Introdução a ferramentas para análise de dados e visualização da informação

José Manuel dos Santos Sotero Cordeiro
n.º de aluno: 51169

Professor: Sandra Becker

3rd Practice

Link for the website with all the exercises:
https://a51169.github.io/3rd_practice_site/index.html

Work summary:

1st Tab – Carto 1
I reproduced the same analysis that we have done during the class with the same dataset ("costumers.csv"). However, I made a few changes to explore different formats for presenting the data.

> Layer 1 (spending)
[Styling]
- Point size by value (var *spend*), 7 categories, equal intervals
- Point color by value (var *spend*), 5 categories, equal intervals

> Layer 2(cluster_spending)
[Analysis]
- Calculate Cluster of Points (5 clusters)
- Create Polygons from Points (method Convex Hull, grouped by var *cluster_no* and measured by the var *spend* average)
- Add a legend with grading colors from minimum to maximum

If the site doesn't work, you can access the map with this link:
https://mappingspain.carto.com/u/jsotero/builder/d219103c-fd60-469a-8c15-9a8012f07d19/embed

2nd Tab – Carto 2
In this exercise I used two data sets (subway NY and NY Airbnbs). I didn't explore the full potential of these two data sets. However, in the future, I will dedicate more time to understand more about this particular analysis.

> Base map with Mapbox

- I changed the road color to pink and made a few adjustments in other colors and fonts.

<u>> Layer 1 (NY subway)</u>
This layer only shows the subway map.

<u>>Layer 2 (Airbnb party)</u>
It shows all the Airbnbs in NY area.

<u>> Layer 3 (filter)</u>
[Filtering]

- I applied a filter to show only the Airbnbs which prices are greater than or equal to 500€/night

[Analysis]

- Calculate Cluster of Points (5 cluster)
- Bounding Box (method Convex Hull, grouped by var *cluster_no* and measured by the var *price* average)

[Styling]

- I used CartoCSS to change the line color.

[Hoover]

- I added a tooltip (Hover) to show the cluster category and the average price for each point

[Legend]

- Both analyses are presented with legend

[Widgets]

- The widget allows the user to search for a specific neighborhood

<u>Layer 4 (Hexbins)</u>

- This layer shows a hexbin by the var *price* (average)

In case the site doesn't work you can access the map with this link:
https://mappingspain.carto.com/u/jsotero/builder/b9497353-4649-442c-9b0d-8a5441159247/embed

3rd Tab – Kepler
I used the NY Airbnb data set (same as before). I explored Kepler's 3D functionality for this Hexbin.

<u>Base map with MapBox</u> (same as before)

Layer 1 (Airbnbs)
It shows all the Airbnbs in NY area.

[Filtering]
- I applied a filter to show only the Airbnbs which prices are greater than or equal to 250€/night

Layer 2 (heatmap) - Extra
I created a Heatmap to confirm the results.

Layer 3 (Hexbin)
This layer shows a 3D hexbin with the same criteria as before.

Tooltip
- Hoover with var *name_airbnb* and var*_price.*

Link: https://kepler.gl/demo/map/carto?mapId=24e75bab-6c53-d9a5-fa65-74922676601f&owner=jsotero&privateMap=false

4th Tab – Mapbox
In this tab I embedded the base map created with Mapbox (the same that was used in the last two exercises).

Link:
https://api.mapbox.com/styles/v1/josemsotero/cl463ojvt003u14mo7hm6scii.html?title=view&access_token=pk.eyJ1Ijoiam9zZW1zb3Rlcm8iLCJhIjoiY2wzajNreHlyMDJ3dTNqcDhvbHo0MjN2YyJ9.QWIUY5pEWyQa4LbgxL8c5A&zoomwheel=true&fresh=true#11.27/40.6865/-73.9721

5th Tab – D3
In this exercise with D3, I used the Lisbon Airbnb data set to show the most expensive airbnbs in the region (>9.000€/per night).

First, I loaded the data and then I added some animation to identify the 3 most expensive airbnbs in Lisbon.

The visualization was created with *Observable* and then embed in the site.

Observable link: https://observablehq.com/@2008ecd4bdb60036/portugal-basemap
(I made a few changes offline with Visual Studio Code. Some styling aspects are different in the site).