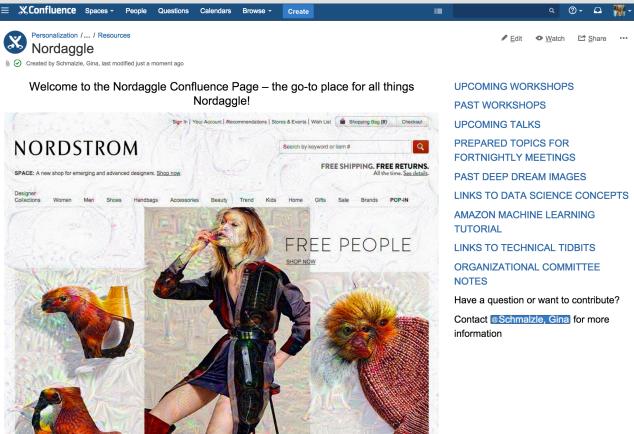
NORDAGGLE

PRESENTS...

Introduction to Python Workshop

Caroline Harbitz & Gina Schmalzle

NORDAGGLE-WHAT IS IT?



UPCOMING WORKSHOPS

PAST DEEP DREAM IMAGES

LINKS TO DATA SCIENCE CONCEPTS

AMAZON MACHINE LEARNING

ORGANIZATIONAL COMMITTEE

Contact @Schmalzle, Gina for more

Primary purpose -- increase communication about data topics

Nordaggle – spin off from Kaggle

We host

- 1. Fortnightly meetings to talk about data topics and problems
- 2. Workshops
- 3. Competitions (not yet offered)

https://confluence.nordstrom.net/display/PER/Nordaggle

SPECIAL THANKS

Melissa Haklitch − logistics extraordinaire ©

Jason Gowans and the Data Lab – Food and Drink

Heidi Whiting and James Pestrak – python/pip installation

Our TA's!

SPECIAL THANKS

You!

- 212 Officially Signed Up
- 105 Beginner, 81 Intermediate and 22 Expert Programmers (4 no response)



Gina Schmalzle & Caroline Harbitz

Workshop outline

- * Part 1: Jupyter & Python overview
- * Part 2: Data types
- * Part 3: Control structures
- * Part 4: Functions
- * Part 5: Reading and writing data

We have one rule

Ask for help!

Part 1: Jupyter & Python

Outline:

- * Some history
- * What is Python?
- * What's an interpreter? A shell? A script?
- * What is Jupyter?
- * Basic commands

Python history

- * Created in 1990 by the BDFL
- * It's not named after snakes
- * Pretty unpopular until 2.0 was released in 2000
- * 3.0 was released in 2008
 - * Backwards incompatibility issues
 - * Updated scoping rules
 - * Different string encoding

We're using v2.7 for this workshop

Programming elements

- * A **program** or **script** is a sequence of commands
- * These sequences are evaluated and executed by the Python interpreter in a **shell**
- * A **command** or **statement** is an instruction for the interpreter

Jupyter Notebook

Web apps that contain both:

- * computer code (support for > 40 languages)
- * rich text elements (images, videos, JavaScript, etc.)

To start a notebook server from your terminal:

\$ jupyter notebook

Command types:

* Terminal: \$

\$ jupyter notebook

* Python: >>>

Basic Python Operations

Variable assignment:

Tests:

Math:

Part 2: Data types

- * Built-in data types
- * What's a dictionary? A list? A tuple?
- * Indexing and slicing

Write a python script. For example:

- * Create a file named example.py (note the .py extension)
- * In example.py write some Python code (e.g.: print("Hello world!")), save, and close.
- * To run the script, At the command line type:
 - * python example.py

- * Use the ipython interactive shell For example:
 - * At the command line type: ipython
 - * Start writing python code like you did with notebooks

Try the final projects!

- * python 5 final_project.ipynb
- * python_6_final_project_with_pandas.ipynb

- * Think up your own project.
- * Tips:
 - * The Python docs, Google, and Stack Overflow are your friends
 - * Use print statements to troubleshoot
 - * Try using a debugger
 - * https://wiki.python.org/moin/PythonDebuggingTools