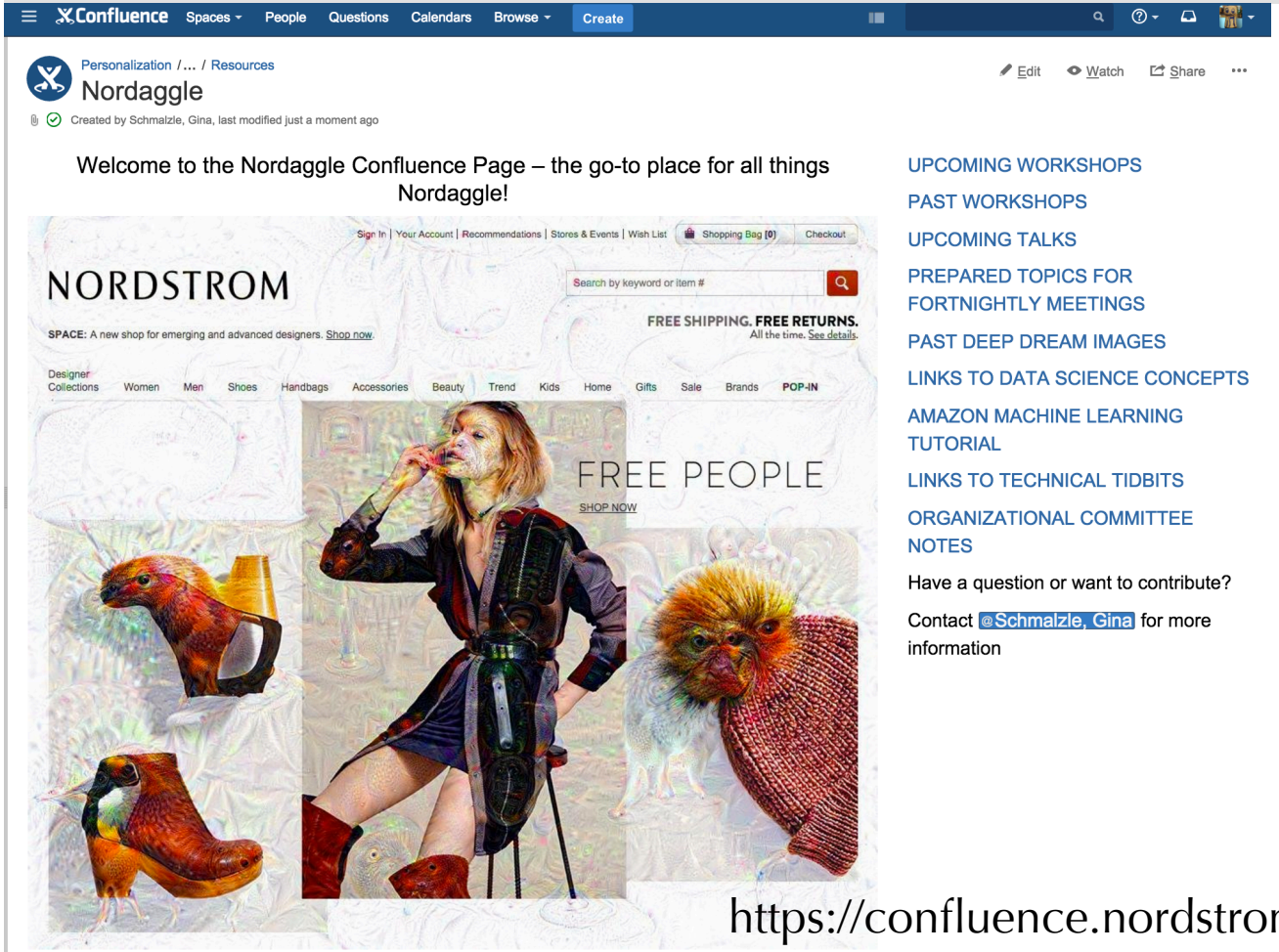
NORDAGGLE

PRESENTS...

Introduction to Python Workshop

Caroline Harbitz & Gina Schmalzle

NORDAGGLE- WHAT IS IT?



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)

python workshop!

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 is Jupyter?
* Basic operations

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 **command** or **statement** is an instruction for the computer

* A **program** or **script** is a sequence of commands

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
```

Basic Python Operations

Variable assignment:

```
6 + 5 == 11
True
1 + 1 == 3
False
```

Tests:

```
a = 'nordstrom'
print a
 'nordstrom'
```

Math:

```
3 + 2
5

6.0 * 2
12.0

10 - 5
5
```

```
3 / 2
1

3 / 2.0
1.5

4 ** 2
16
```

Part 2: Data types

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

What Next?

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

What Next?

* Use the ipython interactive shell

For example:

  * At the command line type: `ipython`
  * Start writing python code like you did with notebooks

What Next?

Try the final projects!

* python_5_final_project.ipynb
* python_6_final_project_with_pandas.ipynb

What Next?

* 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