GET1030

Computers and the humanities

# Lecture 10
Tools for visualizing geographical data

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# Objectives

By the end of this lecture you should be able to:

- Create a range of cartographic visualizations using tools from Google
- Create choropleths in Python

# Lecture 10
Visualizing geographical data

Part 1: Creating cartographic visualizations

# Sustainability

Didn't we just see that Google products are less sustainable?

Yes, but that's not a reason to not use them. Just to be aware of this and to consider this when building projects.

In the second video, we will see ways to generate similar visualizations entirely in Python.
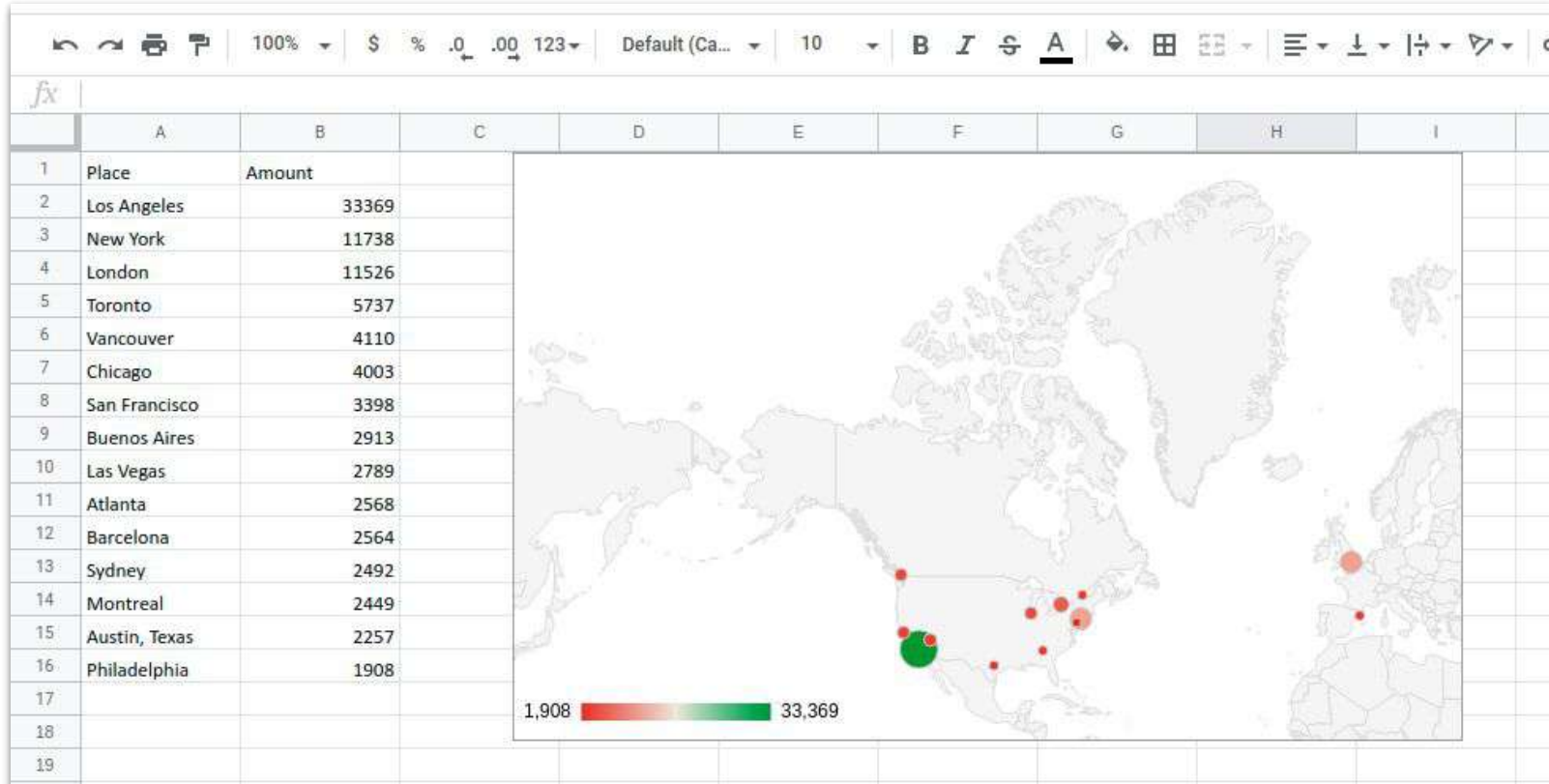
# Importing data to Google Maps



File to import: JamesBond_Landmarks.xlsx
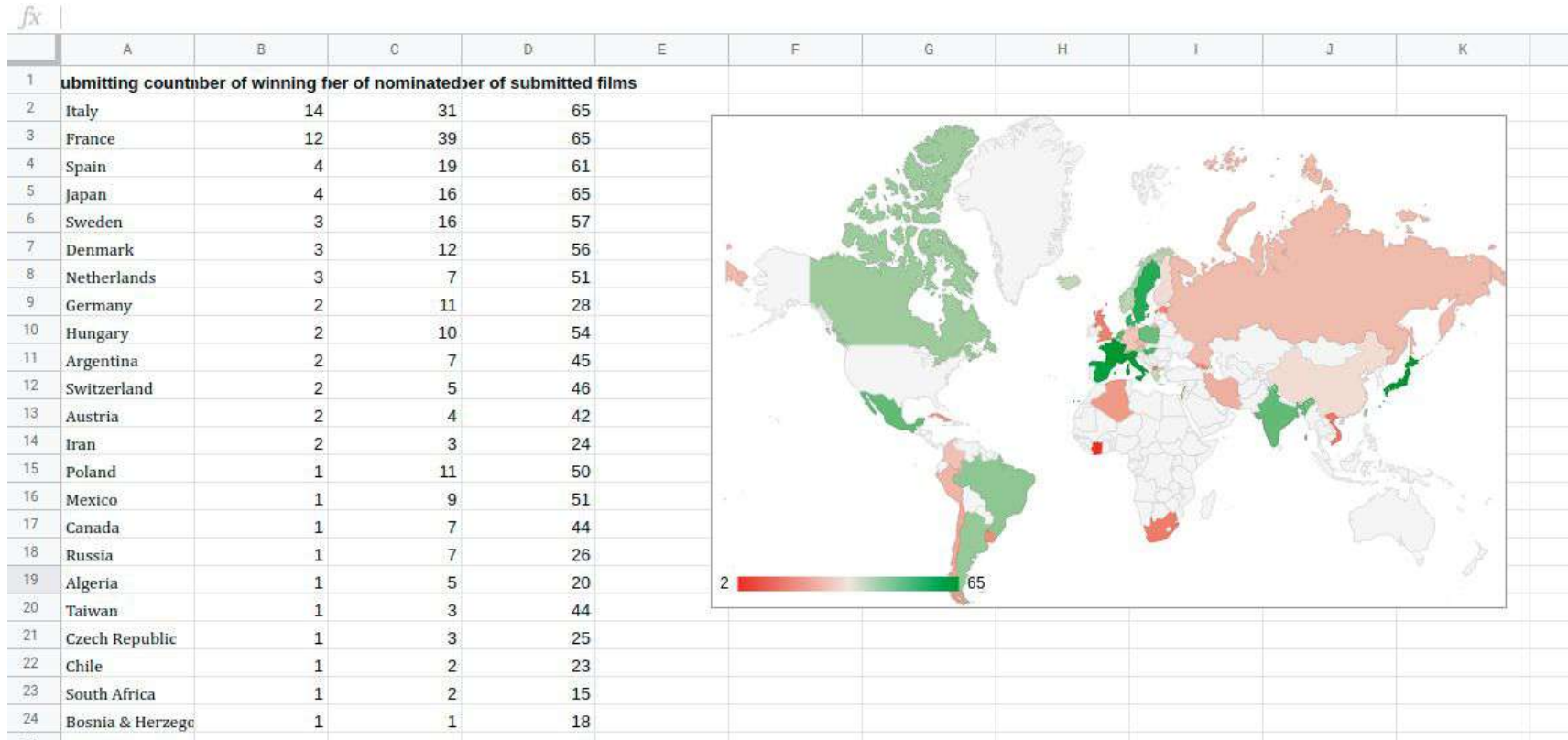
https://www.google.com.sg/maps/d/

# Geo chart with markers (bubblemaps)



File to import: Cities_in_Film.xlsx

(source: https://www.huffingtonpost.ca/2018/08/01/worlds-most-filmed-cities_a_23493983/)

https://docs.google.com/spreadsheets/u/0/

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# Geo chart (choropleth)



| ubmitting country | ber of winning | er of nominated | er of submitted films |
|---|---|---|---|
| Italy | 14 | 31 | 65 |
| France | 12 | 39 | 65 |
| Spain | 4 | 19 | 61 |
| Japan | 4 | 16 | 65 |
| Sweden | 3 | 16 | 57 |
| Denmark | 3 | 12 | 56 |
| Netherlands | 3 | 7 | 51 |
| Germany | 2 | 11 | 28 |
| Hungary | 2 | 10 | 54 |
| Argentina | 2 | 7 | 45 |
| Switzerland | 2 | 5 | 46 |
| Austria | 2 | 4 | 42 |
| Iran | 2 | 3 | 24 |
| Poland | 1 | 11 | 50 |
| Mexico | 1 | 9 | 51 |
| Canada | 1 | 7 | 44 |
| Russia | 1 | 7 | 26 |
| Algeria | 1 | 5 | 20 |
| Taiwan | 1 | 3 | 44 |
| Czech Republic | 1 | 3 | 25 |
| Chile | 1 | 2 | 23 |
| South Africa | 1 | 2 | 15 |
| Bosnia & Herzego | 1 | 1 | 18 |

File to import: Foreign_film_Oscars.xlsx

https://docs.google.com/spreadsheets/u/0/

# Cartograms in go-cart.io
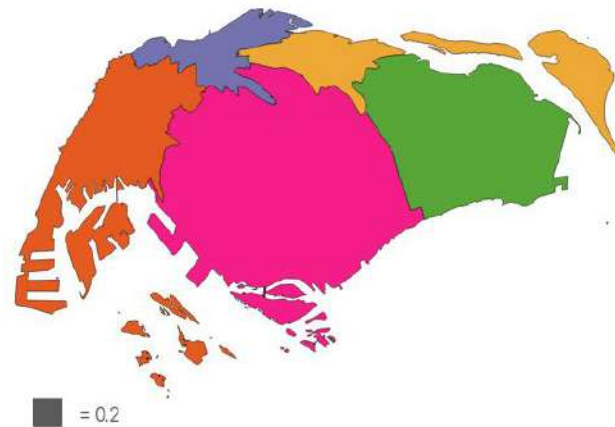


https://go-cart.io/cartogram
A project by Michael T. Gastner (Yale-NUS)
Gastner MT, Seguy V, More P. Fast flow-based algorithm for creating density-equalizing map projections. *Proc Natl Acad Sci USA* 115(10):E2156–E2164 (2018).

# StoryMap

https://storymap.knightlab.com/

# How to choose a visualization?

| Level of granularity | Interactive markers | Bubblemaps | Choropleth | Cartogram | Storymap |
|---|---|---|---|---|---|
| City | | x | | | x |
| Specific address | x | x | | | x |
| District / province | | | x | x | |
| Country | | | x | x | |

| Type of data | Interactive markers | Bubblemaps | Choropleth | Cartogram | Storymap |
|---|---|---|---|---|---|
| Context for each datapoint | x | | | | x |
| Aggregate quantitative data | | x | x | x | |

# Lecture 10
Visualizing geographical data

Part 2: Creating choropleths in Python

# Creating Choropleths in Python

Install **Folium**

If you downloaded anaconda, type the following into a terminal window

**conda install -c conda-forge folium**

If you had previously installed Python and have used Pip, type the following into a terminal window

**pip install folium**

Write to me if you are experiencing problems.

# Inserting Images into Jupyter

Install **Folium**

If you downloaded anaconda, type the following into a terminal window

**conda install -c conda-forge folium**