

## Topic Outline: Pandas 1: Data Input

Revised: March 2, 2016

### Materials

- Today's handouts: this outline, book chapter, code practice, stickers
- All posted on *Topic list & links* page of website (except the stickers).

### Preliminaries

- Tools and buzzwords
  - Packages, import, dataframe, csv files, series, columns, index, API.
- What is this?
  - `x = 'abcd'`
  - `x[1]`
  - `'abcd'[1]`
  - `['x1', 'x2']`
  - `d = {'x1': [1, 5, 3], 'x2': [7, 2, 4]}`
  - `d['x1']`
  - `1 > 0`
  - `type(1>0)`
  - Tab completion
  - `object.method?`
  - Function returns
  - Objects and methods
- **Exercise**
  - Put red sticker on your laptop
  - Start Spyder
  - Open blank file `scratch_pad.py` to use in class
  - For second half: save Python code file in your `Data_Bootcamp` directory:  
GitHub ⇒ Code ⇒ Python ⇒ `bootcamp_pandas-input.py` ⇒ click on Raw button
  - Raise your hand if you're stuck
  - Replace red sticker with green when you're set

## Pandas 1: Data input

We'll follow the book chapter.

- Packages
- Importing packages
- Reading internet files
- Properties of dataframes
- Working with variables
- Dataframe methods
- Reading files from your computer
- Examples: Penn World Table, World Economic Outlook, PISA education data, UN population data and projections, income by college major
- APIs: FRED, World Bank, Fama-French equity returns
- Review
  - Put red sticker on, replace with green when done

## Examples

If time permits, we'll go through some examples of economic and financial data and its properties. It's an IPython notebook that you can view on the GitHub repo: the `Code/IPython` directory, file `bootcamp_examples.ipynb`.

## After class

- Required
  - Code Practice #3
  - Submit hardcopy of code file
  - Code template: GitHub  $\Rightarrow$  Code  $\Rightarrow$  Python  $\Rightarrow$  `bootcamp_practice_3_template.py`
- Recommended (always)
  - **Write:** After class, write down everything you remember without using your notes
  - **Review:** Reread the chapter and fill in anything you missed.
  - Ask for help if you get stuck.