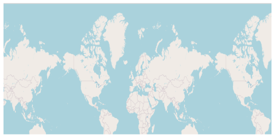
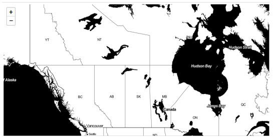
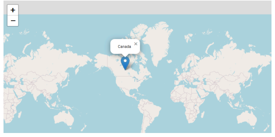
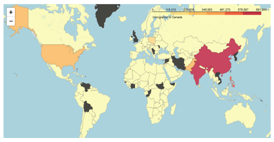
Skills Network

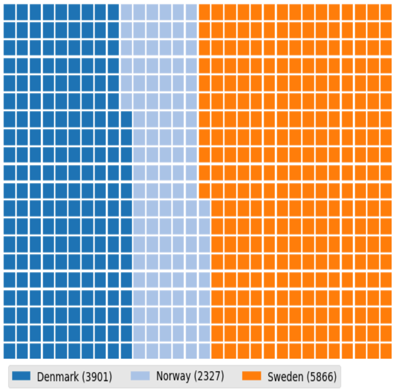
Data Visualization with Python

Cheat Sheet : Maps, Waffles, WordCloud and Seaborn

Function	Description	Syntax	Example	Visual
Folium				

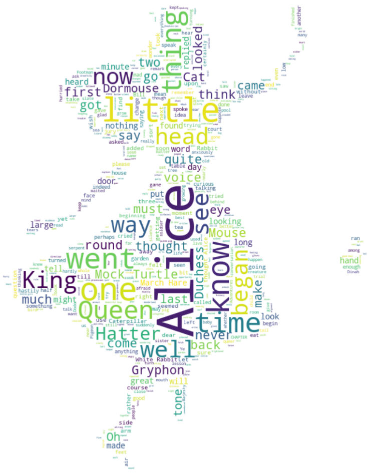
Map	Create a map object with specified center coordinates and zoom level.	`folium.Map(location=[lat, lon], zoom_start=n)`	`world_map = folium.Map()`
			
			`canada =folium.Map(location=[56.130, -106.35], zoom_start=4)`
				

Marker	Add a marker to the map with custom icon, popup, and tiles Tiles as Stamen Toner	`folium.Marker(location=[lat , lon ], popup='Marker Popup', tiles='Stamen Toner').add_to(map)`	`folium.Marker(location=[556.130, -106.35], tooltip='Marker', tiles='Stamen Toner').add_to(world_map)`	
	Tiles as Stamen Terrain	`folium.Marker(location=[lat , lon ], popup='Marker Popup', tiles='Stamen Terrain').add_to(map)`	`folium.Marker(location=[556.130, -106.35], tooltip='Marker', tiles='Stamen Terrain').add_to(world_map)`	
Circle	Add a circle to the map with specified radius, color, and fill opacity.	`folium.features.CircleMarker(location=[lat, lon], radius=n, color='red', fill_opacity=n).add_to(map)`	`folium.features.CircleMarker(location=[56.130, -106.35], radius=1000, color='red', fill_opacity=0.5).add_to(world_map)`	
Chorpleth	Create a choropleth map based on a GeoJSON file and a specified data column.	`folium.Choropleth(geo_data='path/to/geojson_file', data=df, columns=['region', 'value_column'], key_on='feature.properties.id', fill_color='YlGnBu', fill_opacity=0.7, line_opacity=0.2, legend_name='Legend').add_to(map)`	`world_map.choropleth(geo_data=world_geo, data=df_can, columns=['Country', 'Total'], key_on='feature.properties.name', fill_color='YlOrRd', fill_opacity=0.7,line_opacity=0.2, legend_name='Immigration to Canada')`	
PyWaffle				

Waffle	Create a waffle chart based on values and categories.	`plt.figure(FigureClass = Waffle,rows = 20, columns = 30, values = values)`
		
		`waffle_chart = waffle.Waffle(values=[value1, value2, ...], rows=n, columns=n)`
			`plt.figure(FigureClass = Waffle,rows = 20, columns = 30, values = df_dsn['Total'], cmap_name = 'tab20', legend = {'labels': label,'loc': 'lower left', 'bbox_to_anchor':(0,-0.1),'ncol': 3})`	

Legend	Add a legend to the waffle chart.	`waffle_chart.legend(loc='upper left', bbox_to_anchor=(1, 1))`		
Title	Add a title to the waffle chart.	`waffle_chart.set_title('Waffle Chart Title')`		
Labels	Add labels to the waffle chart.	`waffle_chart.set_labels(['Label 1', 'Label 2', ...])`		
WordCloud				

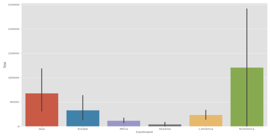
Function	Description	Syntax	Example	Visual

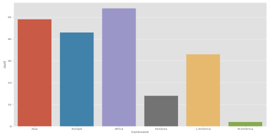
WordCloud	Create a word cloud object based on text data.	`wordcloud = WordCloud().generate(text_data)`	`alice_wc =`
			`WordCloud(background_color='white',`
			`max_words=2000, mask=alice_mask,`
			`stopwords=stopwords)`
			`alice_wc.generate(alice_novel)`
			`plt.imshow(alice_wc,`
			`interpolation='bilinear')`
				 Alice
				little
				thing
				know
				time
				Queen
				one
				went
				King
				Hatter
				well
				see
				head
				now
				began
				way
				Mock Turtle
				Gryphon
				Duchess
				Cat
				Dormouse
				thought
				think
				Mouse

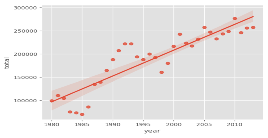
Generate	Generate the word cloud based on the text data.	`wordcloud.generate(text_data)`		
Display	Display the word cloud using matplotlib or other plotting libraries.	`plt.imshow(wordcloud, interpolation='bilinear')`		

Options	Set various options for the word cloud, such as font, colors, mask, and stopwords.	`wordcloud =`
		`WordCloud(font_path='path/to/font_file',`
		`background_color='white',`
		`colormap='Blues', mask=mask_image,`
		`stopwords=stopwords).generate(text_data)`		

Seaborn				

barplot	Create a bar plot to visualize the relationship between a categorical variable and a numeric variable.	`sns.barplot(x='x_variable', y='y_variable',`
		`data=dataframe)`
			`sns.barplot(x='Continent', y='Total',`
			`data=df_can1)`
				

countplot	Create a count plot to display the frequency of each category in a categorical variable.	`sns.countplot(x='category', data=dataframe)`	`sns.countplot(x='Continent',`
			`data=df_can)`
				

regplot	Create a scatter plot with a linear regression line to visualize the relationship between two numeric variables.	`sns.regplot(x='x_variable',`
		`y='y_variable', data=dataframe)`
			`sns.regplot(x='year', y='total',`
			`data=df_tot)`
				

Author(s)

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Changelog

Date	Version	Changed by	Change Description
2023-06-18	0.1	Dr. Pooja	Initial version created