



INTRO TO DATA SCIENCE

LESSON 3: PYTHON FOR DATA ANALYSIS



PYTHON FOR DATA ANALYSIS

AGENDA

- ▶ **INTRODUCTION**
- ▶ **IPYTHON ENVIRONMENT**
- ▶ **DATA BASICS**
- ▶ **NUMPY**
- ▶ **PANDAS**
- ▶ **MATPLOTLIB**
- ▶ **LAB**
- ▶ **DISCUSSION**

A group of approximately 15 small panda plush toys are scattered across a light-colored, paved surface. The pandas are in various poses, some lying down and others sitting up. The background is a dark, out-of-focus area, possibly a wall or a fence.

PYTHON FOR DATA ANALYSIS

INSPIRATION

But first, you must complete your training

A group of approximately 15 stuffed pandas are scattered across a light-colored, paved surface. The pandas are in various poses, some lying down and others sitting up. The background is dark and out of focus.

PYTHON FOR DATA ANALYSIS

GETTING COMFY

Navigating Your State of the Art Python Environment

GETTING COMFY

- IPython Notebooks - You can live here
- Comments
- Help
- Tricks

PYTHON FOR DATA ANALYSIS

PYTHON DATA BASICS

SLITHERING TOWARDS AWESOME

- Control Flow
- Functions
- Data Structures
 - Lists, Sets, Dictionaries, Tuples,
- Modules
- Classes

PYTHON FOR DATA ANALYSIS

NUMPY



NUMPY

NUMPY OVERVIEW

- ndarray
- Indexing and Slicing
- Boolean Indexing

PYTHON FOR DATA ANALYSIS

PANDAS
For DataFrames

INTRO TO PANDAS

OBJECT CREATION

INTRO TO PANDAS

VIEWING DATA

INTRO TO PANDAS

SELECTION

INTRO TO PANDAS

MISSING DATA

INTRO TO PANDAS

GROUPING

INTRO TO PANDAS

RESHAPING

INTRO TO PANDAS

TIME SERIES

INTRO TO PANDAS

PLOTTING

INTRO TO PANDAS

I/O

A group of approximately 15 panda plush toys are scattered across a light-colored, paved surface. The pandas are in various poses, some lying down and others sitting up. The background is a dark, out-of-focus area, possibly a building or a wall.

PYTHON FOR DATA ANALYSIS

MATPLOTLIB

Because “Math” takes too long to say.

MATPLOTLIB OVERVIEW

- History
- Plot()
- Figures and Text
- Bar, Histograms, ScatterPlots

PYTHON FOR DATA ANALYSIS

LAB. NEW MUNGE TIMES

PYTHON FOR DATA ANALYSIS



DISCUSSION