

Python Plots

```
In [1]: #libraries
import pandas as pd
import matplotlib.pyplot as plt
import matplotlib as mpl
import numpy as np
import chart_studio.plotly as py
import cufflinks as cf
import seaborn as sns
import plotly.offline as plo
```

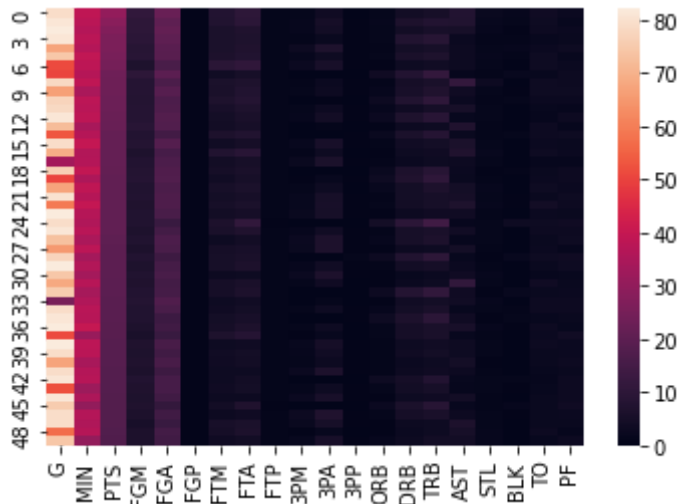
```
In [2]: #read CSV files
costco = pd.read_csv("costcos-geocoded.csv")
ppg = pd.read_csv("ppg2008.csv")

costco_sum = pd.Series.to_frame(costco.groupby('State')['Address'].count())
costco_sum = costco_sum.rename({'Address': 'store_count'}, axis=1, inplace=False)
costco_sum = pd.DataFrame(costco_sum.to_records())
```

Python - Heat Map

```
In [3]: sns.heatmap(ppg.iloc[:,1:])
```

Out[3]: <AxesSubplot:>



Python - Contour chart

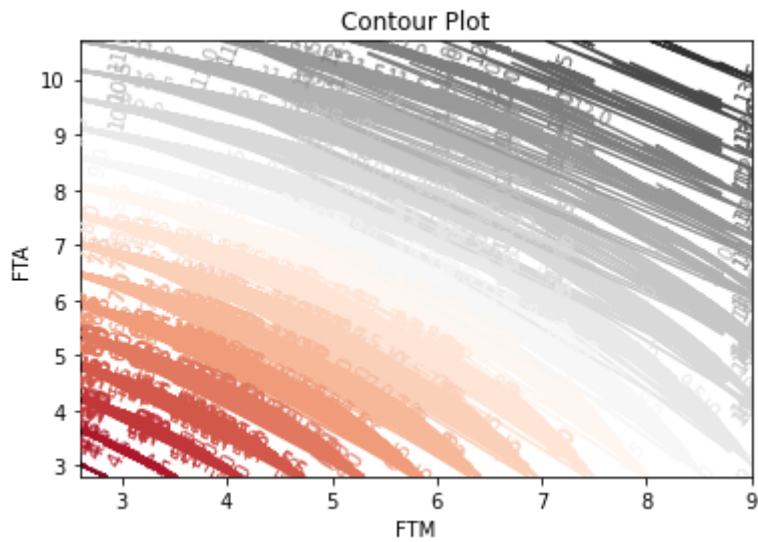
```
In [4]: %matplotlib inline

def f(x, y):
    return np.sqrt(x**2 + y**2)

x = np.array(ppg[ 'FTM' ])
y = np.array(ppg[ 'FTA' ])

X, Y = np.meshgrid(x, y)
Z = f(X, Y)

plt.figure()
cp = plt.contour(X, Y, Z, 20, cmap='RdGy')
plt.clabel(cp, inline=True,
           fontsize=10)
plt.title('Contour Plot')
plt.xlabel('FTM')
plt.ylabel('FTA')
plt.show()
```



Python - Spatial Plot

```
In [5]: data=[dict(type='choropleth', autocolorscale = False,
                    locations=costco_sum['State'], z=costco_sum['store_count'],
                    locationmode='USA-states', colorscale='YlOrRd',
                    colorbar=dict(title='Store Count'))]

layout = dict(title='Python-Spatial Plot',
              geo=dict(scope='usa', projection=dict(type='albers usa'),
                      showlakes=True, lakecolor='rgb(66,165,245)'))

fig=dict(data=data, layout=layout)

plo.plot(fig)
```

Out[5]: 'temp-plot.html'