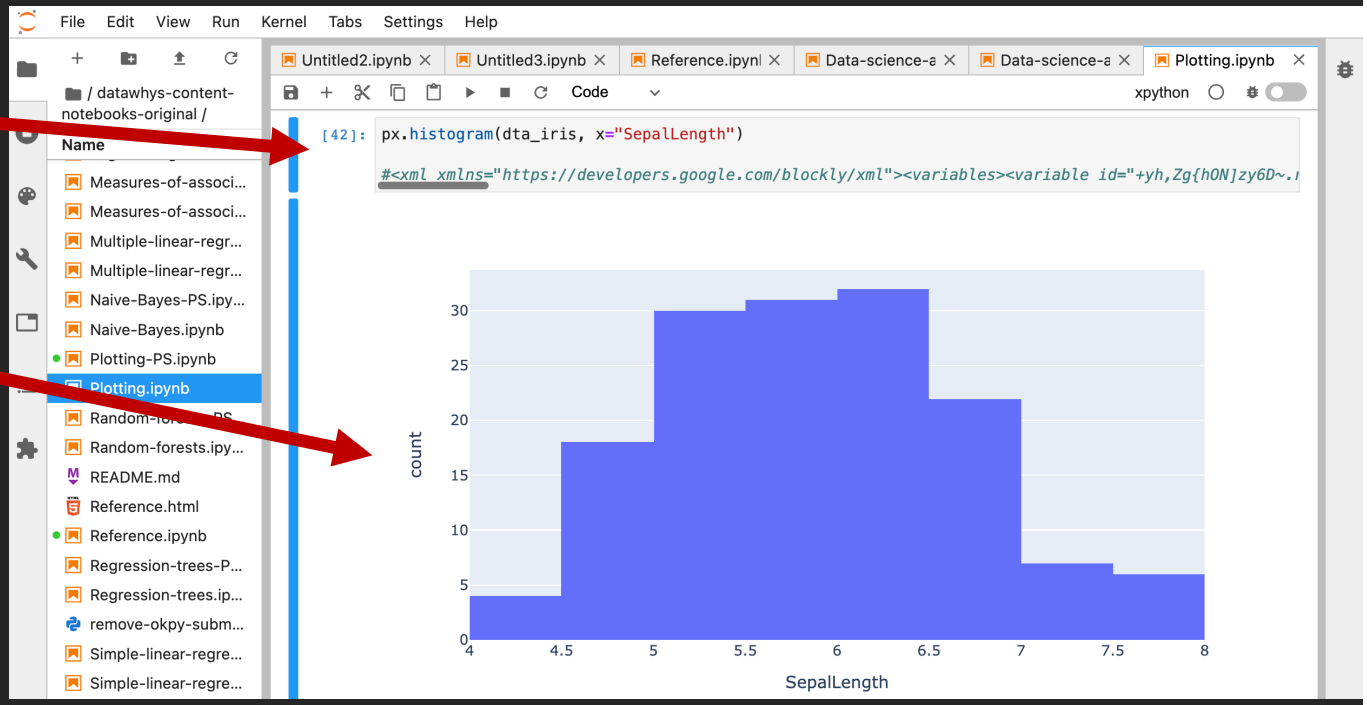
Markdown Cells

- Contain:
  - Prose in Markdown syntax
  - HTML
  - LaTeX formulas
- Editor View
- Rendered View



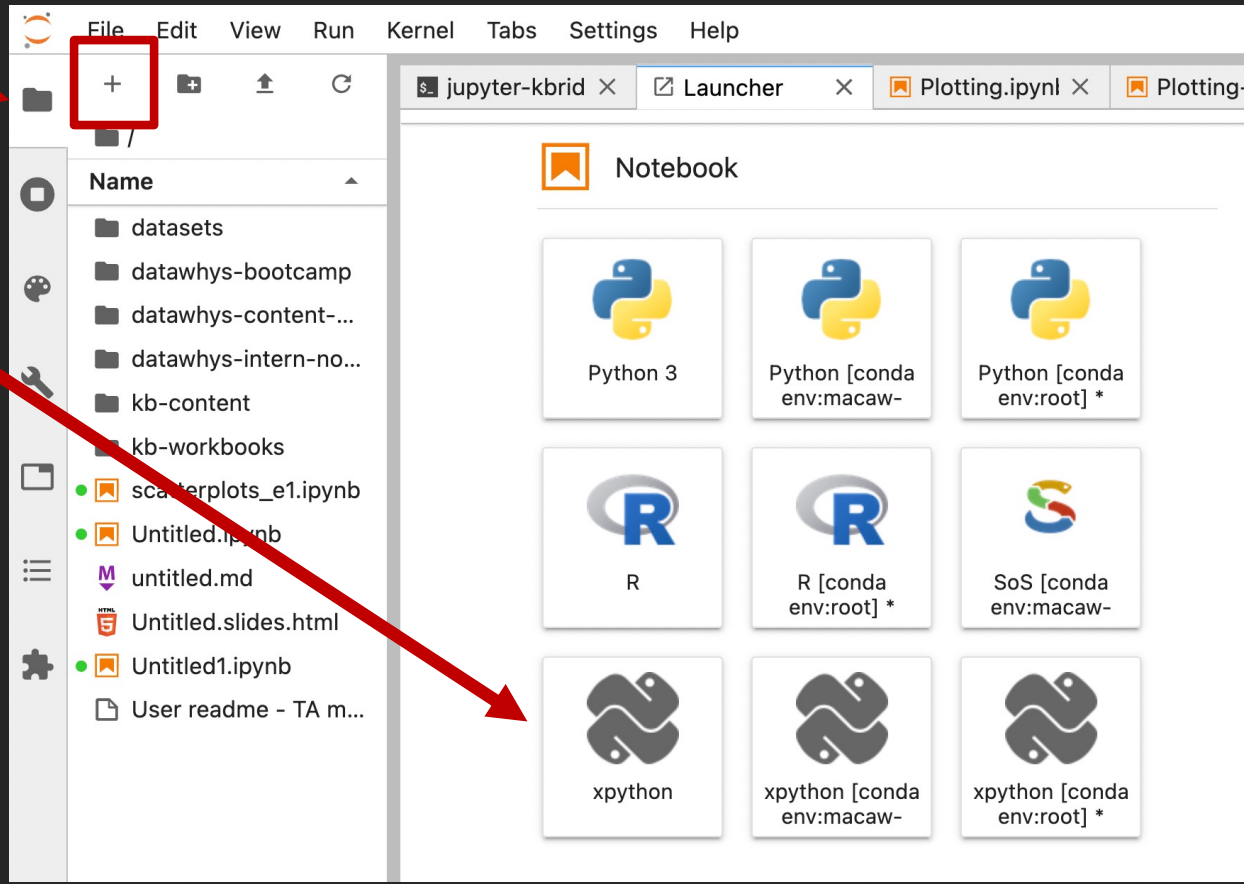
Code Cells

- Code Input
  - Python code
  - Blockly xml tag
- Code Output
- Code cells in same notebook have shared memory stack (**Kernel**)



How-to: Create a Notebook

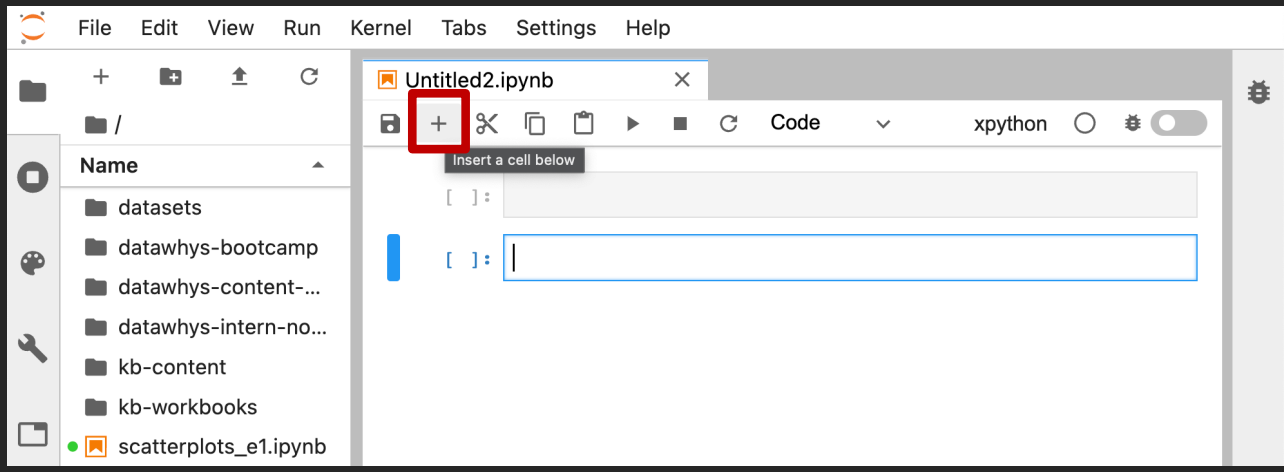
1. Open File Browser
2. Open Launcher
3. Select xpython



How-to: Create a Cell

From .ipynb file editor:

1. Click + to insert a new cell



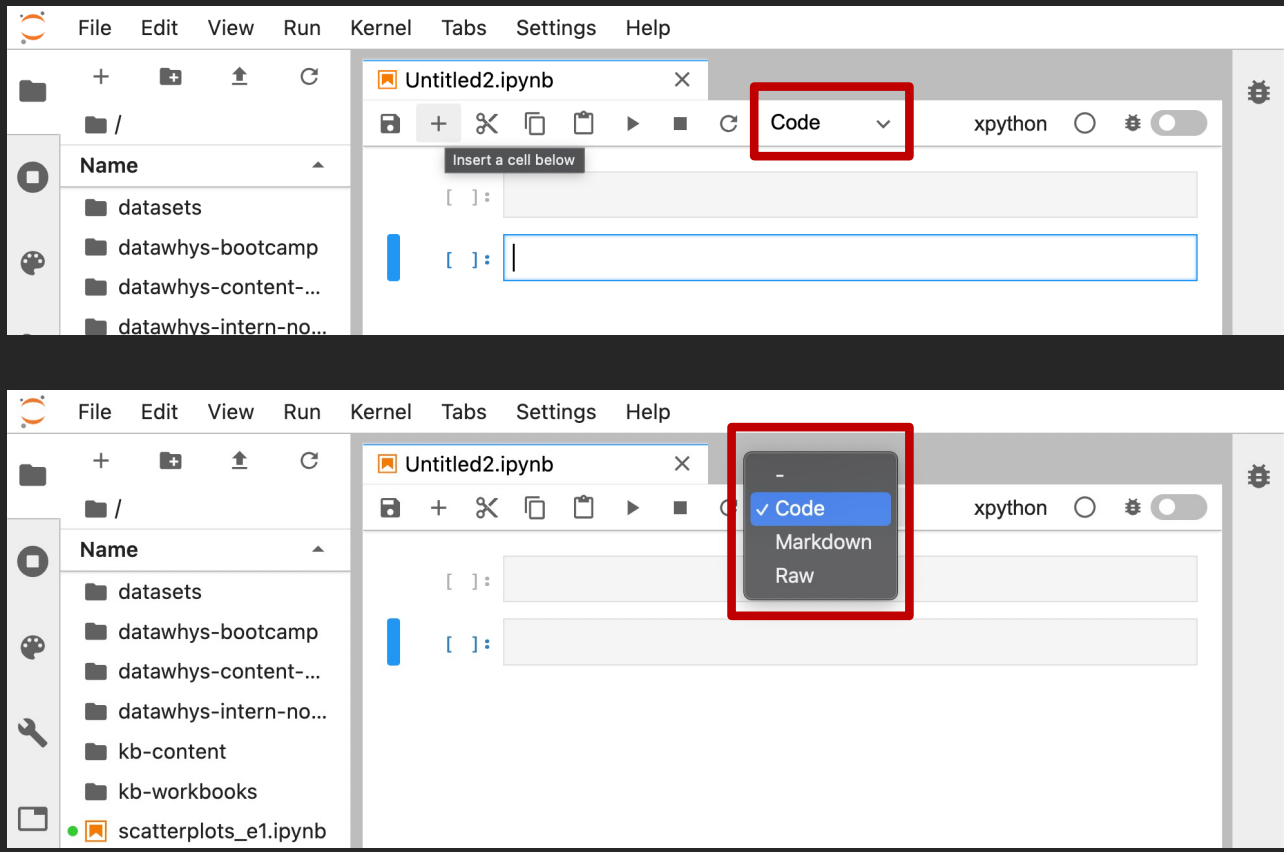
This will insert a Code-type cell below the currently active cell.

How-to: Change Cell-type

From .ipynb file editor:

1. Open cell-type dropdown
2. Select new cell-type

This will change the type of the currently active cell.

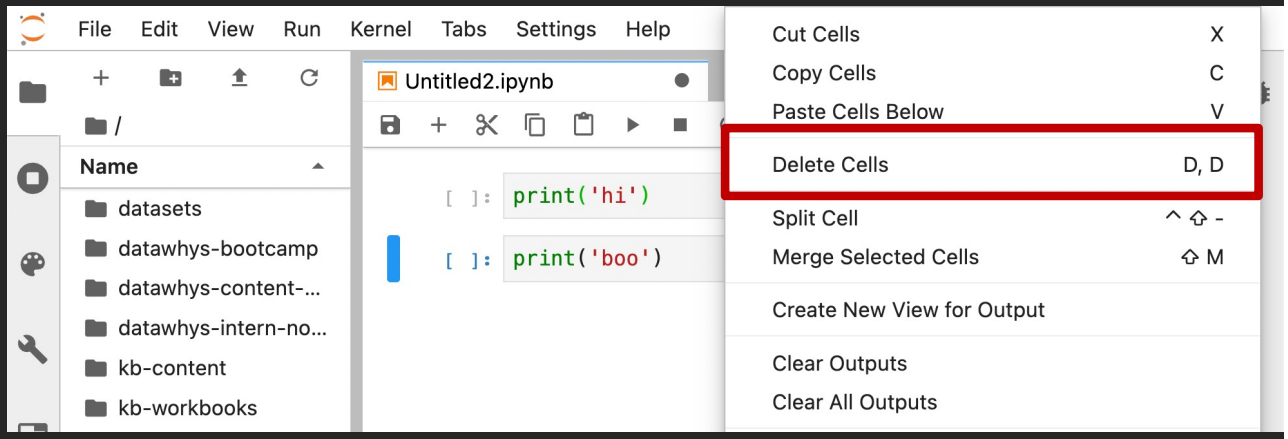


How-to: Delete a Cell

From .ipynb file editor:

1. Right-click inside cell area
2. Select “Delete Cells”

This will delete the currently active cell.



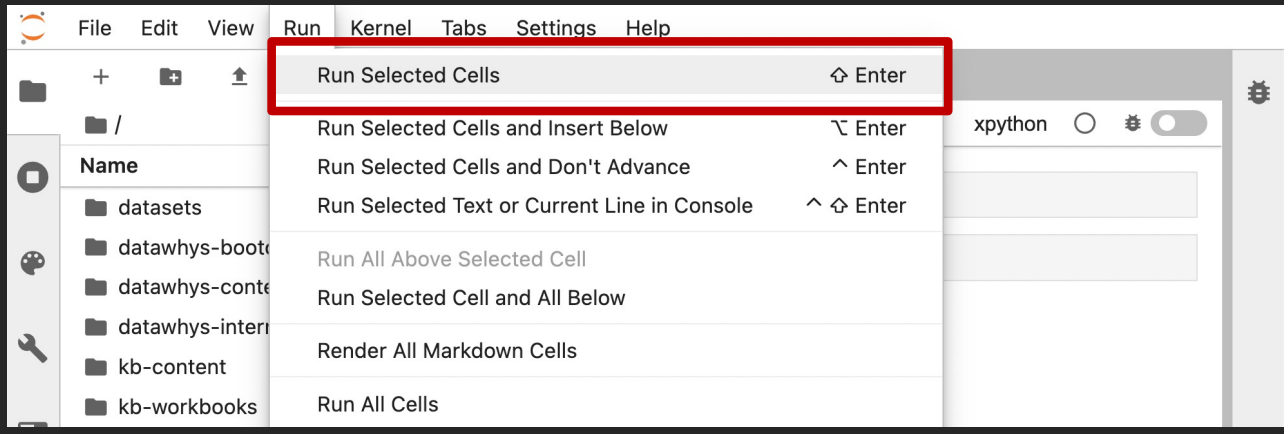
How-to: Run Currently-Active Cell

From .ipynb file editor:

1. Key press SHIFT-Enter

OR

1. Open Run Menu
2. Click “Run Selected Cells”



Summary

- Computational documents
- Cells and cell-types
- How to perform basic operations in a Jupyter Notebook