



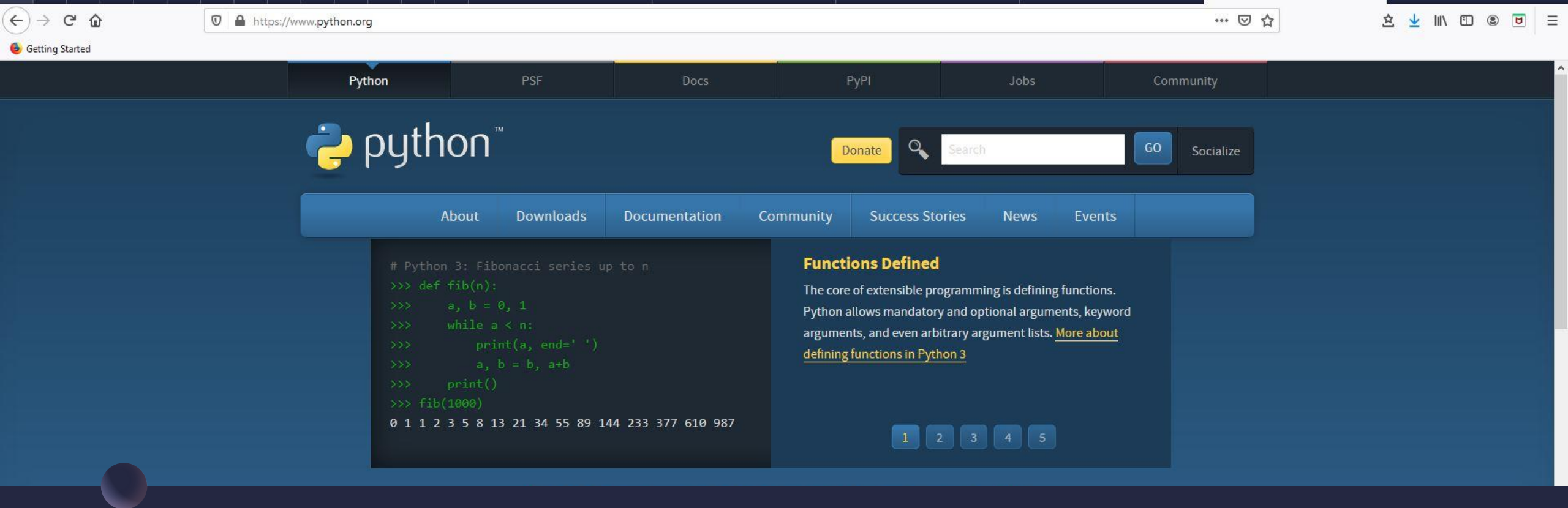
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# Coding & the Humanities

Week 1 | Part 3\_Python Interfaces

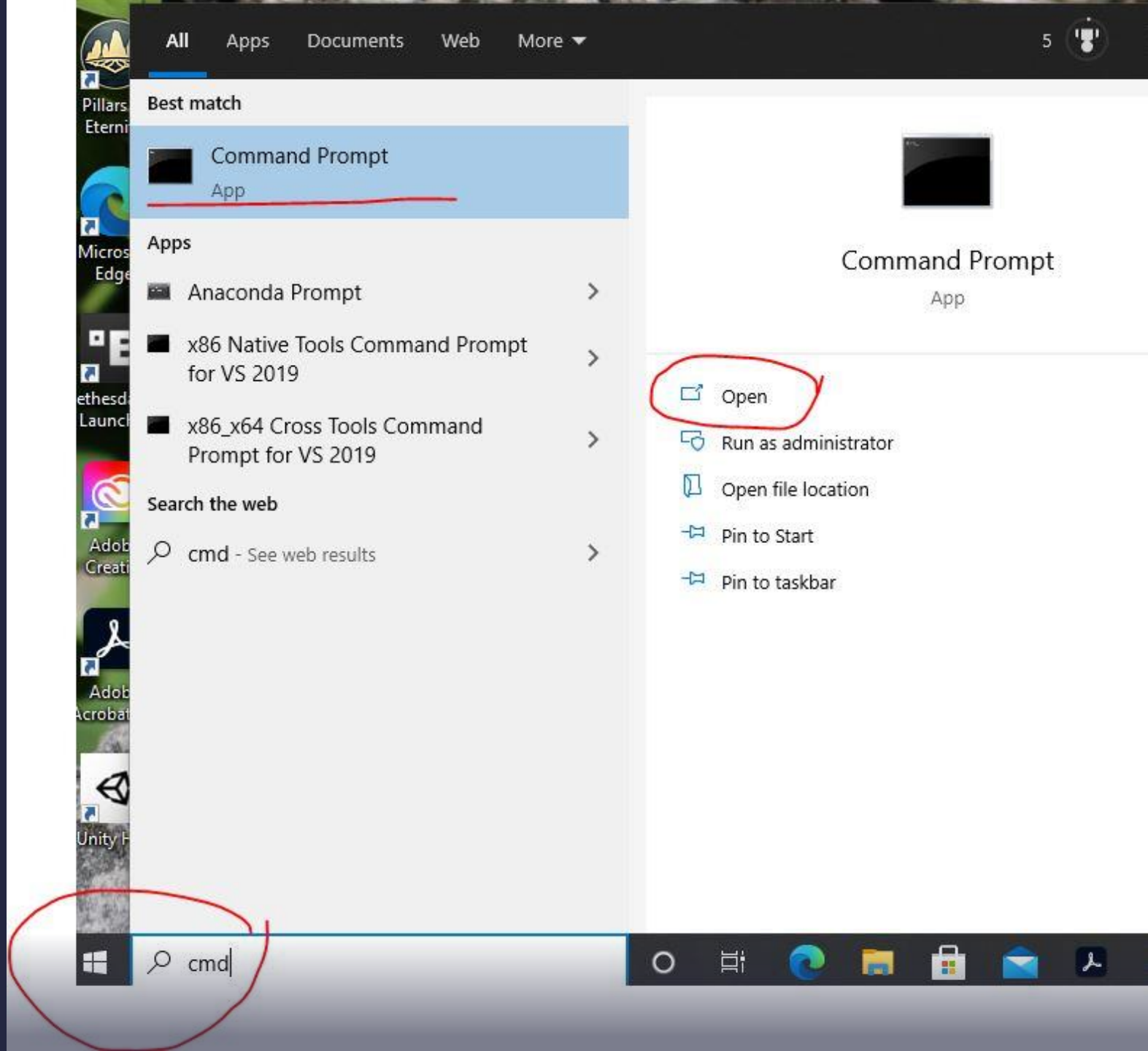
21/09/2020



# Install Python

- <https://www.python.org/>

# Python Interpreter & cmd



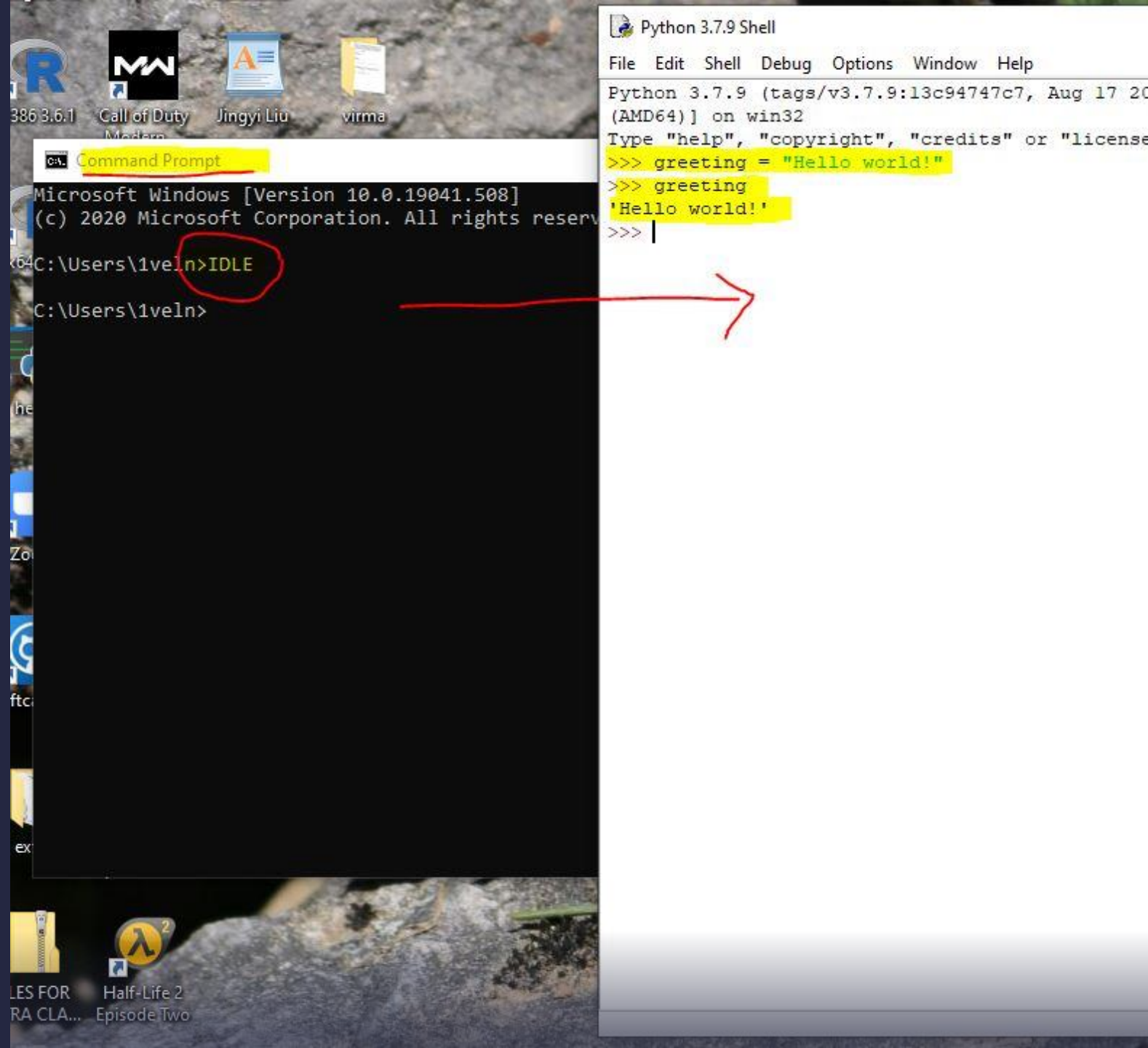


```
Command Prompt - python
Microsoft Windows [Version 10.0.19041.508]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\1veln>python
Python 3.7.9 (tags/v3.7.9:13c94747c7, Aug 17 2020, 16:30:00) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> greeting = "Hello world!"
>>> greeting
'Hello world!'
>>> _
```

# Python Shell

IDLE = Integrated  
Development and  
Learning  
Environment



# Python Editors



# Interactive Python Interpreter = IPython

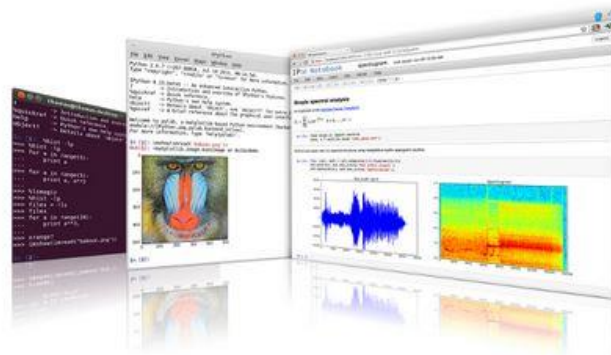
<https://ipython.org/>

## IP[y]: IPython Interactive Computing

[Install](#) · [Documentation](#) · [Project](#) · [Jupyter](#) · [News](#) · [Cite](#) · [Donate](#) · [Books](#)

IPython provides a rich architecture for interactive computing with:

- A powerful interactive shell.
- A kernel for [Jupyter](#).
- Support for interactive data visualization and use of [GUI toolkits](#).
- Flexible, [embeddable](#) interpreters to load into your own projects.
- Easy to use, high performance tools for [parallel computing](#).



To get started with IPython in the Jupyter Notebook, see our [official example collection](#). Our [notebook gallery](#) is an excellent way to see the many things you can do with IPython while learning about a variety of topics, from basic programming to advanced statistics or quantum mechanics.

To learn more about IPython, you can download our [talks and presentations](#), or read our [extensive documentation](#). IPython is open source (BSD license), and is used by a range of [other projects](#); add your project to that list if it uses IPython as a library, and please don't forget to [cite the project](#).

IPython supports Python 2.7 and 3.3 or newer. Our older 1.x series supports Python 2.6 and 3.2.

## Jupyter and the future of IPython

IPython is a growing project, with increasingly language-agnostic components. IPython 3.x was the last monolithic release of IPython, containing the notebook server, qtconsole, etc. As of IPython 4.0, the





# Jupyter Notebooks

Getting Started

Jupyter/IPython Notebook Quick Start Guide

latest


Search docs

1. What is the Jupyter Notebook?

- 1.1. Notebook document
- 1.2. Jupyter Notebook App
- 1.3. kernel
- 1.4. Notebook Dashboard
- 1.5. References

2. Installation

3. Running the Jupyter Notebook

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https://jupyter-notebook-beginner-guide.readthedocs.io/en/latest/what\_is\_jupyter.html

Docs » 1. What is the Jupyter Notebook?

Edit on GitHub

## 1. What is the Jupyter Notebook?

In this page briefly introduce the main components of the *Jupyter Notebook* environment. For a more complete overview see [References](#).

### Contents

- What is the Jupyter Notebook?
  - Notebook document
  - Jupyter Notebook App
  - kernel
  - Notebook Dashboard
  - References

### 1.1. Notebook document

Notebook documents (or “notebooks”, all lower case) are documents produced by the [Jupyter Notebook App](#), which contain both computer code (e.g. python) and rich text elements (paragraph, equations, figures, links, etc...). Notebook documents are both human-readable documents containing the analysis description and the results (figures, tables, etc..) as well as executable documents which can be run to perform data analysis.

References: Notebook documents [in the project homepage](#) and [in the official docs](#).

### 1.2. Jupyter Notebook App

The *Jupyter Notebook App* is a server-client application that allows editing and running [notebook documents](#) via a web browser. The *Jupyter Notebook App* can be executed on a local desktop requiring no internet access (as described in this document) or can be installed on a remote server and accessed through the internet.

In addition to displaying/editing/running notebook documents, the *Jupyter Notebook App* has a “Dashboard” ([Notebook Dashboard](#)) a “control panel” showing local files and allowing to open

https://jupyter-notebook-beginner-guide.readthedocs.io/en/latest/what\_is\_jupyter.html






# Anaconda Navigator | Install

<https://www.anaconda.com/products/individual>

https://www.anaconda.com/products/individual

ANACONDA

Products ▾ Pricing Solutions ▾ Resources ▾ Blog Comparisons

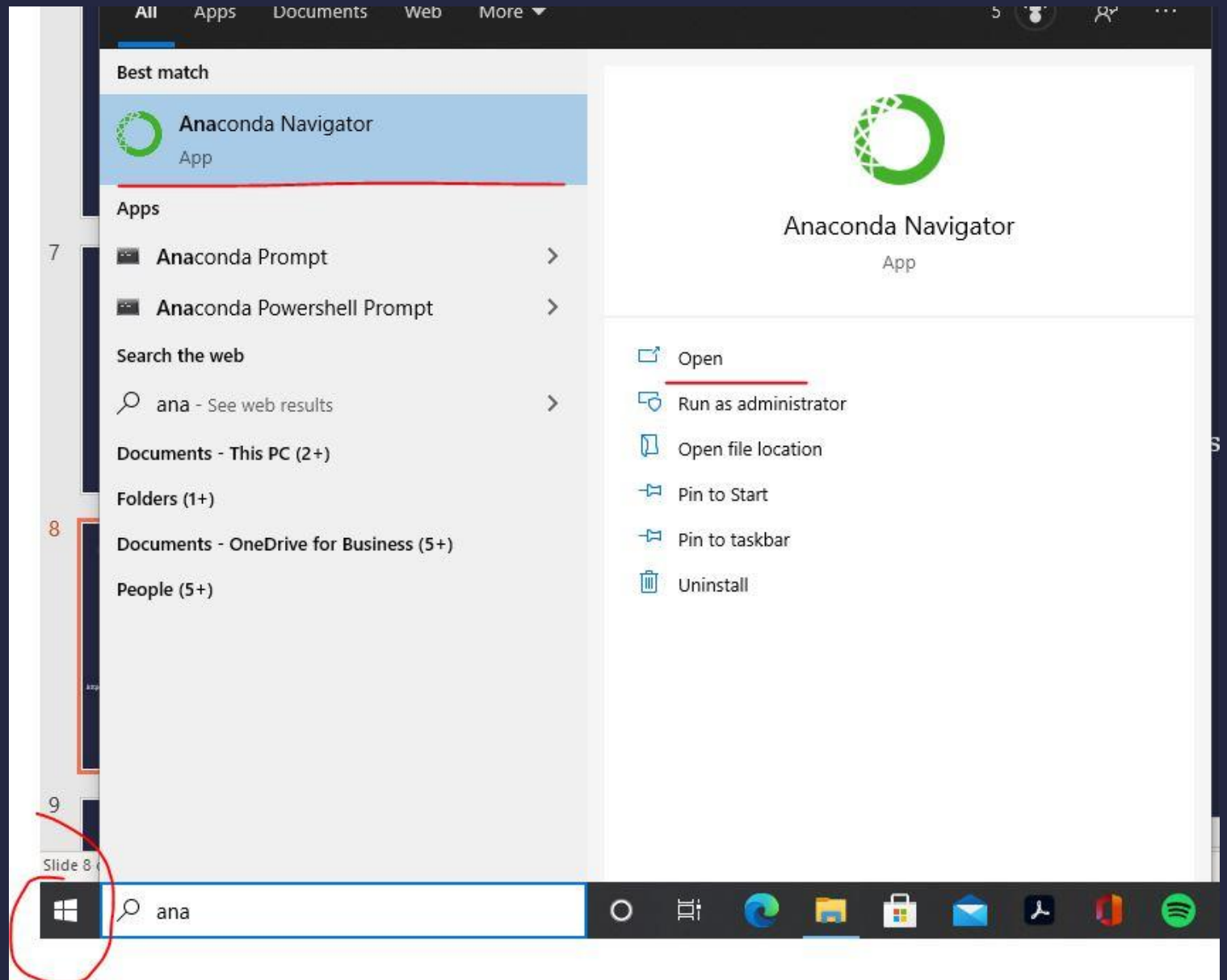
 Individual Edition

## Your data science toolkit

With over 20 million users worldwide, the open-source Individual Edition (Distribution) is the easiest way to perform Python/R data science and machine learning on a single machine. Developed for solo practitioners, it is the toolkit that equips you to work with thousands of open-source packages and libraries.

Download





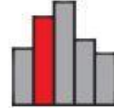


# Anaconda Navigator | Open



# Anaconda Navigator | Launch Jupyter Notebook

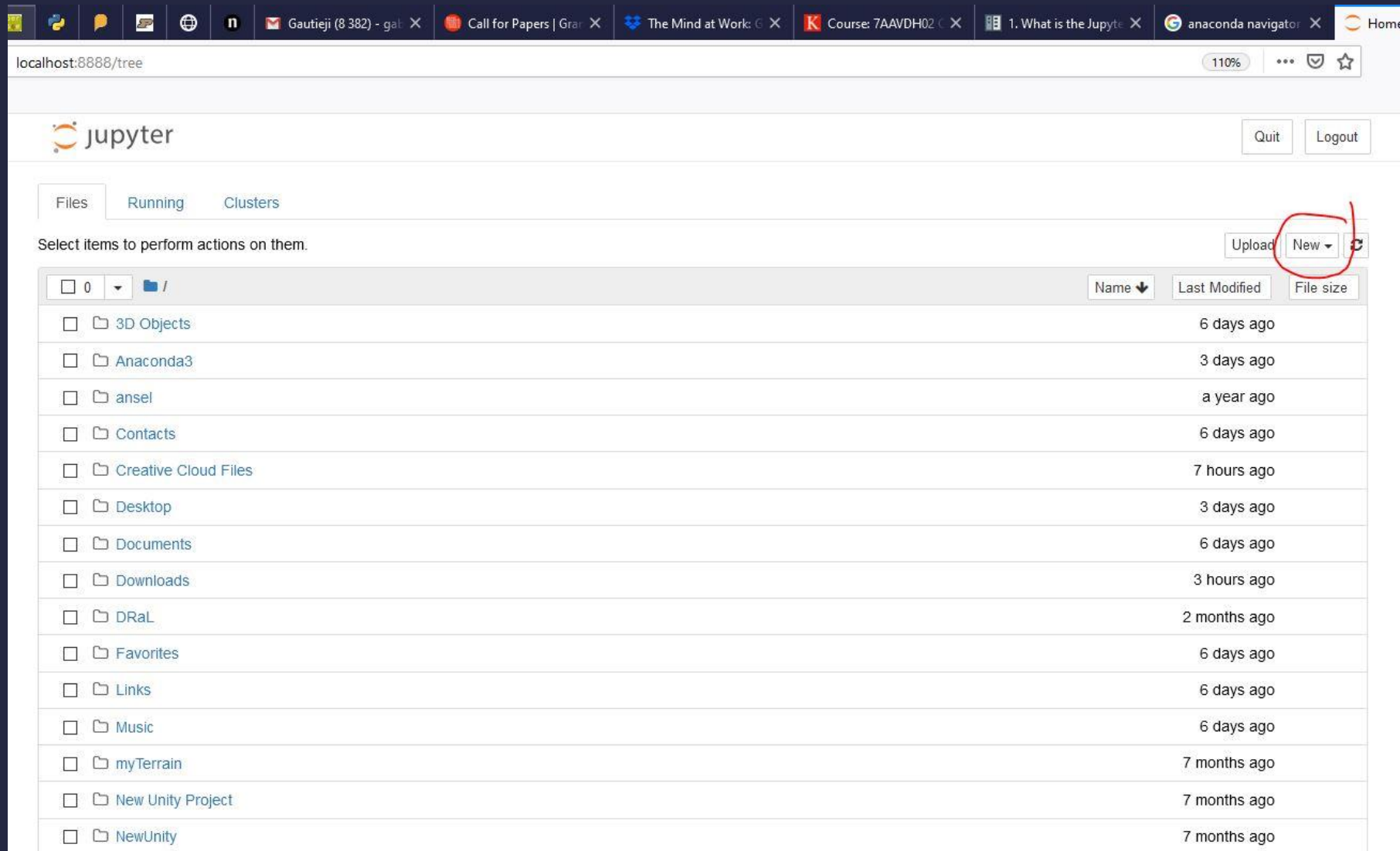
ANALYTICS NAVIGATOR

Applications on base (root) Channels

 CMD.exe Prompt 0.1.1 Run a cmd.exe terminal with your current environment from Navigator activated <a href="#">Launch</a>	 JupyterLab 0.35.4 An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture. <a href="#">Launch</a>	 Notebook 5.7.0 Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis. <a href="#">Launch</a>	 Powershell Prompt 0.0.1 Run a Powershell terminal with your current environment from Navigator activated <a href="#">Launch</a>
 Glueviz 0.15.2 Multidimensional data visualization across files. Explore relationships within and among related datasets. <a href="#">Install</a>	 Orange 3 3.26.0 Component based data mining framework. Data visualization and data analysis for novice and expert. Interactive workflows with a large toolbox. <a href="#">Install</a>	 RStudio 1.1.456 A set of integrated tools designed to help you be more productive with R. Includes R essentials and notebooks. <a href="#">Install</a>	



# Jupyter Notebook App



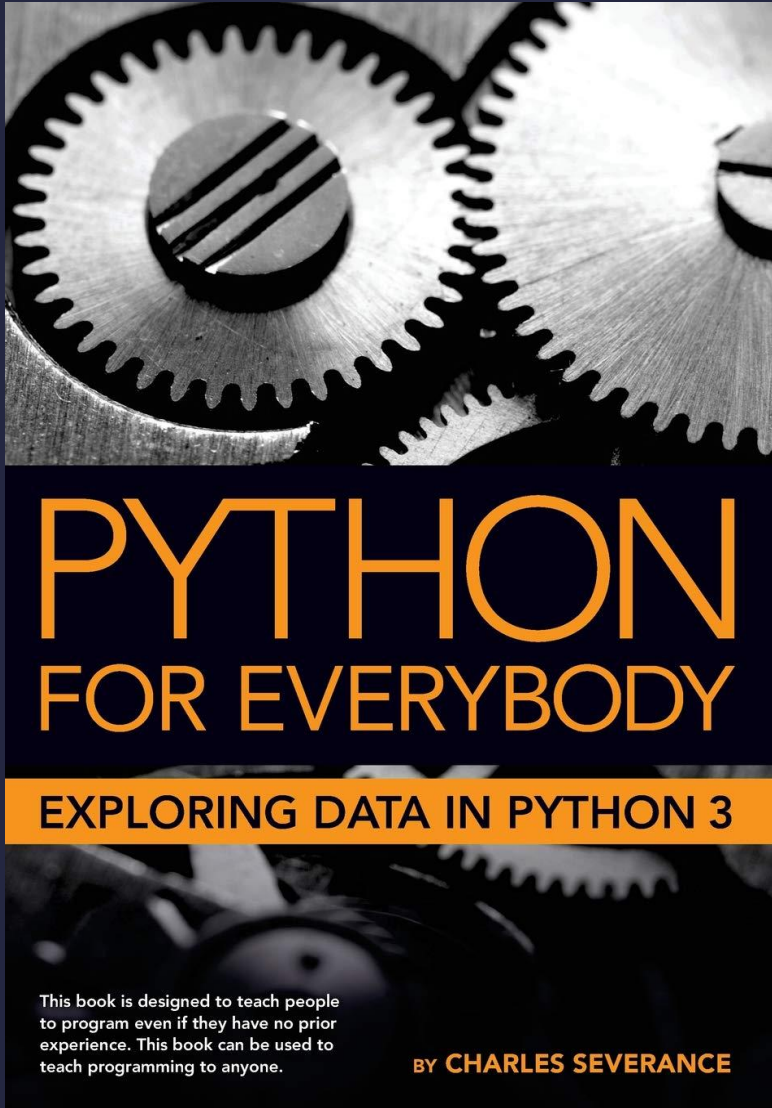
The screenshot shows the Jupyter Notebook App interface in a web browser. The browser's address bar displays 'localhost:8888/tree'. The Jupyter logo is in the top left, and 'Quit' and 'Logout' buttons are in the top right. Below the logo, there are tabs for 'Files', 'Running', and 'Clusters', with 'Files' being the active tab. A message 'Select items to perform actions on them.' is followed by 'Upload', 'New' (circled in red), and a refresh icon. The main area shows a file browser for the root directory '/'. It includes a table with columns for 'Name', 'Last Modified', and 'File size'. The table lists various system folders and their last modification times.

	Name	Last Modified	File size
<input type="checkbox"/>	0		
<input type="checkbox"/>	/		
<input type="checkbox"/>	3D Objects	6 days ago	
<input type="checkbox"/>	Anaconda3	3 days ago	
<input type="checkbox"/>	ansel	a year ago	
<input type="checkbox"/>	Contacts	6 days ago	
<input type="checkbox"/>	Creative Cloud Files	7 hours ago	
<input type="checkbox"/>	Desktop	3 days ago	
<input type="checkbox"/>	Documents	6 days ago	
<input type="checkbox"/>	Downloads	3 hours ago	
<input type="checkbox"/>	DRaL	2 months ago	
<input type="checkbox"/>	Favorites	6 days ago	
<input type="checkbox"/>	Links	6 days ago	
<input type="checkbox"/>	Music	6 days ago	
<input type="checkbox"/>	myTerrain	7 months ago	
<input type="checkbox"/>	New Unity Project	7 months ago	
<input type="checkbox"/>	NewUnity	7 months ago	

# Checklist

- What is a Python code?
- Who created Python? What motivated their design of the language?
- Is there a difference between coding and programming?
- What types of programming have you learnt about? What does each of them do?
- What kind of language is Python?
- What's the difference between compiled and interpreted languages?
- What does a Python interpreter do?
- What is Python Shell? What is IDLE?
- What is command prompt?
- What's the difference between Python and IPython?
- How do you load Python interpreters?

# Core Reading: Week 1



Severance, Charles R. (2016) Chapter 1: Why Should You Learn to Write Programs? In *Python for Everybody*. Createspace Independent Publishing Platform, pp. 1-18.

Wing Kosner, Anthony (2019) The Mind at Work: Guido van Rossum on how Python makes thinking in code easier. Available at: <https://blog.dropbox.com/topics/work-culture/-the-mind-at-work--guido-van-rossum-on-how-python-makes-thinking>.

What is the Jupyter Notebook? Available at: [https://jupyter-notebook-beginner-guide.readthedocs.io/en/latest/what\\_is\\_jupyter.html](https://jupyter-notebook-beginner-guide.readthedocs.io/en/latest/what_is_jupyter.html)