Collect & Prep Your Data for Visualization and Analysis

https://github.com/BCDigSchol/coffee-code/tree/master/data-prep

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cc BY NC

What is data?

- Data is all around you
  - When you assign a value to something - you have data
  - Qualitative vs. quantitative
  - Humanities vs. Social Science Data

Is this data?

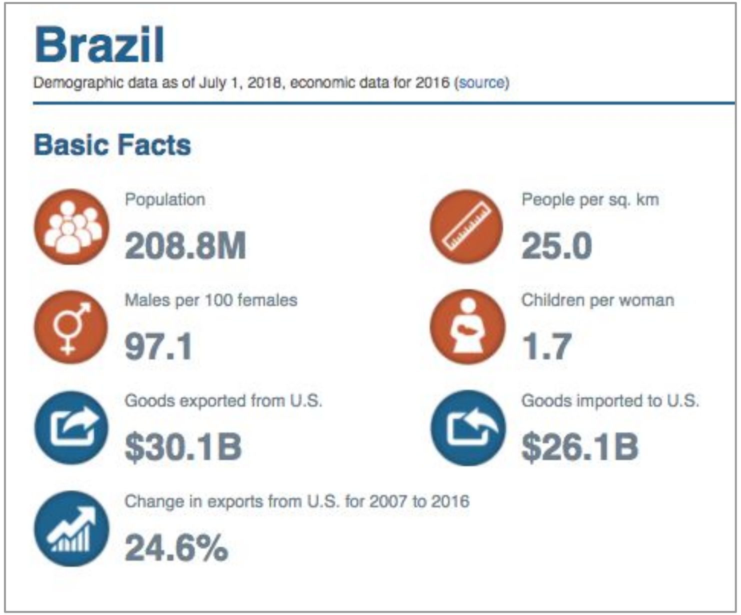
Jane Austen was born on December 16, 1775 in Steventon, Hampshire. She is British. Austen wrote the novel *Sense and Sensibility*.

Emily Dickinson was born on December 10, 1830 in Amherst, Massachusetts. She was an American poet. One of her poems is *A great Hope fell*.

Is this data? Yes!

Name	Birth Date (Temporal)	Place (Spatial)	Type	Nationality	Works	Form
Austen, Jane	1775-12-16	51.228457, -1.2201168999999936	Novelist	British	Sense and Sensibility	Novel
Dickinson, Emily	1830-12-10	42.3732216, -72.5198537	Poet	American	A great Hope fell	Poem

Is this data?



Brazil

Demographic data as of July 1, 2018, economic data for 2016 (source)

Basic Facts

Population
208.8M

People per sq. km
25.0

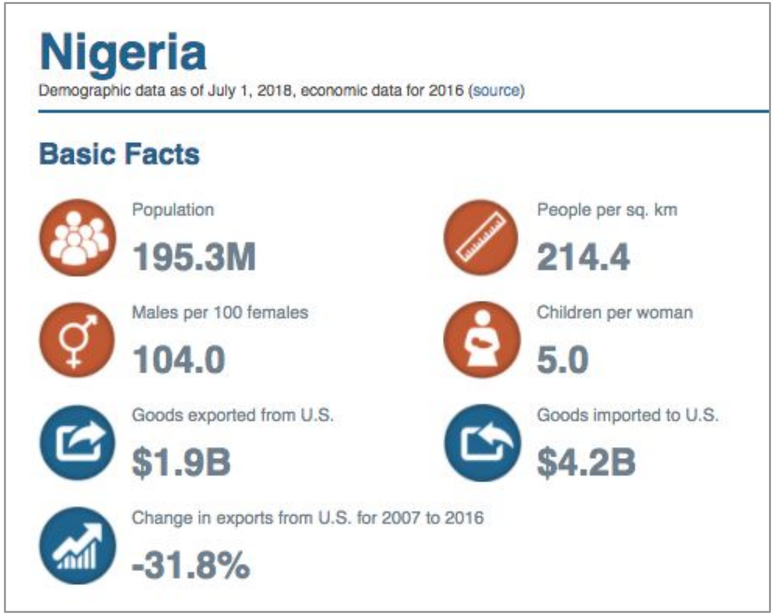
Males per 100 females
97.1

Children per woman
1.7

Goods exported from U.S.
$30.1B

Goods imported to U.S.
$26.1B

Change in exports from U.S. for 2007 to 2016
24.6%



Nigeria

Demographic data as of July 1, 2018, economic data for 2016 (source)

Basic Facts

Population
195.3M

People per sq. km
214.4

Males per 100 females
104.0

Children per woman
5.0

Goods exported from U.S.
$1.9B

Goods imported to U.S.
$4.2B

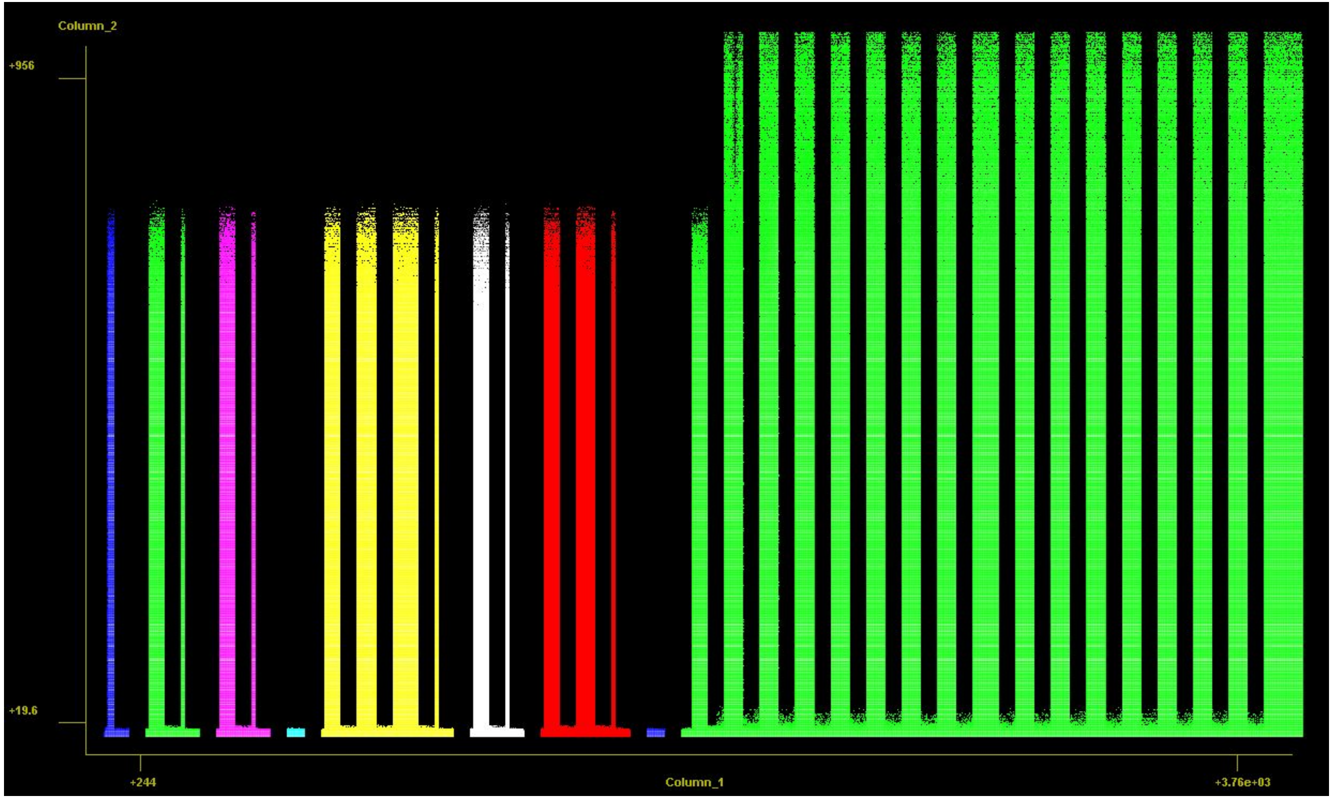
Change in exports from U.S. for 2007 to 2016
-31.8%

Source: https://www.census.gov/popclock/world

Is this data? Yes!

Country	Population	Males per 100 females	Goods exported from U.S.	People per sq. km	Children per woman	Goods imported to U.S.
Brazil	208,800,000	97.1	$30,100,000,000	25.0	1.7	$26,100,000,000
Nigeria	195,300,000	104.0	$1,900,000,000	214.4	5.0	$4,200,000,000

What makes data “useable”?



What makes data "useable"?

What makes data “useable”?

Your Data & Visualizations

What kind of data are you working with? (Geospatial? Temporal? Textual?)

What's your audience?

What are you trying to convey? (Relationships? Scale?)

Exercise 1: Analysis

https://github.com/BCDigSchol/coffee-code/tree/master/data-prep

Tools & Methods

- OpenRefine (http://openrefine.org/)
- Google Fusion Tables (https://sites.google.com/site/fusiontablestalks/)
- Voyant (https://voyant-tools.org/)
- RAWGraphs (https://rawgraphs.io/)
- Tableau Public (https://public.tableau.com/en-us/s/)

Things to think about during data prep...

Check to see if your data have leading or trailing whitespaces or extraneous punctuation marks

Do the values in each column match the data type?

How are your dates formatted?

Do you need to split data into separate columns?

Do you need to normalize spelling or letter case?

Do you have coordinates (lat/long)?

Exercise 2: Data Prep & Cleaning

https://github.com/BCDigSchol/coffee-code/tree/master/data-prep

Prep & Cleaning

- Brief overview of OpenRefine
- Review sample data (what can we normalize and why?)
- Tips & Recipes
    - Transformations
    - Faceting and clustering
    - Normalizing dates
    - Geocoding

Normalizing Dates

Build your expression in the Transform function

value.toDate(‘insert letter).toString(‘insert letter’)

For day use: d or dd

For month: M or MM

For year use: yy or yyyy

Geocode Locations

Add a column by fetching URLs based on column

- Name your column
- Change throttle delay to 1000 milliseconds

Use expression:

```
“http://nominatim.openstreetmap.org/search?format=json&email=[YOUR_EMAIL_HERE]&app=google-refine&q=" + escape(value, 'url')
```

Geocode Locations

- Split your coordinates into two columns (latitude/longitude)
  - Use expression: **value.parseJson()[0].lat**

- Repeat for longitude
  - Use expression: **value.parseJson()[0].lon**

Resources

List of Tools, Readings, and Additional Resources: https://github.com/BCDigSchol/coffee-code/tree/master/data-prep

Data Management & Data Planning: https://libguides.bc.edu/dataplan

DMP Tool: http://www.bc.edu/sites/libraries/dmptool/

Dataverse: https://libguides.bc.edu/dataverse

Open Science Framework (OSF): https://osf.io/

Humanities Commons: https://hcommons.org/

Thanks!

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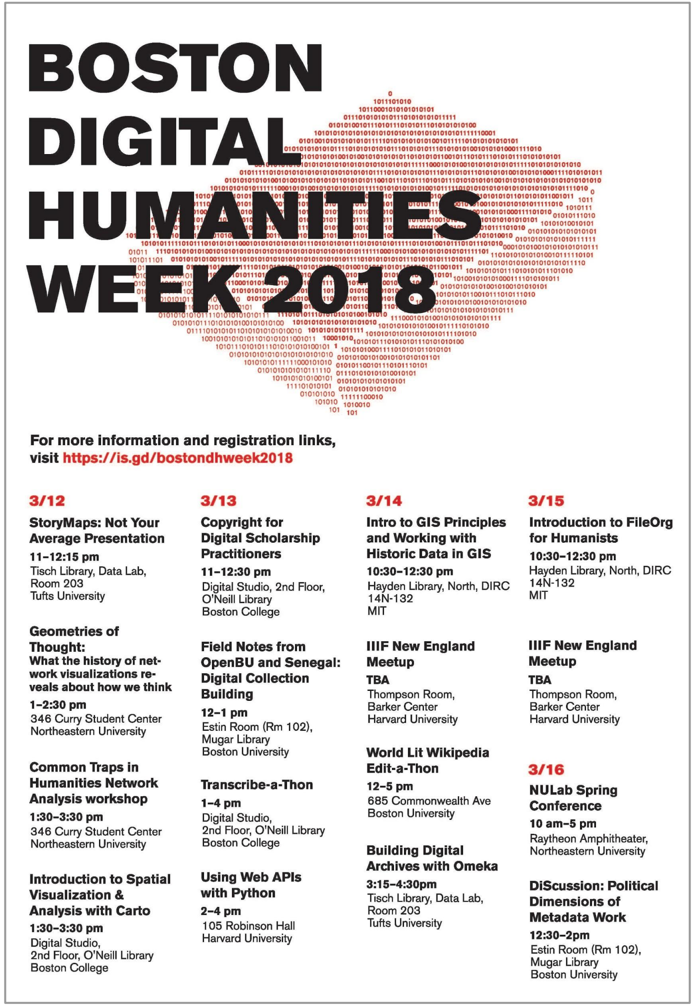
Find events and more at ds.bc.edu

UPCOMING EVENTS!

is.gd/bostondhweek2018



BOSTON DIGITAL HUMANITIES WEEK 2018

For more information and registration links, visit https://is.gd/bostondhweek2018

3/12

StoryMaps: Not Your Average Presentation
11–12:15 pm
Tisch Library, Data Lab, Room 203
Tufts University

Geometries of Thought: What the history of network visualizations reveals about how we think
1–2:30 pm
346 Curry Student Center
Northeastern University

Common Traps in Humanities Network Analysis workshop
1:30–3:30 pm
346 Curry Student Center
Northeastern University

Introduction to Spatial Visualization & Analysis with Carto
1:30–3:30 pm
Digital Studio, 2nd Floor, O'Neill Library
Boston College

3/13

Copyright for Digital Scholarship Practitioners
11–12:30 pm
Digital Studio, 2nd Floor, O'Neill Library
Boston College

Field Notes from OpenBU and Senegal: Digital Collection Building
12–1 pm
Estin Room (Rm 102), Mugar Library
Boston University

Transcribe-a-Thon
1–4 pm
Digital Studio, 2nd Floor, O'Neill Library
Boston College

Using Web APIs with Python
2–4 pm
105 Robinson Hall
Harvard University

3/14

Intro to GIS Principles and Working with Historic Data in GIS
10:30–12:30 pm
Hayden Library, North, DIRC 14N-132
MIT

IIIF New England Meetup
TBA
Thompson Room, Barker Center
Harvard University

World Lit Wikipedia Edit-a-Thon
12–5 pm
685 Commonwealth Ave
Boston University

Building Digital Archives with Omeka
3:15–4:30pm
Tisch Library, Data Lab, Room 203
Tufts University

3/15

Introduction to FileOrg for Humanists
10:30–12:30 pm
Hayden Library, North, DIRC 14N-132
MIT

IIIF New England Meetup
TBA
Thompson Room, Barker Center
Harvard University

3/16

NULab Spring Conference
10 am–5 pm
Raytheon Amphitheater, Northeastern University

DiScussion: Political Dimensions of Metadata Work
12:30–2pm
Estin Room (Rm 102), Mugar Library
Boston University