

APSC 1001

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# Introduction to Engineering for Undeclared Majors

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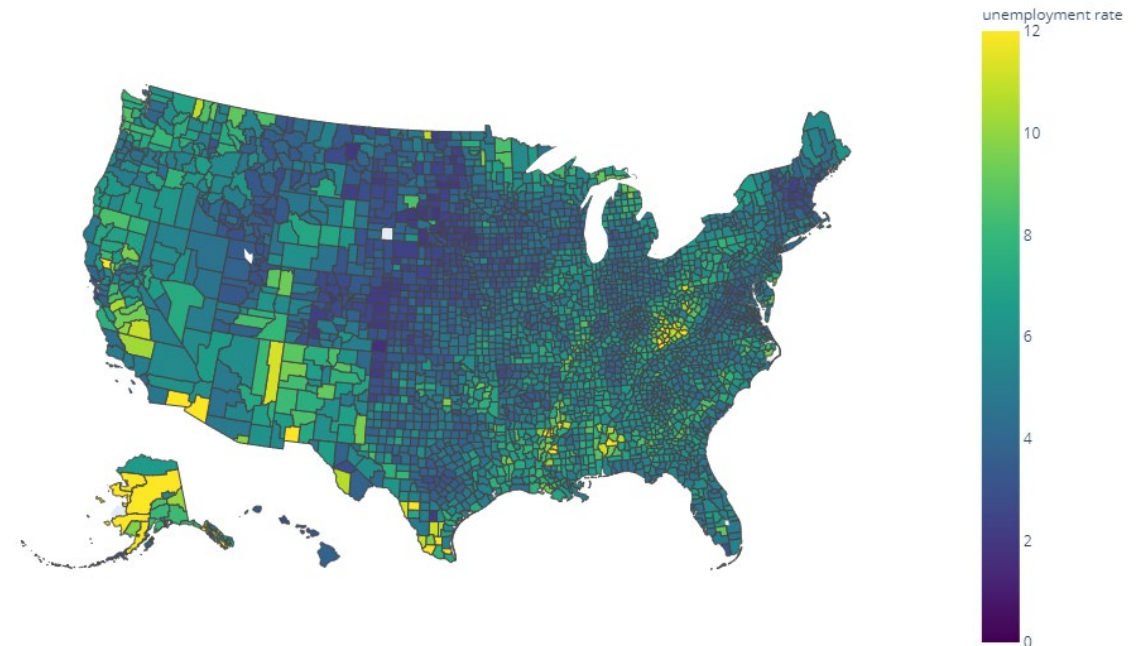
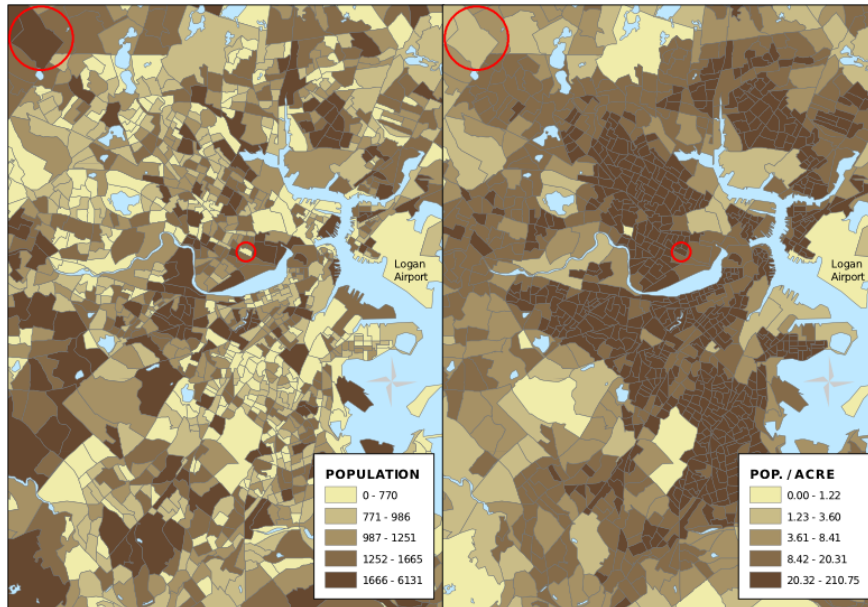
Photo: Kartik Bulusu

# What is a Choropleth ?

A **choropleth map** (from Greek χῶρος "area/region" and πλῆθος "multitude")

- **thematic map** in which areas are shaded or patterned
- in proportion to a statistical variable
- that represents an aggregate summary of a geographic characteristic within each area.

Total Population of 2000 Census Block Groups    Population Density of 2000 Census Block Groups



References: <https://plotly.com/python/choropleth-maps/>

[https://en.wikipedia.org/wiki/Choropleth\\_map#:~:text=A%20choropleth%20map%20\(from%20Greek,density%20or%20per%2Dcapita%20income.](https://en.wikipedia.org/wiki/Choropleth_map#:~:text=A%20choropleth%20map%20(from%20Greek,density%20or%20per%2Dcapita%20income.)

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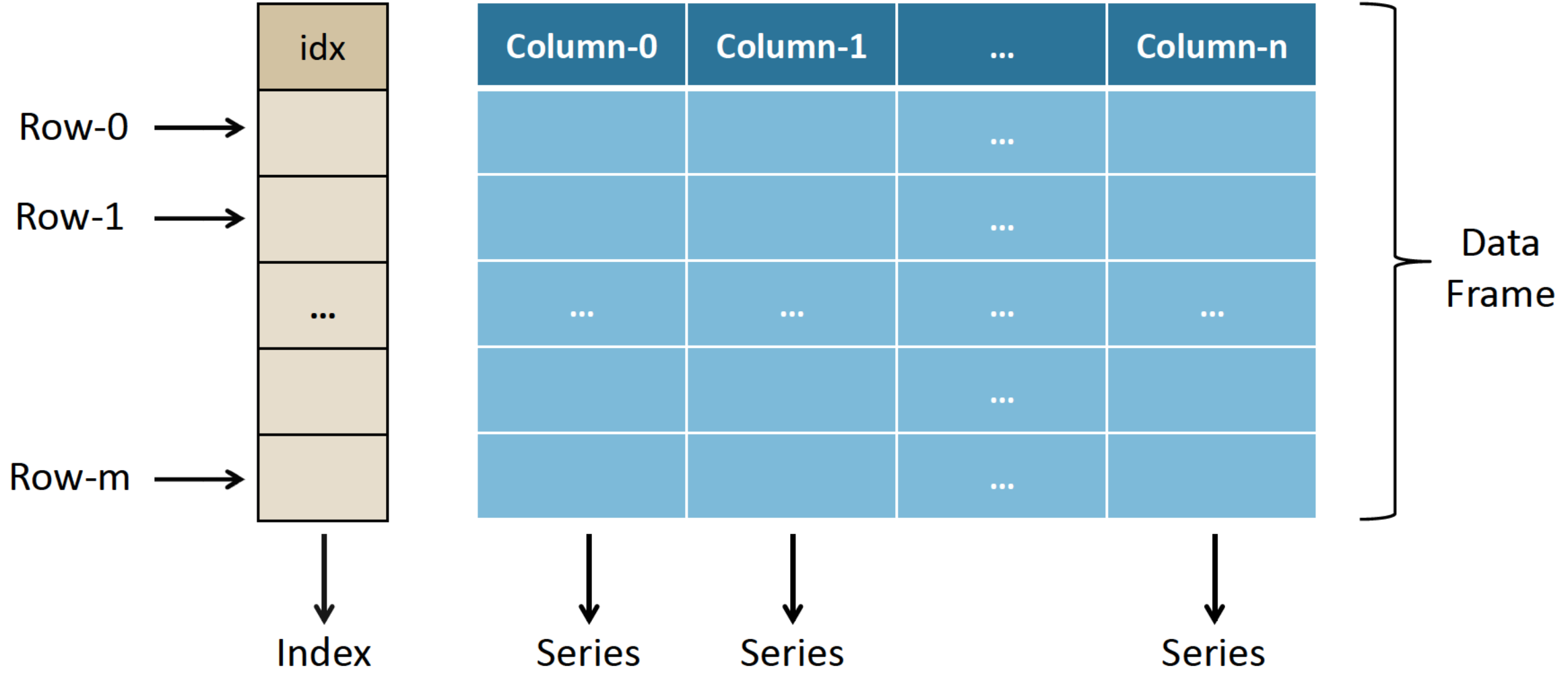
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# Typical Pandas Data Frame

```
import pandas as pd
df = pd.read_csv();
print(df)
```



# Very basic choropleth code structure

```
import plotly.express as px
import pandas as pd

owid_df = pd.read_csv('owid-covid-data.csv')

fig = px.choropleth(owid_df, locations="iso_code",
                    color="new_cases",
                    hover_name="location",
                    animation_frame="date",
                    title = "Daily new COVID cases from
                            01/01/2020 to 08/30/2020",
                    color_continuous_scale=px.colors.sequential.PuRd,
                    range_color = [0, 60000],
                    projection = "natural earth")

#fig["layout"].pop("updatemenus")
fig.show()
```

Click on this link to see the choropleth

<https://gwu-apsc1001.github.io/labs/week4-python.html>

Definitely read more on <https://plotly.com/python/choropleth-maps/#choropleth-map-with-plotlyexpress>