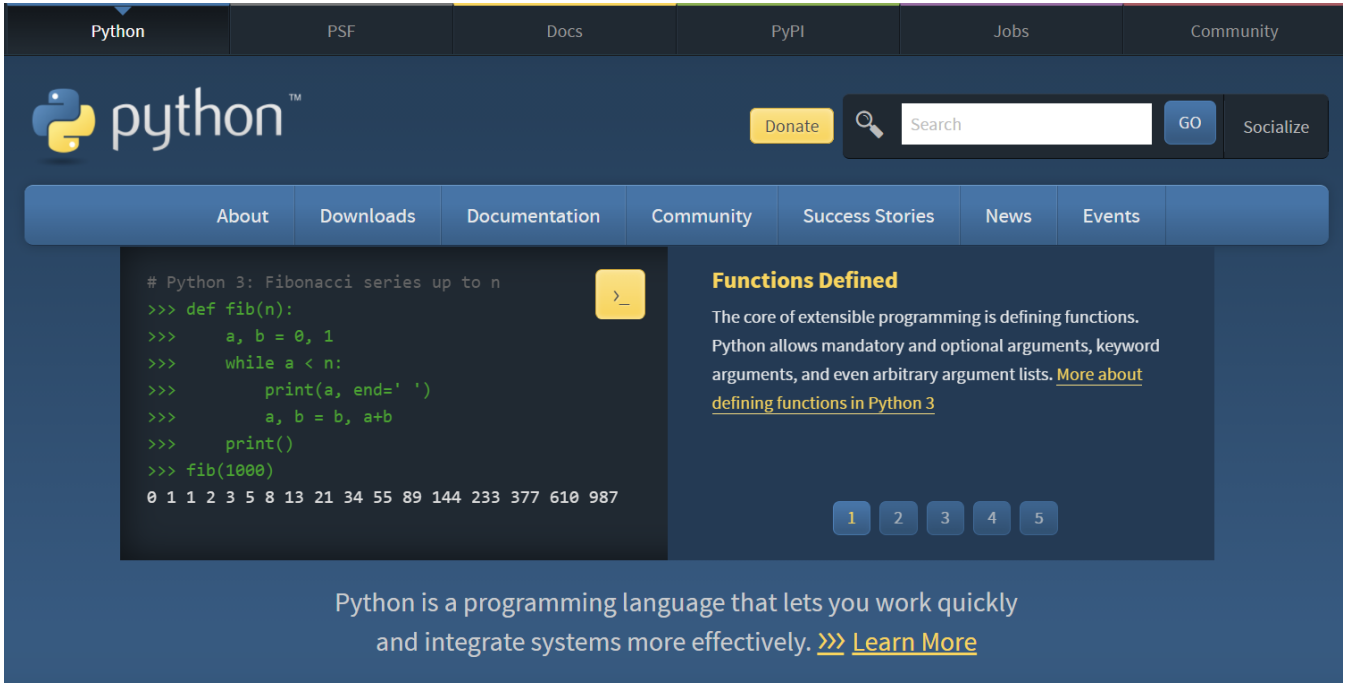
Tutorial for Python and Jupyter Notebook setup

2021-10-17

Hyemin Gu



https://www.python.org/

jupyter

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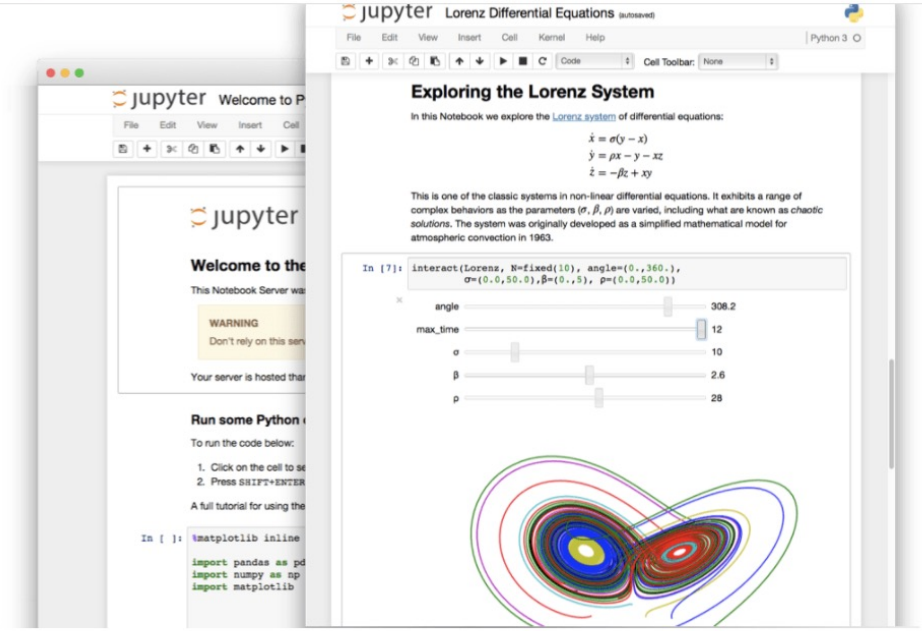


The Jupyter Notebook

The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more.

Try it in your browser | Install the Notebook

Language of choice

Jupyter supports over 40 programming languages, including Python, R, Julia, and Scala.

Share notebooks

Notebooks can be shared with others using email, Dropbox, GitHub and the Jupyter Notebook Viewer.

Interactive output

Your code can produce rich, interactive output: HTML, images, videos, LaTeX, and custom MIME types.

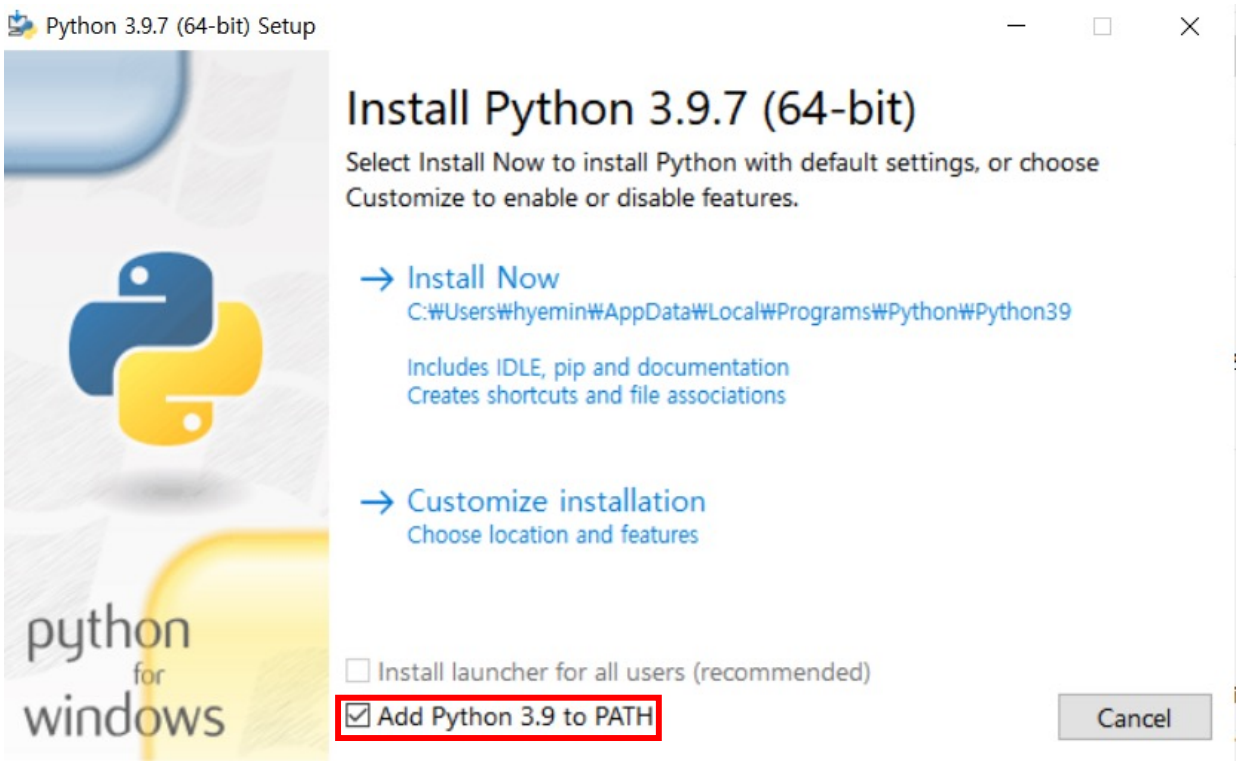
Big data integration

Leverage big data tools, such as Apache Spark, from Python, R and Scala. Explore that same data with pandas, scikit-learn, ggplot2, TensorFlow.

https://jupyter.org/index.html

Outline of this tutorial

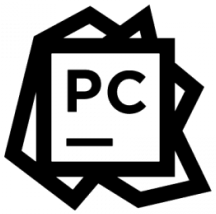
- install python on your PC
- write and run a python script
- additionally setup Jupyter Notebook


Python 3.9.7 (64-bit) Setup
Install Python 3.9.7 (64-bit)
Select Install Now to install Python with default settings, or choose
Customize to enable or disable features.
Install Now
C:₩Users₩hyemin₩AppData₩Local₩Programs₩Python₩Python39
Includes IDLE, pip and documentation
Creates shortcuts and file associations
Customize installation
Choose location and features
python
for
windows
Install launcher for all users (recommended)
Add Python 3.9 to PATH
Cancel

Contents for writing Python scripts

- Details on Python language grammar are available at: https://pythonnumericalmethods.berkeley.edu/notebooks/Index.html
- You will mainly use these two libraries:
  - MATLAB-like numerical computation library: numpy
  - Plotting library: matplotlib
- You may use an IDE as a integrated environment for development.

Pydev



Pycharm

Visual Studio Code

Jupyter notebook tips

- initiate notebook server by > *jupyter notebook*
- Press Shift+Enter to excute the cell. Results occurs below the cell.
- 2 modes: command (press ESC to switch to this mode) / edit
- To add a cell, in a command mode, press a or b.
- To delete a cell, in a command mode, press dd.
- To convert a cell to markdown style(documentation/slides), press m.
- To convert a cell to executable style, press y.
- To edit a cell, press ENTER to switch to edit mode.
- Close the notebook, shutdown the server (ctrl+C)