Introduction to Programming

Practical Class #1

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About me

- **João Fonseca**
  - Bsc in Economics
  - Msc in Management (Double Degree)
    - Specialization in Digital Business
  - Msc in Information Management
    - Specialization in Business Intelligence and Knowledge Management
  - Awaiting thesis presentation date
  - PhD Student
  - Junior Researcher

About me…

- Guitar Player:
  - Rock
  - Metal
  - Blues
  - Percussive Guitar
  - Flamenco
  - Jazz
- Side project: Attempting to use AI algorithms to compose music

Practical Classes

- Tuesdays:
  - Apply the concepts learned in the theoretical class
- Fridays:
  - Revisions
  - Practical Python Tools (i.e., libraries)
  - Exercises

Contacts

- Email:

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- Office hours:

TBD

Resources

- Bibliography
- Intro to Programming Github repo:
  - https://github.com/joaopfonseca/introduction_to_programming
- Class slides
- Google, Stack Overflow, documentations, Github and YouTube
- Office hours

Don’t keep your doubts to yourself. Ask!

Let’s setup our working environment

- Download and install Virtual Box:
  - https://www.virtualbox.org/
- Download our already set up virtual computer:
  - https://goo.gl/H9NfEQ
  - Works on Lubuntu: Fast and lightweight Linux operating system

Anaconda

www.anaconda.org

- Anaconda is one of the most popular Python distributions for Data Science
- Comes with most of the main libraries for data manipulation
  - Pandas
  - Numpy
  - Matplotlib
  - Scipy
  - …
- Easy to use and install

Main ways to access Python

- Python Shell and IPython
  - An interactive environment for writing and running code
- Jupyter Notebooks
  - A notebook that weaves code, data, prose, equations, analysis, and visualization
  - A tool for prototyping new code and analysis
  - A method for creating a reproducible workflow for scientific research
- IDE (Integrated Development Environment):
  - A software that helps you build code

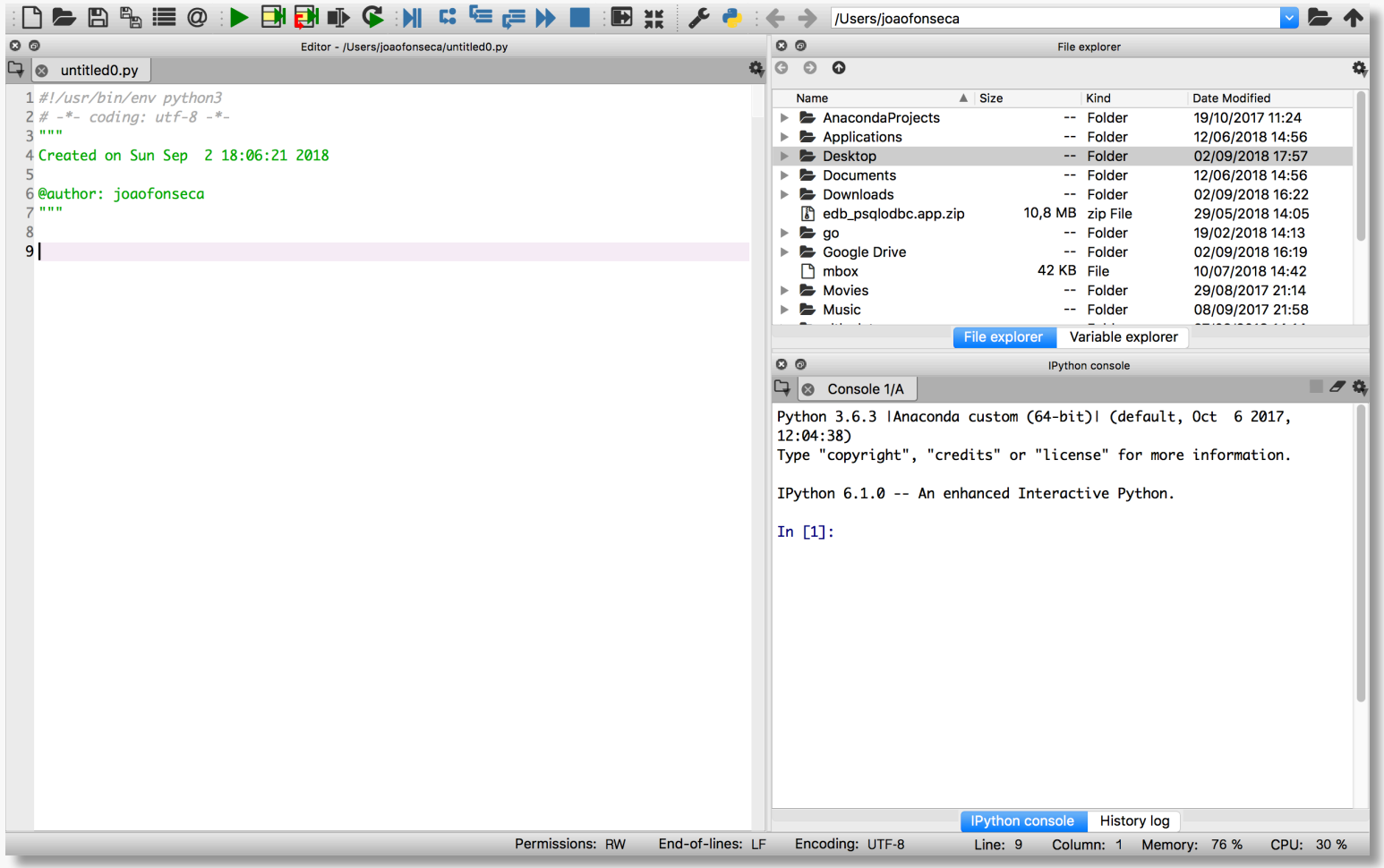
The Python Shell

- Also called Shell, terminal, command prompt, interpreter, console
- A basic Python interface
- Activate it in a terminal by typing “python”
- Or try it here:
  - www.python.org/shell

```
Joaos-MBP-2:~ joaofonseca$ python
Python 3.6.3 |Anaconda custom (64-bit)| (default, Oct  6 2017, 12:04:38)
[GCC 4.2.1 Compatible Clang 4.0.1 (tags/RELEASE_401/final)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> print('Hello World!')
Hello World!
```

Integrated Development Environment (IDE)

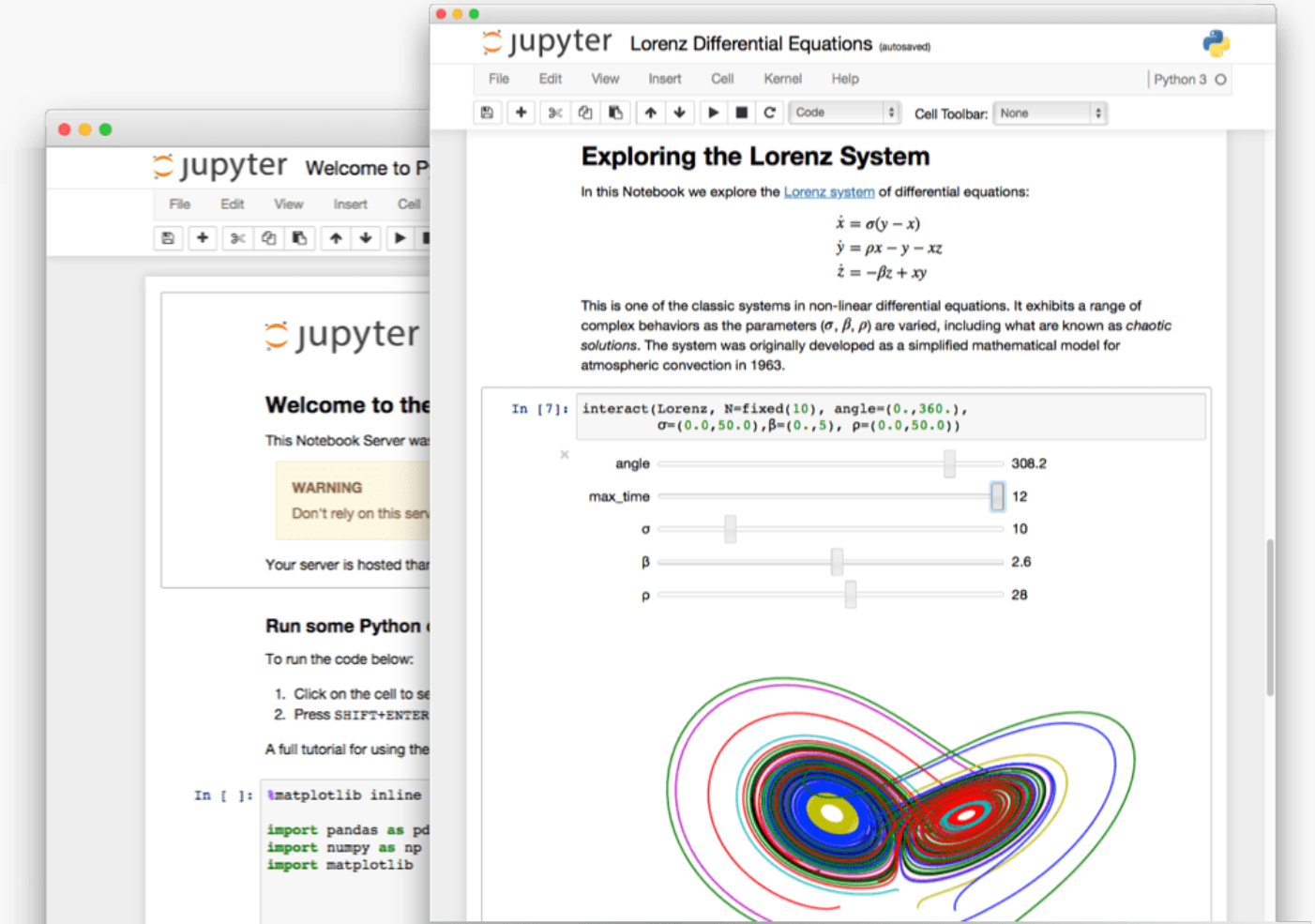
- Popular IDE's:
  - Spyder
  - PyCharm
  - VSCode
  - Rodeo
- Anaconda comes with Spyder and VSCode



The Jupyter Notebook

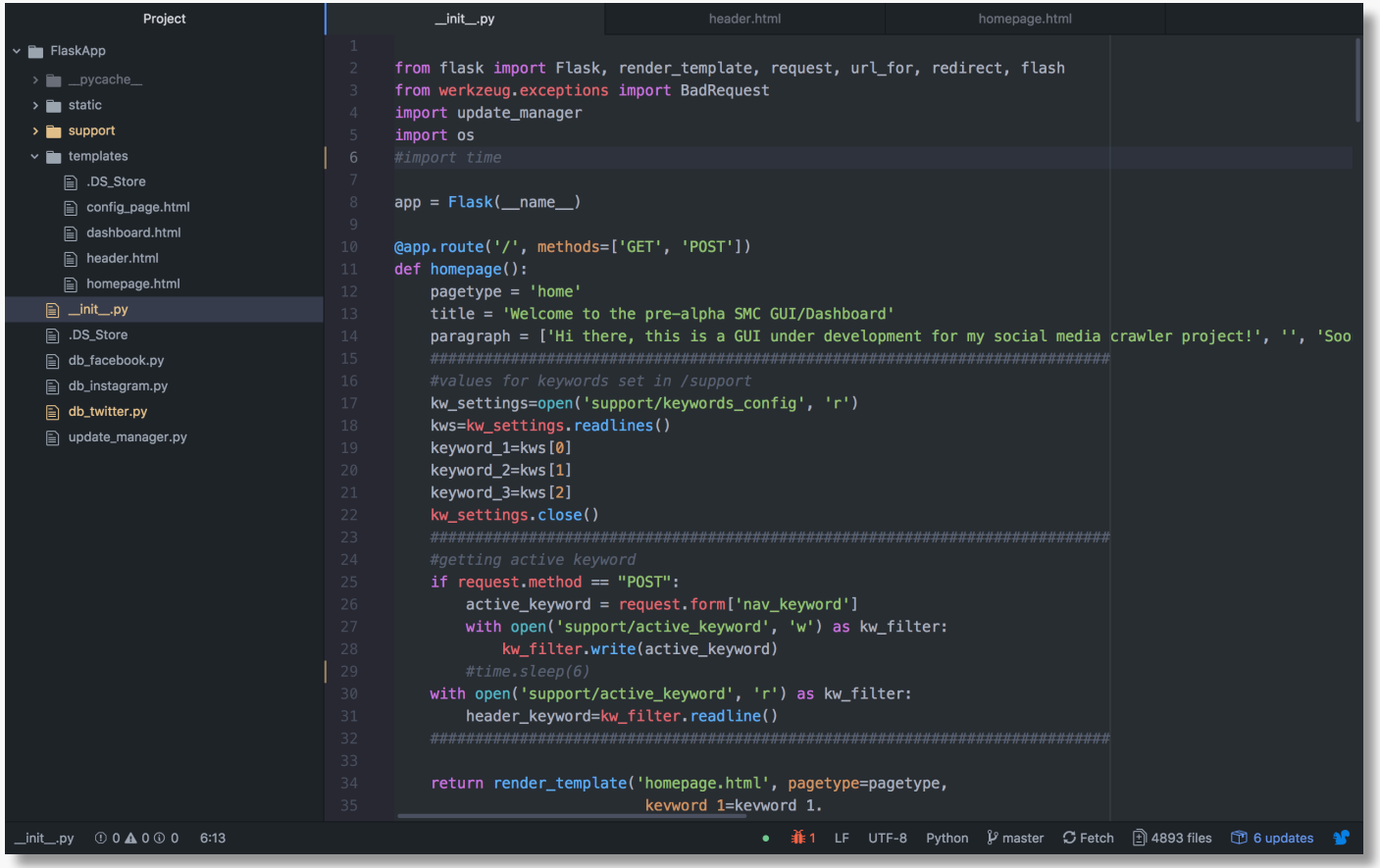
http://jupyter.org/

- Let's try it out!
  - Open your Anaconda Navigator
  - Start Jupyter Notebook



Text Editors

- Another method to write python scripts is using text editors
- Some popular text editors:
  - Vim (Linux terminal text editor)
  - Atom (popular open source editor)
  - Sublime Text (popular proprietary text editor)
  - Notepad ++ (Windows only)
- Usually highly customizable
- Usage of IDE and/or Text editor (and which ones to use) comes down to personal preference



Atom Text Editor