

# Topic Outline: Pandas 1: Data Input

Revised: October 4, 2017

## Materials

- Today's handouts: this outline
- All posted on *Topic outlines & links* page of website (except the stickers).

## Preliminaries

- Tools and buzzwords
  - Packages, import, dataframe, csv files, series, columns, index, API.
- Rules to live by: don't panic, ask for help
- 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 `bootcamp_pandas1.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

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# Pandas 1: Data input

We'll follow the book chapter.

- Packages
- Importing packages
- Properties of dataframes
- Working with variables
- Dataframe methods
- Reading files from your computer
- Reading internet files
- 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
  - Review this chapter
  - Code Practice #3 (due October 20th)  
Submit hardcopy of code file  
Code template: GitHub ⇒ Code ⇒ Python ⇒ `bootcamp_practice_3_template.py`
- Recommended (always)

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- **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.