

# Intro to Jupyterlab

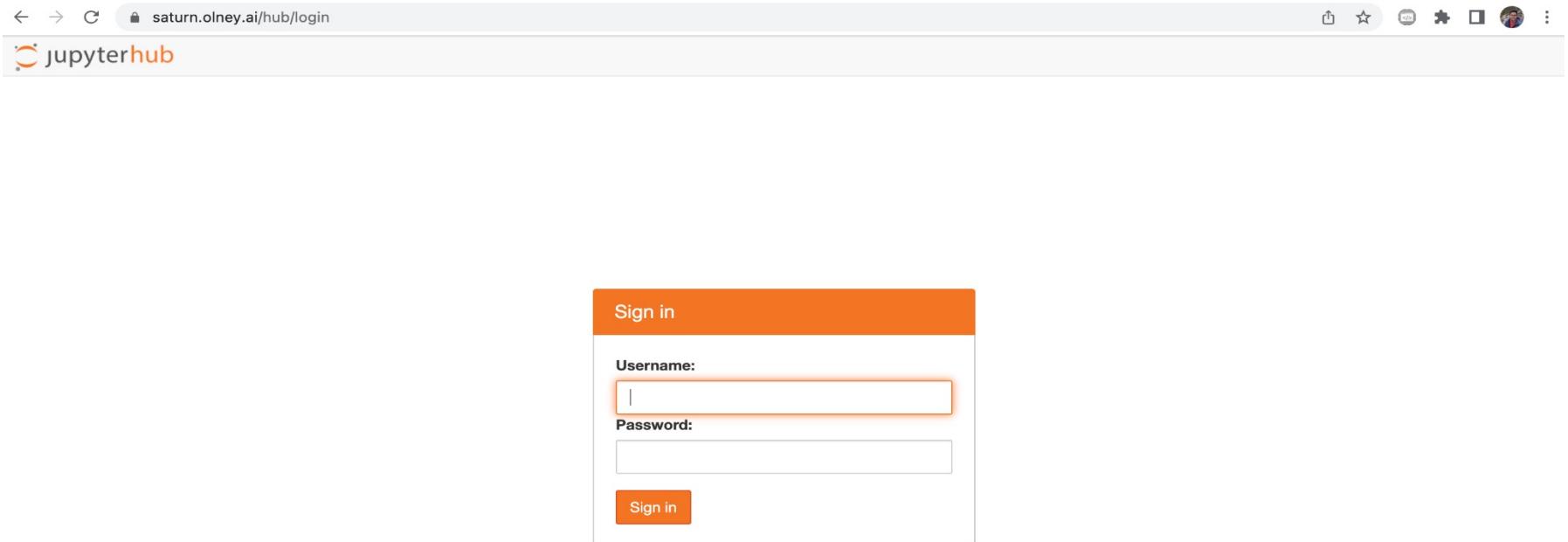
A guide to the jupyterlab user interface

## Objectives :

- Learn about the Jupyterlab environment
- Practice basic tasks in Jupyterlab

# Login to Jupyterlab

- Logging In to Jupyterlab at [saturn.olney.ai](https://saturn.olney.ai/hub/login)



saturn.olney.ai/user/hmshrque/lab/workspaces/cache

File Edit View Run Kernel Tabs Settings Help

Launcher

Notebook

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] \*
- R
- R [conda env:root] \*
- SoS [conda env:macaw-]

- xpython
- xpython [conda env:macaw-]
- xpython [conda env:root] \*

Console

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] \*
- R
- R [conda env:root] \*
- SoS [conda env:macaw-]

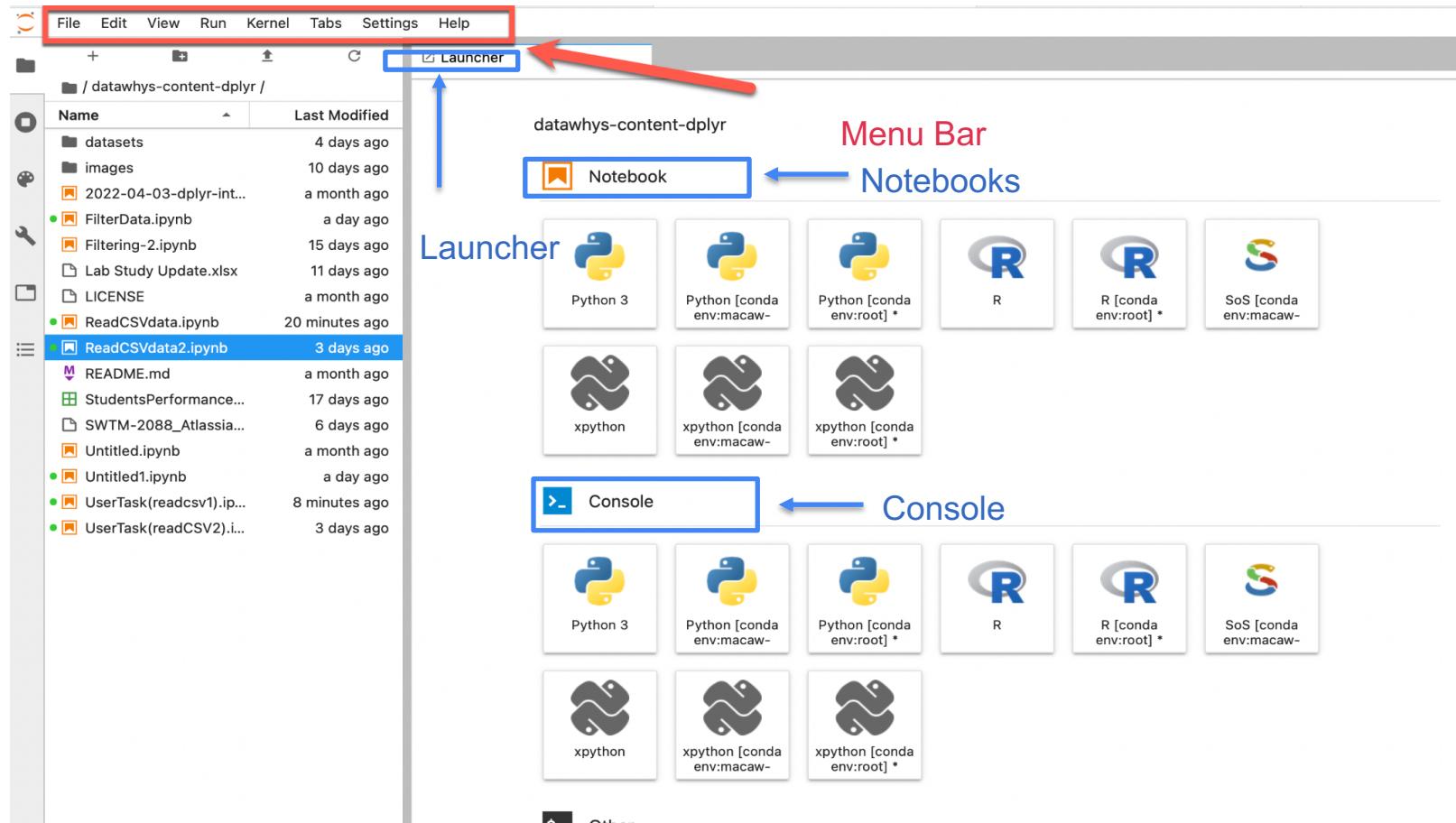
- xpython
- xpython [conda env:macaw-]
- xpython [conda env:root] \*

Other

/

Name	Last Modified
datawhys-content-dpl...	8 hours ago
datawhys-intern-note...	20 days ago
Identifying Common E...	a day ago
Untitled.ipynb	a day ago
Untitled1.ipynb	12 minutes ago

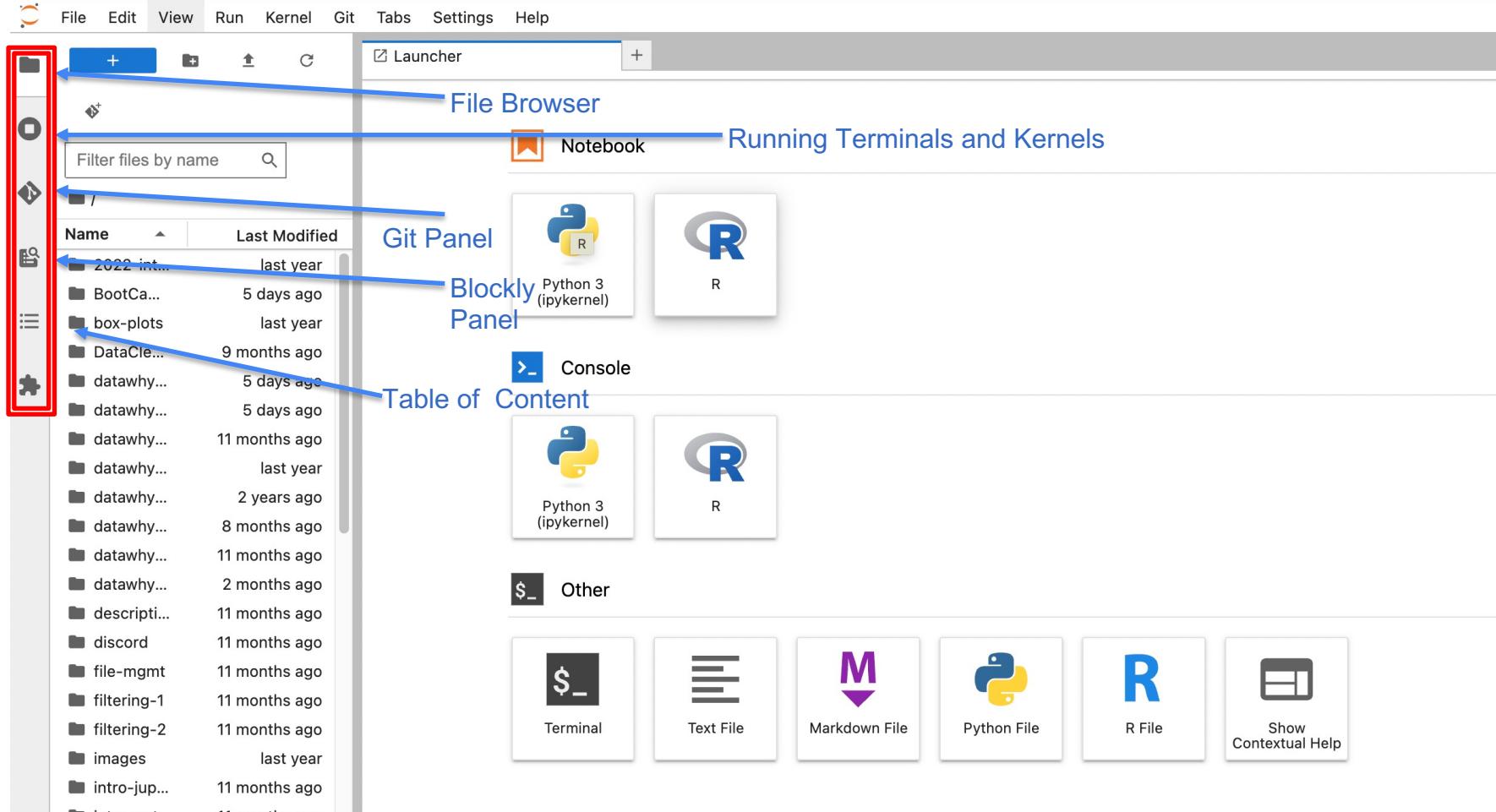
# The Menu Bar



# The toolbar

The screenshot shows a Jupyter Notebook interface with the following components:

- Toolbar:** Located at the top, it includes icons for Back, Forward, Refresh, and several other settings. A red circle highlights the first five icons: New Launcher (+), Upload Files (blue folder), Refresh File List (refresh), New Folder (blue folder), and File Browser (blue folder).
- File Browser:** A sidebar on the left showing a list of files and folders. It includes columns for Name, Last Modified, and a preview icon. A red arrow points to the 'New Launcher' icon in the toolbar.
- Launcher:** A search bar labeled "Launcher" with a magnifying glass icon. A red arrow points to the "Refresh File List" icon in the toolbar.
- Notebook:** A section titled "Notebook" containing six items:
  - Python 3
  - Python [conda env:macaw-]
  - Python [conda env:root] \*
  - R
  - R [conda env:root] \*
  - SoS [conda env:macaw-]
- Console:** A section titled "Console" containing six items:
  - Python 3
  - Python [conda env:macaw-]
  - Python [conda env:root] \*
  - R
  - R [conda env:root] \*
  - SoS [conda env:macaw-]
- Other:** A section titled "Other" containing three items:
  - xpython
  - xpython [conda env:macaw-]
  - xpython [conda env:root] \*



# Folder Structure in Jupyterlab

saturn.olney.ai/user/hmshrque/lab/workspaces/cache

File Edit View Run Kernel Tabs Settings Help

Launcher

**File Structure**

Name	Last Modified
datawhys-content-dpl...	8 hours ago
datawhys-intern-note...	20 days ago
Identifying Common E...	a day ago
Untitled.ipynb	a day ago
Untitled1.ipynb	12 minutes ago

Notebook

Python 3 Python [conda env:macaw-] Python [conda env:root] \* R R [conda env:root] \* SoS [conda env:macaw-

xpython xpython [conda env:macaw-] xpython [conda env:root] \*

Console

Python 3 Python [conda env:macaw-] Python [conda env:root] \* R R [conda env:root] \* SoS [conda env:macaw-

xpython xpython [conda env:macaw-] xpython [conda env:root] \*

Other

The screenshot shows the JupyterLab interface. On the left is a file browser with a red box highlighting the 'File Structure' section. It lists several files and folders with their names and last modified times. To the right are three sections: 'Notebook' (listing Python, R, and SoS kernels), 'Console' (listing Python, R, and SoS kernels), and 'Other' (listing xpython variants). The 'File Structure' section has a heading 'File Structure' and a small orange icon.

SEARCH 

BLOCKLY

Blockly Python

CONSOLE

Change Kernel...

Clear Console Cells



Insert Line Break

Interrupt Kernel

New Console

Restart Kernel...

Run Cell (forced)

Run Cell (unforced)

Show All Kernel Activity

DEBUGGER

Breakpoints on exception

<> Evaluate Code

⌚ Next F10

⏸ Pause F9

↓ Step In F11

↑ Step Out ⌘ F11

■ Terminate ⌘ F9

Blockly Python  

IMPORT

FREESTYLE

COMMENT

LOGIC

LOOPS

MATH

TEXT

LISTS

COLOUR

CONVERSION

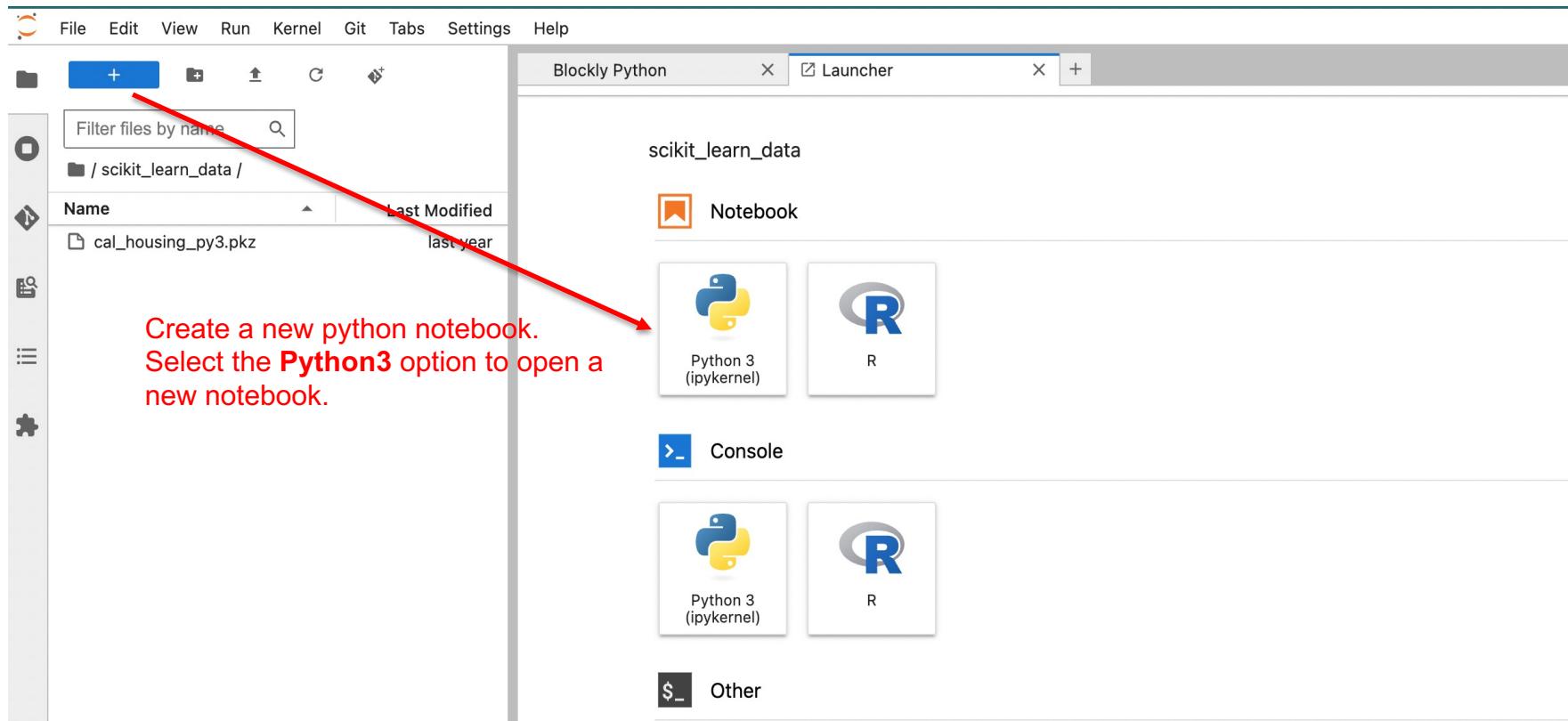
I/O

VARIABLES

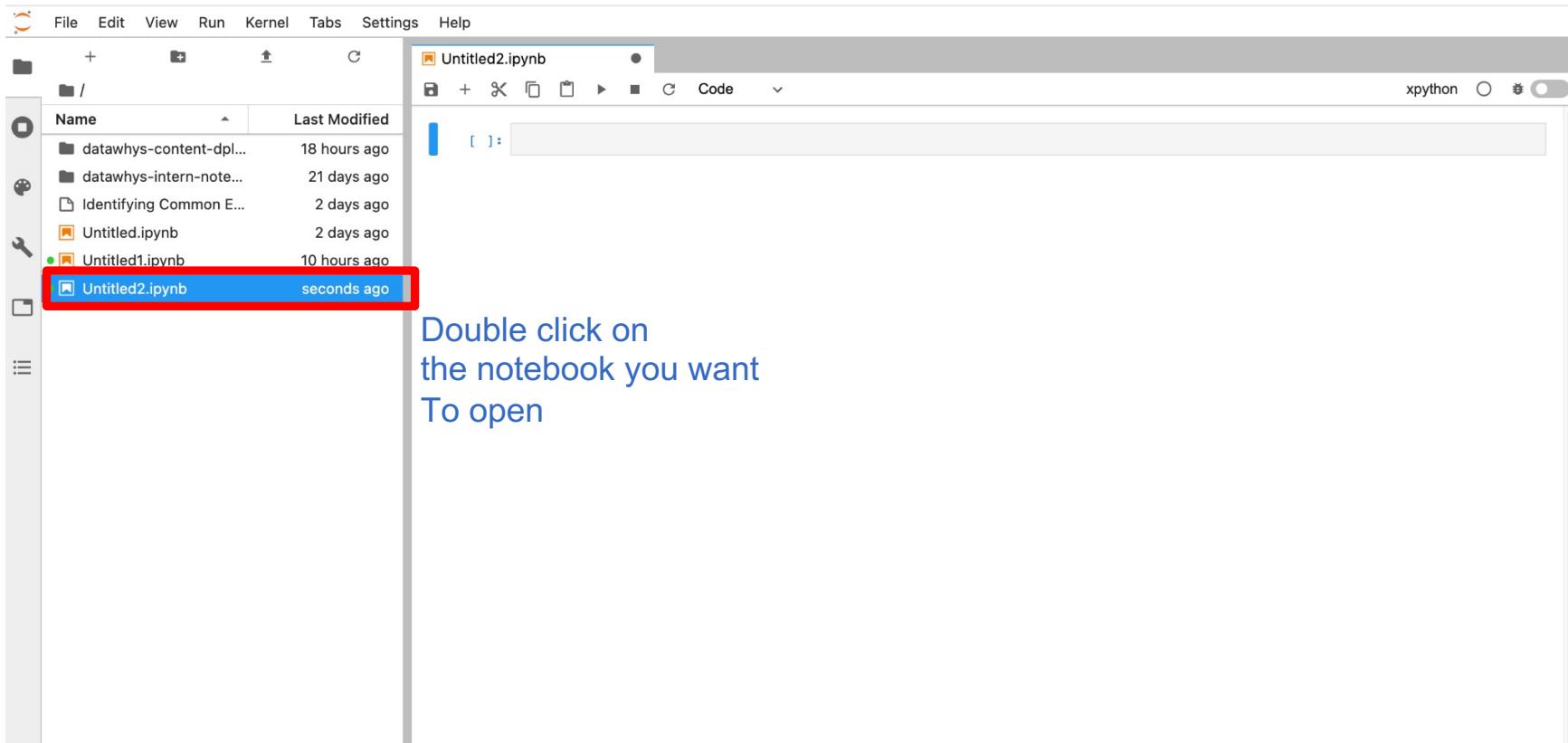
FUNCTIONS

Select on the Blockly Command Pallette and click "Blockly Python"

# Opening python file from launcher (1)



# Opening python file from launcher(2)



# Opening other file types

The screenshot shows the Jupyter Notebook interface. On the left is a file browser pane with a red arrow pointing from it towards the launcher. The file browser lists several files and notebooks:

Name	Last Modified
datawhys-content-dp...	a day ago
datawhys-terminal-note...	21 days ago
data.csv	12 hours ago
Identifying Comon E...	2 days ago
Untitled.ipynb	2 days ago
Untitled1.ipynb	a day ago
Untitled2.ipynb	13 hours ago

The main area contains two sections: 'Launcher' and 'Console'. The 'Launcher' section displays icons for various kernels:

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] \*
- R
- R [conda env:root] \*
- SoS [conda env:macaw-]

The 'Console' section also displays icons for the same kernels:

- Python 3
- Python [conda env:macaw-]
- Python [conda env:root] \*
- R
- R [conda env:root] \*
- SoS [conda env:macaw-]

A red box highlights the 'Other' section at the bottom of the launcher, which contains icons for:

- Terminal
- Text File
- Markdown File
- Show Contextual Help

**You can also open other files such as terminal, text files etc. from the launcher**

# Viewing Blockly and python file side by side

The screenshot shows the Jupyter Notebook interface with two notebooks open side-by-side.

**Left Notebook:** The title bar says "Blockly Python". The left sidebar has a "BLOCKLY" section containing "Blockly Python" and a "CONSOLE" section with various kernel-related commands. A red arrow points from the text "Open a Notebook then Click on the Command and Select 'Blockly Python' to view blockly and python side by side" to the "Change Kernel..." command in the "CONSOLE" section. The main workspace shows the Blockly Python library categories: IMPORT, FREESTYLE, COMMENT, LOGIC, LOOPS, MATH, TEXT, LISTS, COLOUR, CONVERSION, I/O, VARIABLES, and FUNCTIONS.

**Right Notebook:** The title bar says "Outliers.ipynb". The main workspace contains the following text:

```
Clipping Outliers: NYC hotel pricing dataset analysis

Sometimes, while analyzing a dataset, there can be some data present which might exert undue influence while building models, like linear regression. These data are called outliers. Outliers can sometimes mislead the set of data and influence model performance as well.

What are outliers?

In data science, outliers are values within a dataset that vary greatly from the others, they are either much larger, or significantly smaller. Outliers can appear in a dataset due to variability of measurement, error in data, experimental error etc. Outliers can cause machine learning models to make inaccurate predictions when they are
```

# File Operations

The screenshot shows the Jupyter Notebook interface with a sidebar on the left containing icons for file operations like creating new files, opening existing ones, and deleting them. The main area displays a list of files in the current directory, including 'datawhys-content-dp...', 'datawhys-intern-note...', 'Identifying Common E...', 'Untitled.ipynb', 'Untitled1.ipynb', and 'Untitled2.ipynb'. A context menu is open over 'Untitled2.ipynb', listing options such as Open, Rename, Delete, Cut, Copy, Duplicate, Download, Shut Down Kernel, Copy Shareable Link, Copy Path, Copy Download Link, New Folder, Paste, and Shift+Right Click for Browser Menu. To the right of the menu, a large red text overlay reads: "Right Click on the file you wish to open / rename / copy etc". At the bottom of the screen, there are buttons for 'Blocks to Code', 'Code to Blocks', 'Report Bug', and 'Notebook Sync'.

File Edit View Run Kernel Tabs Settings Help

Name Last Modified

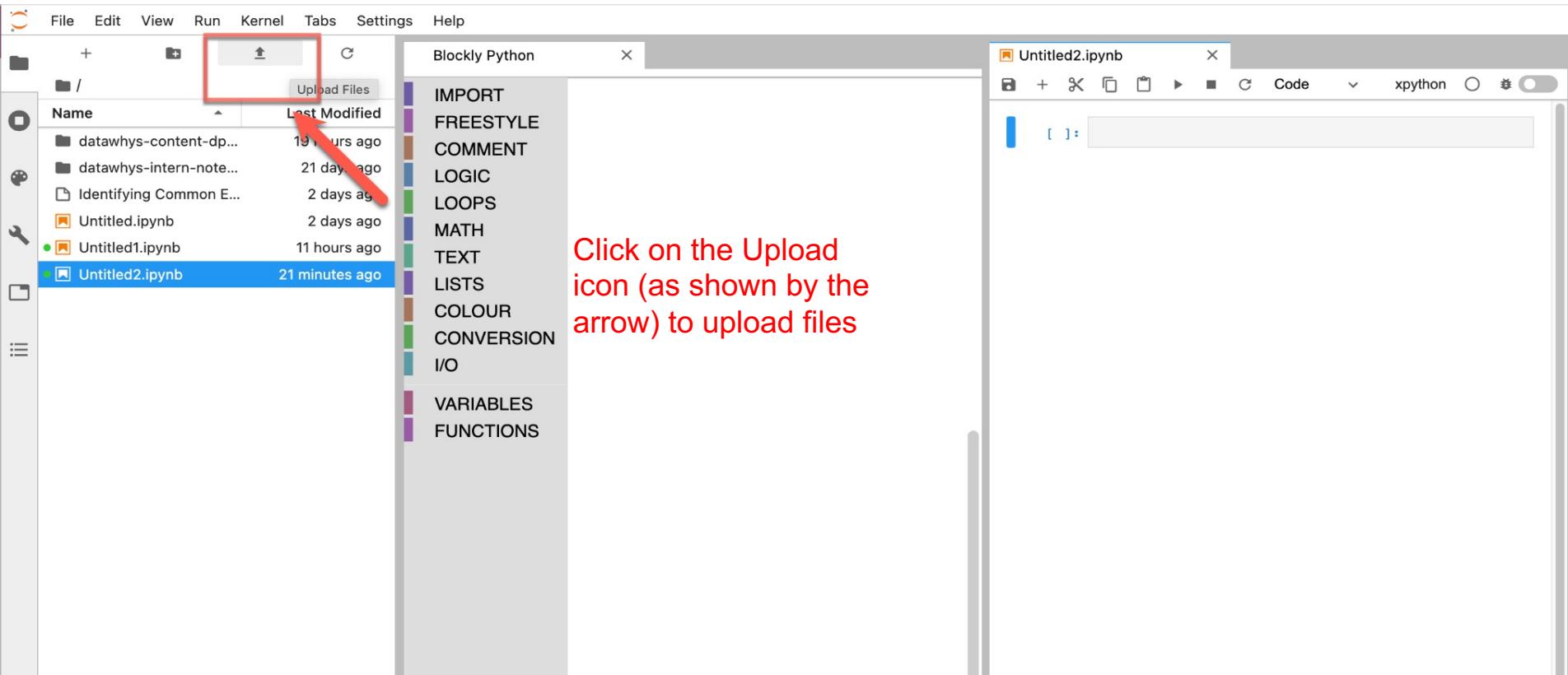
- datawhys-content-dp... 19 hours ago
- datawhys-intern-note... 21 days ago
- Identifying Common E... 2 days ago
- Untitled.ipynb 2 days ago
- Untitled1.ipynb 11 hours ago
- Untitled2.ipynb 12 minutes ago

IMPORT  
FREESTYLE  
COMMENT  
LOGIC  
LOOPS  
MATH  
TEXT  
TS  
OUR  
NVERSION  
VARIABLES  
UNCTIONS

Right Click on the file you wish to open / rename / copy etc

Blocks to Code | Code to Blocks | Report Bug |  Notebook Sync

# Uploading a file in Jupyterlab (1)

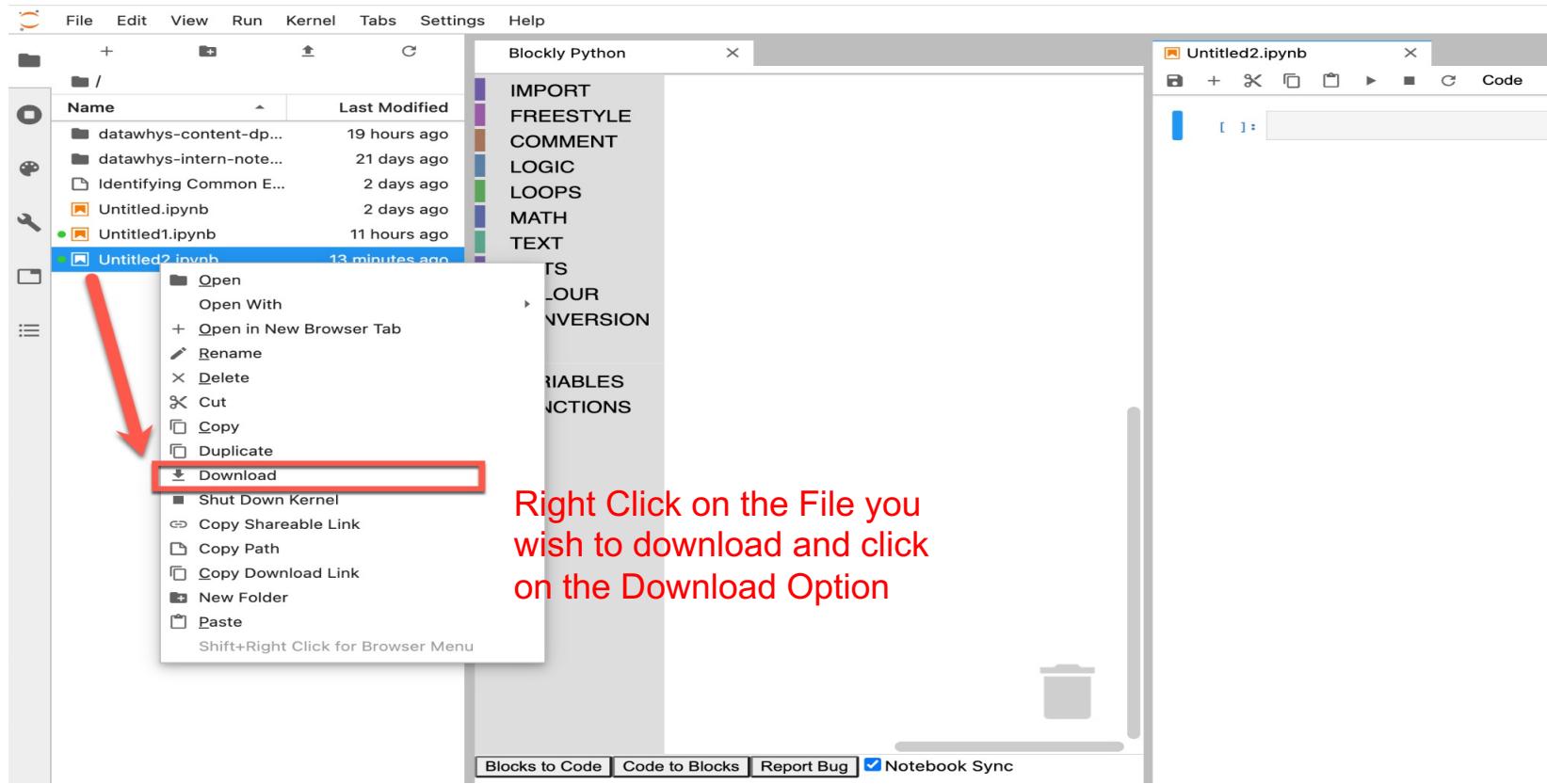


# Uploading a file in Jupyterlab (2)

The screenshot shows the JupyterLab interface with the following components:

- File Explorer:** On the left, it displays a file tree with the following contents:
  - dataphys-content-dp...
  - dataphys-intern-note...
  - data.csv** (highlighted with a red box)
  - Identifying Common E...
  - Untitled.ipynb
  - Untitled1.ipynb
  - Untitled2.ipynb
- Blockly Python Editor:** In the center, titled "Blockly Python", it contains a sidebar with categories and a main workspace.
  - Categories: IMPORT, FREESTYLE, COMMENT, LOGIC, LOOPS, MATH, TEXT, LISTS, COLOUR, CONVERSION, I/O, VARIABLES, FUNCTIONS.
  - Workspace: An empty area where blocks can be placed.
- Code Editor:** On the right, titled "Untitled2.ipynb", it shows a code cell starting with "[ ]:".

# Downloading a file from Jupyterlab



# Practice Task:

- Login into the Jupyterlab(<https://saturn.olney.ai/>) system with username and password.
- Go to “Intro to Jupyterlab” folder
- There should be test.ipynb file
- Rename the file test.ipynb as “testrenamed.ipynb”
- Open a Python 3 file from launcher and name it “createfile.ipynb”
- Open a Blockly palette from the side panel
- Open the “createfile.ipynb” file and view the Blockly palette side by side
- Download the “createfile.ipynb” file
- Rename the downloaded file as “upload.ipynb”
- Upload the ‘upload.ipynb’ file to jupyterlab
- Delete file “testrenamed.ipynb”
- Check which files are open from the ‘Kernel’ tab and show it to your session instructor.

# Self Practice:

- Login into the Jupyterlab system (wd username and password.)
- Go to “Intro to Jupyterlab” folder
- There should be newtest.ipynb file
- Rename that file “newtestrenamed.ipynb”
- Open a Python 3 file from launcher and name it “createfile1.ipynb”
- Open a block palette from the side panel
- View the blocks and “createfile1.ipynb” file side by side
  - Download the “createfile1.ipynb” file
- Rename the downloaded file “upload1.ipynb”
- Upload the ‘upload1.ipynb’ file to jupyterlab
- Delete the “newtestrenamed.ipynb” file
- Check which files are open from the ‘Kernel’ tab and show it to your instructor.