## Get started with the course The power of Python Create, upload, and edit Jupyter (m) Reading: Follow-along instructions: Hello, Python! 10 min Notebooks Lab: Annotated follow-along guide: Hello, Python! 20 min Jupyter Notebook is an open-source web application for creating and sharing documents containing live code, Video: Discover more about Python $mathematical \ formulas, visualizations, and \ text. \ This is a \ great \ tool \ to \ practice \ developing \ and \ presenting \ code \ in \ a$ standardized text block format that is interactive and shareable. You can create code, mathematical formulas, data Reading: Python versus other visualizations, and even freestyle text. programming languages 20 min You will be using Jupyter Notebook to write, execute, and present your own code throughout this program. This $reading\ will\ guide\ you\ through\ creating\ and\ uploading\ your\ own\ notebook; that\ way,\ you'll\ have\ everything\ you\ need$ Video: Jupyter Notebooks to practice your Python skills in upcoming activities. Reading: Create, upload, and edit Jupyter Notebooks 20 min You can access Jupyter Notebook directly from your browser or download the desktop application onto your device to Video: Object-oriented work with over 100 programming languages, including some you might already know like R and Python. programming 4 min $When you first \, access \, the \, Notebook \, interface, you \, can \, find \, both \, outputs \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, block \, format. \, Select \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, in \, a \, horizontal \, and \, code \, and \,$ Reading: More about object-**View\Show Line Numbers** to view a code block's line number identification. oriented programming 20 min Video: Hamza: How Python helped my data science career Practice Quiz: Test your knowledge: 3 questions Use Python syntax Review: Hello, Python! From here, you will be able to create or upload your own notebook to start coding. Create a notebook You can create and code new files directly in the Jupyter Notebook interface or upload files to work with from a drive. These notebooks can be accessed from the folder and file window, which displays what notebooks are currently available in your browser. Files uploaded to cloud software are available anywhere the internet is accessible. coursera 💢 jupyter Files Running Clusters Upload New → 2 Select items to perform actions on them. 0 - 1 Name ◆ Last Modified File size 2 months ago ☐ <internal><filming> ☐ □ Datasets 11 days ago ☐ ■ 1 Follow-along Codebook-annotated-getStartedwPython-wk1.ipynb 16 minutes ago 16.1 kB ☐ ■ 2 Follow-along Codebook-annotated-getStartedwPython-wk2.ipynb 16 minutes ago 31.6 kB 6 minutes ago 35.5 kB 6 minutes ago 61.5 kB ☐ ■ 7 Follow-along Codebook-annotated-getStartedwPython-wk7.ipynb 6 minutes ago 45.6 kB 6 minutes ago 146 kB ☐ ■ 8 Follow-along Codebook-annotated-getStartedwPython-wk8.ipynb ☐ ■ 9 Follow-along Codebook-annotated-getStartedwPython-wk9.ipynb 6 minutes ago 38.6 kB ☐ x10 Follow-along Codebook-annotated-getStartedwPython-wk10.ipynb Running 4 minutes ago 35.1 kB You can access the Jupyter Notebook for this program in Coursera's Labs section. If you have not previously been in a lab, select **Open Lab**. Course 4 New Lab: Course 3 Lab: Course 4 New Coursera Labs will either prompt you to start a new notebook or resume an existing one. Access in-progress labs by selecting the *Resume* button. Viewing: Version 1 Public New — Created on April 11, 2022 (0) G Ourse 2 Lab • 1h Week 1 Week 2 Ourse 3 Lab • 1h Notes Discussion Forums Messages Course Info Select **New** to create a new notebook. Make sure to select the *Python 3* engine for your notebook so that you are coding in the appropriate language. Upload a notebook You can upload any Jupyter Notebook file or other file converted to a notebook. If the file doesn't have an .ipynb extension, it will need to be converted in the application creating the .py extension first. You can check out $\underline{\mathsf{StackOverflow}}\ \ \underline{\mathsf{C}}'' \text{ for more information about how to convert .py to .ipynb files. To upload a notebook to Coursera,}$ click the **Upload** button and select it from your files. 💆 Jupyter Detasets Double 1 Double 2 Once you have selected the appropriate file, select open to import it. coursera 💢 Jupyter Select one or more files O R... My files > Downloads Q 🖽 Ą́Z 🚦 ▼ □ M... ii Name Size ∷ Type ∷ [ ↓ · 🗅 By default, files are sorted alphabetically, but you can toggle this to sort by your most recent files instead. Navigate 📳 Lab Files 🕜 Help coursera 💢 jupyter Files Running Clusters Select items to perform actions on them. Upload New ▼ 2 0 - 1 Name ◆ Last Modified File size ☐ ☐ Module 1 3 hours ago ☐ Module 2 a day ago ☐ ☐ Module 3 a day ago ☐ ☐ Module 4 a day ago ☐ ☐ Module 5 a day ago ☐ ☐ upload\_notebook\_example.ipynb seconds ago 6.24 kB Double-click on the new notebook file to load it. **Click** the **Run** button when row [1] is selected to generate sample data. The following example illustrates lessons in Get Started with Python, including import libraries, using the $\underline{\text{NumPy.}} \ \ \square^{\text{nlibrary to generate random numbers, graph outputs, and view descriptive statistics.}$ In [4]: M [import marginallib popular as plt import namey as op iris - sen.load\_damater(!ris') # mark data; # np.radom.sees(2) # # 8.8.\* mp.radom.(2) y = mp.radom.(2) y = mp.radom.(2) Command/edit mode Notebooks have two working modes: command mode and edit mode. Command mode is used to interact with the notebook as a whole and perform actions like adding, moving, and deleting cells. Edit mode is used to type code or markdown text into a particular cell. Command mode is indicated by a blue bar on the left side of the current cell. File Edit View Insert Cell Kernel Widgets Help □</ In [ ]: 🙀 Edit mode is indicated by a green bar on the left and also a thin green border around the active cell. File Edit View Insert Cell Kernel Widgets Help □</ In [ ]: 🙀 To enter into edit mode, simply click into a cell to insert your cursor there or use the navigation arrows on your keyboard to select a cell and press Enter. To revert back to command mode, click anywhere outside the cell or press the escape key. Common actions Most actions can be performed using both a mouse/graphic interface and keyboard shortcuts. Here are some of the most common actions. Add a new cell • Click on Insert in the menu bar at the top of the notebook. Options are to insert a new cell above or below the Keyboard shortcuts (while in command mode): a: Insert a cell above the current cell • **b:** Insert a cell below the current cell Delete a cell • Use command mode to select a cell or group of cells. • Click on Edit in the menu bar at the top of the notebook and select Delete Cells from the dropdown menu. Keyboard shortcut (while in command mode): dd (press D two times) Use command mode to select a cell or group of cells. Click on the up arrow button or down arrow button in the menu bar at the top of the notebook to move the selected cell(s) up or down • Select a cell and click the **Run** button in the menu bar at the top of the notebook. Keyboard shortcuts: Ctrl + Enter: Run selected cell • Shift + Enter: Run selected cell and select next cell Alt + Enter: Run selected cell and insert new cell below You can run cells from both command mode and edit mode Press **h** while in command mode for a pop-up window with all available keyboard shortcuts. You can also check out $\underline{\textbf{Jupyter Notebook interface components}} \ \ \underline{\mathbb{C}} \ \text{for more detailed descriptions of various notebook features}.$ Key takeaways Jupyter Notebook provides a coding platform where you can develop and debug your own code. Knowing how to use and interact with notebooks will prepare you for upcoming activities where you will try out new Python skills and prepare for the end-of-course project. Python will be a great tool in your toolkit—it will open up more advanced analytics tools like machine learning and automated analysis. And, using Jupyter Notebook will be a great way to build your Python knowledge! Resources for more information Jupyter software homepage ☑ Jupyter documentation □ Jupyter community forum □ • <u>Jupyter notebooks community forum</u> ☐ Python community forum □ StackOverflow questions. ☐ (crowdsource forum to help solve problems) • <u>Jupyter Notebooks installation</u> ☐

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