(http://www.pieriandata.com)

Choropleth Maps Exercise

Welcome to the Choropleth Maps Exercise! In this exercise we will give you some simple datasets and ask you to create Choropleth Maps from them. Due to the Nature of Plotly we can't show you examples

Full Documentation Reference (https://plot.ly/python/reference/#choropleth)

Plotly Imports

In [19]:
```
import plotly.graph_objs as go
from plotly.offline import init_notebook_mode,iplot
init_notebook_mode(connected=True)
```

Import pandas and read the csv file: 2014_World_Power_Consumption

In [20]:
```
import pandas as pd
```

In [21]:
```
df = pd.read_csv('2014_World_Power_Consumption')
```

Check the head of the DataFrame.

In [22]:
```
df.head()
```

Out[22]:

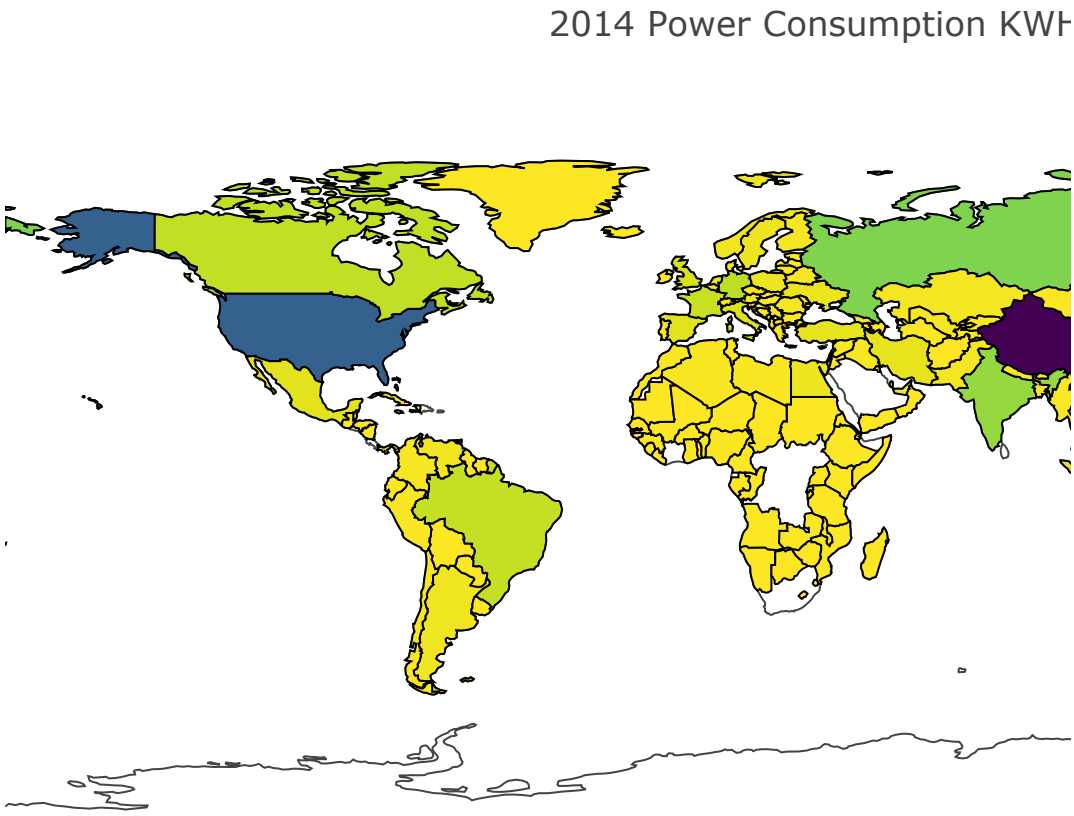
	Country	Power Consumption KWH	Text
0	China	5.523000e+12	China 5,523,000,000,000
1	United States	3.832000e+12	United 3,832,000,000,000
2	European	2.771000e+12	European 2,771,000,000,000
3	Russia	1.065000e+12	Russia 1,065,000,000,000
4	Japan	9.210000e+11	Japan 921,000,000,000

Referencing the lecture notes, create a Choropleth Plot of the Power Consumption for Countries using the data and layout dictionary.

In [23]:
```
data = dict(
        type = 'choropleth',
        colorscale = 'Viridis',
        reversescale = True,
        locations = df['Country'],
        locationmode = "country names",
        z = df['Power Consumption KWH'],
        text = df['Country'],
        colorbar = {'title' : 'Power Consumption KWH'},
      )

layout = dict(title = '2014 Power Consumption KWH',
              geo = dict(showframe = False,projection = {'type':'Mercator'})
             )
```

In [26]:
```
choromap = go.Figure(data = [data],layout = layout)
iplot(choromap,validate=False)
```



USA Choropleth

Import the 2012_Election_Data csv file using pandas.

In [29]:
```
df2 = pd.read_csv('2012_Election_Data')
```

Check the head of the DataFrame.

In [30]:
```
df2.head()
```

Out[30]:

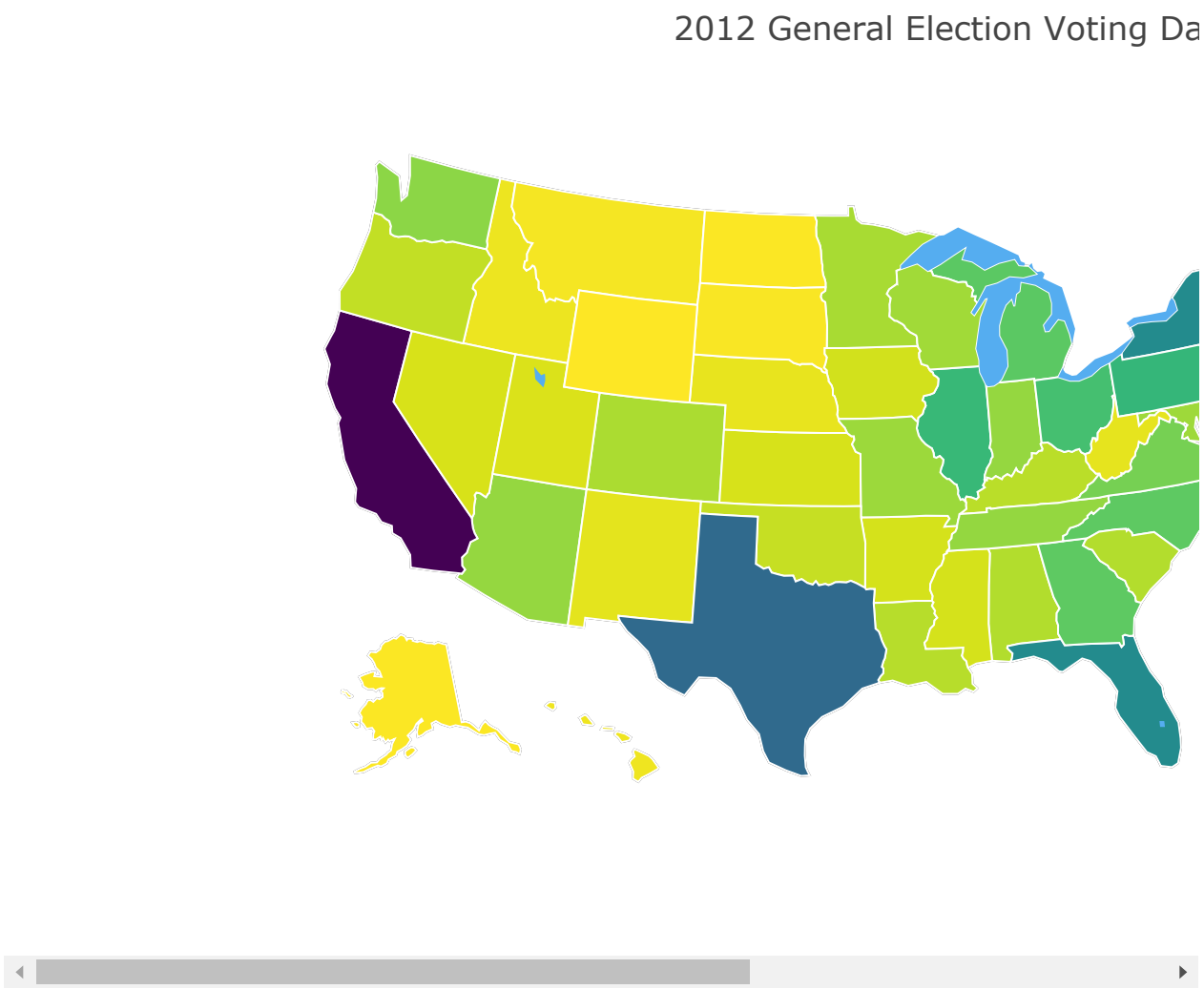
CPSR State Code	Alphanumeric State Code	State	VEP Total Ballots Counted	VEP Highest Office	VAP Highest Office	Total Ballots Counted	Highest Office	Voting-Eligible Population (VEP)	Votin Popu
41	1	Alabama	NaN	58.6%	56.0%	NaN	2,074,338	3,539,217	370
81	2	Alaska	58.9%	58.7%	55.3%	301,694	300,495	511,792	54
61	3	Arizona	53.0%	52.6%	46.5%	2,323,579	2,306,559	4,387,900	495
42	4	Arkansas	51.1%	50.7%	47.7%	1,078,548	1,069,468	2,109,847	224
71	5	California	55.7%	55.1%	45.1%	13,202,158	13,038,547	23,681,837	2891

Now create a plot that displays the Voting-Age Population (VAP) per state. If you later want to play around with other columns, make sure you consider their data type. VAP has already been transformed to a float for you.

In [34]:
```
data = dict(type='choropleth',
            colorscale = 'Viridis',
            reversescale = True,
            locations = df2['State Abv'],
            z = df2['Voting-Age Population (VAP)'],
            locationmode = 'USA-states',
            text = df2['State'],
            marker = dict(line = dict(color = 'rgb(255,255,255)',width = 1)),
            colorbar = {'title':"Voting-Age Population (VAP)"}
            )
```

In [35]:
```
layout = dict(title = '2012 General Election Voting Data',
              geo = dict(scope='usa',
                         showlakes = True,
                         lakecolor = 'rgb(85,173,240)')
             )
```

In [37]:
```
choromap2 = go.Figure(data = [data],layout = layout)
iplot(choromap2,validate=False)
```



Great Job!