Course Eight

Week Three

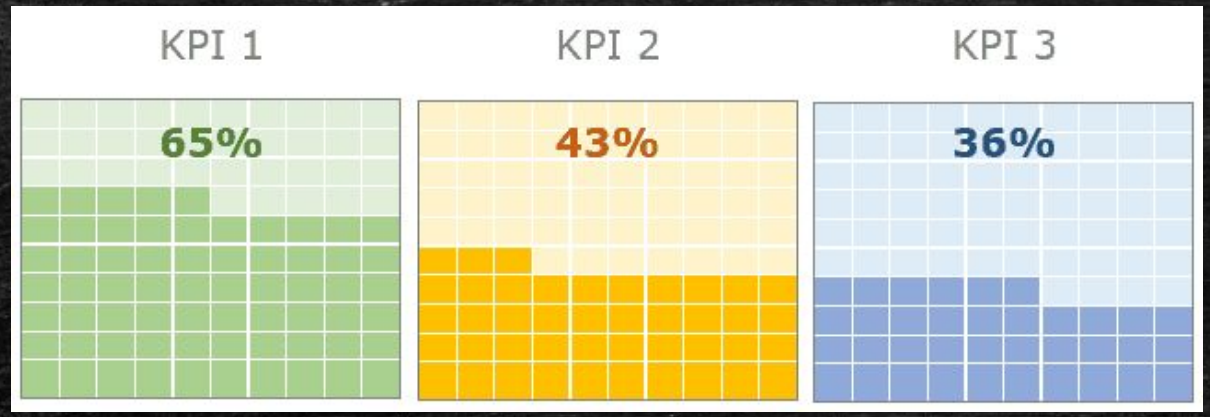
Objectives

Demonstrate how to use advanced visualization tools to create waffle charts and world clouds

Use Seaborn with Matplotlib to generate attractive regression plots

Describe the use of Folium and use it to create maps, superpose markers, and create Choropleth maps

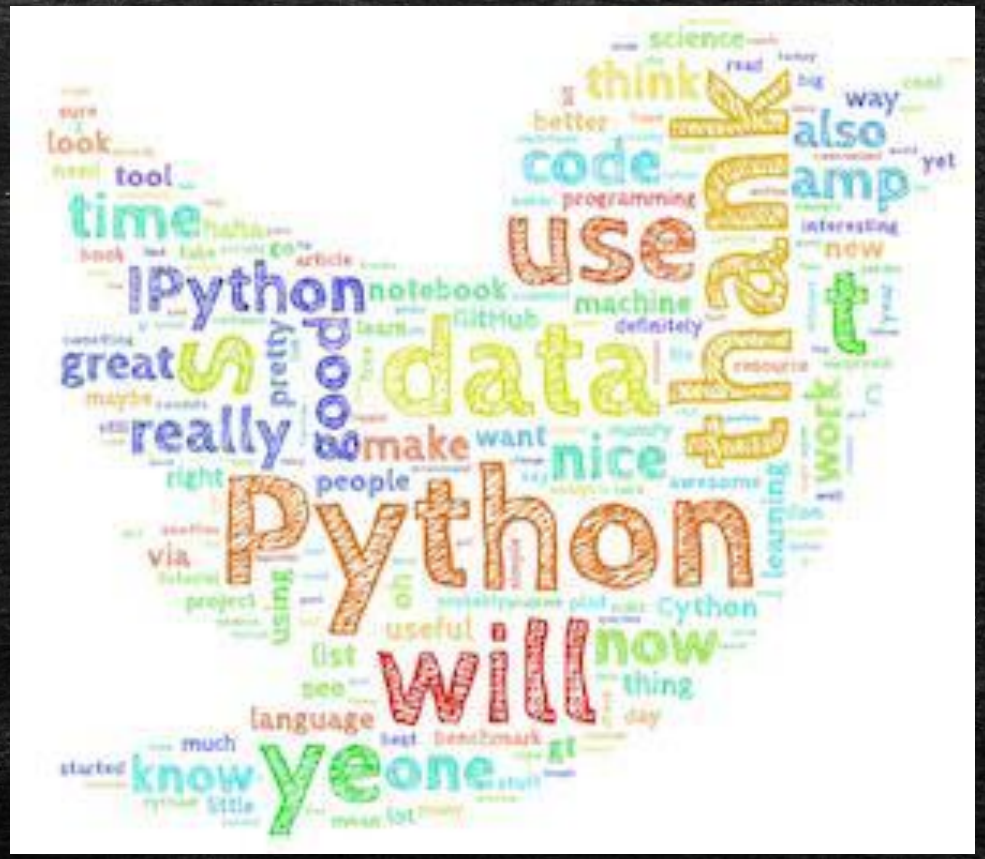
Waffle Charts



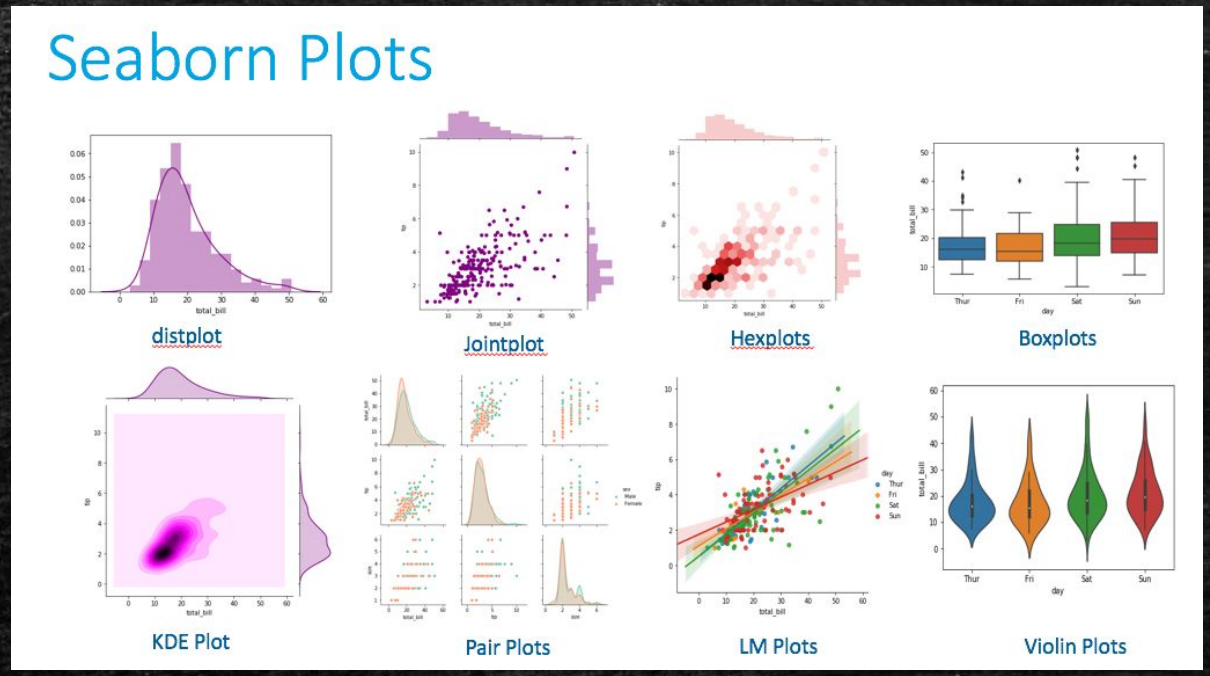
- Advanced visualization tool
- Visualization that displays progress towards goals
- Height and width are defined
- Matplotlib does not have a function to create waffle charts you will create your own Python function

Word Cloud

- Depiction of the importance of different words in the body of a text
- The more a word appears, the bigger and bolder it appears in the word cloud
- Matplotlib does not have a function to create word charts Mueller's publicly available word-cloud generator



Seaborn



- Python visualization library
- Based on Matplotlib
- Makes creating plots efficient using 5x less code

Visualizing Geospatial Data Folium

- Create interactive map of any location in the world if you know the longitude and latitude values
- Street maps, stamen maps, etc.
- Call the map function

Example of a Folium map using Stamen Toner

```
m = folium.Map(location=[60.25, 24.8], zoom_start=10, control_scale=True)
```

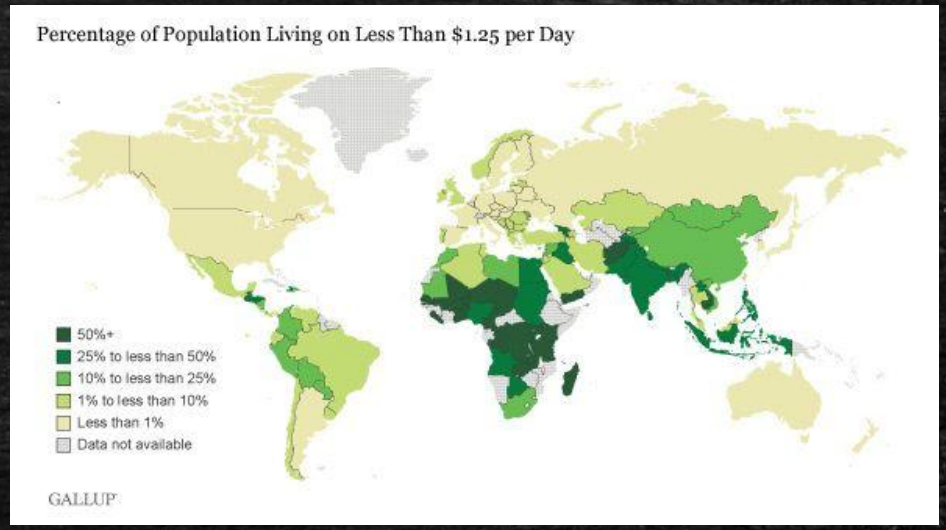
- optional : tiles='Stamen Toner'

Maps with Markers

- Create a feature group
- Create "children" to add to the feature group
- Specify latitude and longitude values to superimpose the "child" onto the map
- Label the marker by using the marker function and pop-up parameter
- It is also possible to create clusters of markers

Choropleth Maps

- Thematic map
- Areas are shaded or patterned in proportion to the measurement of the statistical variable displayed on the map like population or income
- Higher the measurement = darker colour
- To create this map using Folium, a Geo JSON file is needed
- First, create a map using Folium
- Then, to convert it to a choropleth map, define a variable that points to the JSON file
- Apply the choropleth function identifying the columns you want to highlight as well as the country names



Review

Which of this is not a data visualization library for Python?

a) Seaborn
b) Matplotlib
c) Numpy
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a) Bar chart
b) Pie chart
c) Histogram
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a) sns.regplot(x="column", y="column", data=df);
b) sns.histplot(x="column", y="column", data=df);
c) sns.boxplot(x="column", y="column", data=df);
d) sns.heatmap(x="column", y="column", data=df);

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