

# Python For Data Science Cheat Sheet

## Jupyter Notebook

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### Saving/Loading Notebooks

Diagram illustrating Jupyter Notebook file operations:

- Create new notebook
- Make a copy of the current notebook
- Save current notebook and record checkpoint
- Preview of the printed notebook
- Close notebook & stop running any scripts
- Open an existing notebook
- Rename notebook
- Revert notebook to a previous checkpoint
- Download notebook as
  - IPython notebook
  - Python
  - HTML
  - Markdown
  - reST
  - LaTeX
  - PDF

### Writing Code And Text

Code and text are encapsulated by 3 basic cell types: markdown cells, code cells, and raw NBConvert cells.

#### Edit Cells

Diagram illustrating Jupyter Notebook cell editing operations:

- Cut currently selected cells to clipboard
- Paste cells from clipboard above current cell
- Paste cells from clipboard on top of current cell
- Revert "Delete Cells" invocation
- Merge current cell with the one above
- Move current cell up
- Adjust metadata underlying the current notebook
- Remove cell attachments
- Paste attachments of current cell
- Copy cells from clipboard to current cursor position
- Paste cells from clipboard below current cell
- Delete current cells
- Split up a cell from current cursor position
- Merge current cell with the one below
- Move current cell down
- Find and replace in selected cells
- Copy attachments of current cell
- Insert image in selected cells

#### Insert Cells

Diagram illustrating Jupyter Notebook cell insertion operations:

- Add new cell above the current one
- Add new cell below the current one

### Working with Different Programming Languages

Kernels provide computation and communication with front-end interfaces like the notebooks. There are three main kernels:

IP[y]:  
IPython

R  
IRkernel

IJ[.]:  
IJulia

Installing Jupyter Notebook will automatically install the IPython kernel.

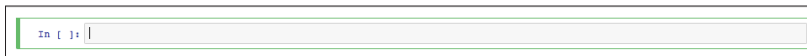
Diagram illustrating Jupyter Notebook kernel management operations:

- Restart kernel
- Restart kernel & run all cells
- Restart kernel & run all cells
- Interrupt kernel
- Interrupt kernel & clear all output
- Connect back to a remote notebook
- Run other installed kernels

### Command Mode:



### Edit Mode:



### Executing Cells

Diagram illustrating Jupyter Notebook cell execution operations:

- Run selected cell(s)
- Run current cells down and create a new one above
- Run all cells above the current cell
- Change the cell type of current cell
- Run current cells down and create a new one below
- Run all cells
- Run all cells below the current cell
- toggle, toggle scrolling and clear current outputs

### View Cells

Diagram illustrating Jupyter Notebook cell view operations:

- Toggle display of Jupyter logo and filename
- Toggle line numbers in cells
- Toggle display of toolbar
- Toggle display of cell action icons:
  - None
  - Edit metadata
  - Raw cell format
  - Slideshow
  - Attachments
  - Tags

### Widgets

Notebook widgets provide the ability to visualize and control changes in your data, often as a control like a slider, textbox, etc.

You can use them to build interactive GUIs for your notebooks or to synchronize stateful and stateless information between Python and JavaScript.

Diagram illustrating Jupyter Notebook widget operations:

- Download serialized state of all widget models in use
- Save notebook with interactive widgets
- Embed current widgets

1. Save and checkpoint
2. Insert cell below
3. Cut cell
4. Copy cell(s)
5. Paste cell(s) below
6. Move cell up
7. Move cell down
8. Run current cell
9. Interrupt kernel
10. Restart kernel
11. Display characteristics
12. Open command palette
13. Current kernel
14. Kernel status
15. Log out from notebook server

### Asking For Help

Diagram illustrating Jupyter Notebook help resources:

- Walk through a UI tour
- Edit the built-in keyboard shortcuts
- Description of markdown available in notebook
- Python help topics
- NumPy help topics
- Matplotlib help topics
- Pandas help topics
- List of built-in keyboard shortcuts
- Notebook help topics
- Information on unofficial Jupyter Notebook extensions
- IPython help topics
- SciPy help topics
- SymPy help topics
- About Jupyter Notebook

