

# Day 4: Numpy & Pandas Intro

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# Goals Today

- ▶ how to use the *Python for Data Analysis*, textbook for the course
- ▶ getting oriented to the basics of `numpy`, `pandas`, and `matplotlib`

# majot topics in PfDA

- ▶ pandas with numpy implicitly
- ▶ IPython notebook
- ▶ matplotlib
- ▶ nice example data sets which we will use (e.g., baby names)

# Work through code in PfDA

A notebook I will talk about: `Day_04_A_PfDA.ipynb`

- ▶ I will highlight important concepts
- ▶ frankly, it took me a lot of trial and error in working through pandas, which has a large and complicated structure

one of my favorite tip sheets on Pandas: [Pandas and Python: Top 10 - Curiosity](#)

10-minute tour of pandas on Vimeo – impressive demo by Wes McKinney

# Some Pandas videos to check out

PyData 2013 | New York, NY | Nov 8 - 10 video: A Practical Introduction to IPython Notebook and Pandas - Julia Evans on Vimeo

notebook as Wakari bundle: <https://www.wakari.io/sharing/bundle/jvns/PyData%20NYC%202013%20tutorial>

in context of some incredible resources:

- ▶ PyData's Videos on Vimeo
- ▶ SciPy 2013 :: Home

# numpy: foundation of the scientific Python stack

Intro to NumPy on Vimeo

and slides: Introduction to NumPy (PyData SV 2013)

# Thinking Through Numpy basics and Pandas Series

Day\_04\_B\_numpy\_and\_pandas\_series.ipynb

# 2010 census brief

## Overview of Race and Hispanic Origin: 2010



# nice tutorials on census

Mapping Census Data

Tutorials - US Census API

# Our Census Notebook for Day 4

Day\_04\_C\_Census.ipynb

# Assignments / Homework

No new items to submit. But I do expect you to be wrestle with the materials in the PfDA, these notebooks, and talk to others in the class.

Please, please, please ask questions! :-)

Don't forget Day\_02\_A\_US\_Census\_API.ipynb – due tomorrow 11:59pm.