

Tableau

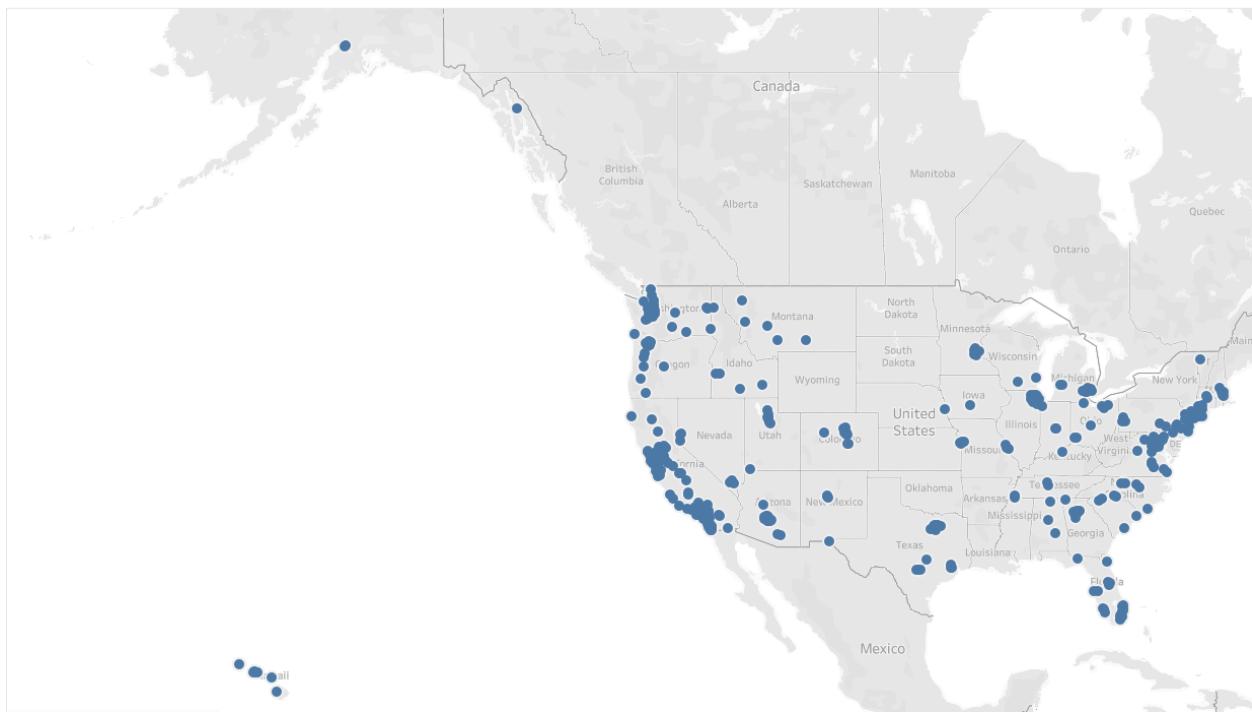
Heatmap

heatmap

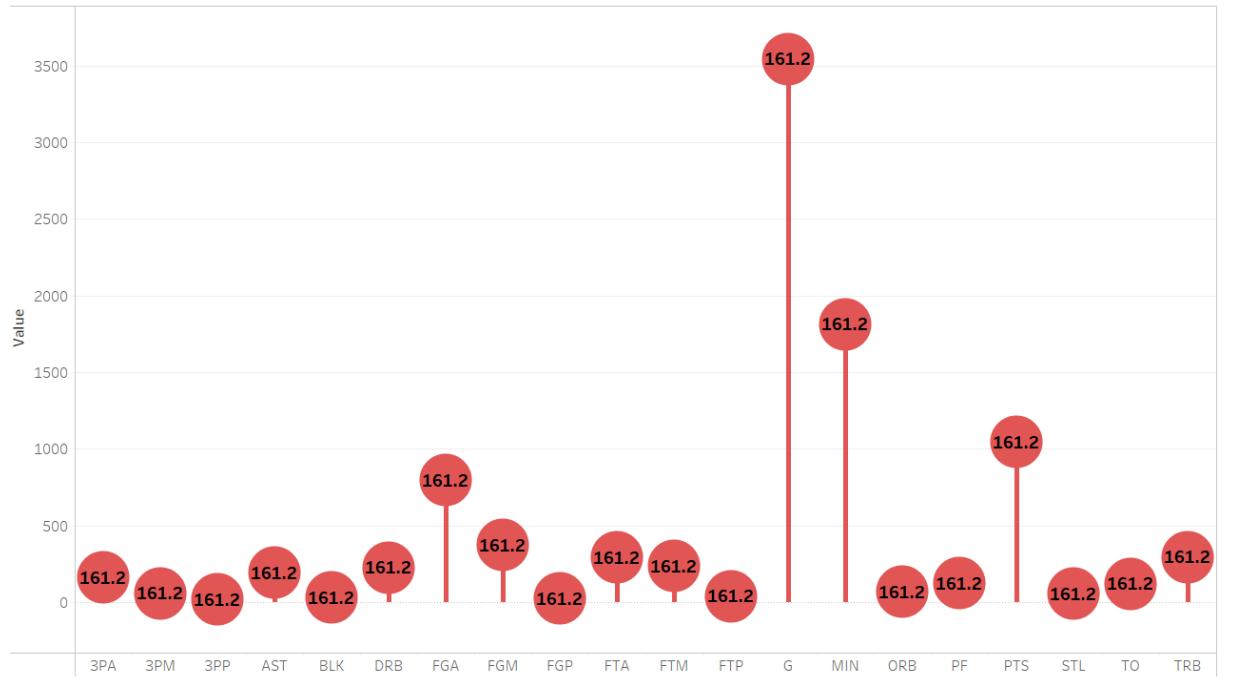
Name	3PA	3PM	3PP	AST	BLK	DRB	FGA	FGM	FGP	FTA	FTM	FTP	G	MIN	ORB	PF	PTS	STL	TO	TRB
Ben Gordon	5.10	2.10	0.41	3.40	0.30	2.80	16.00	7.30	0.46	4.70	4.00	0.86	82.00	36.60	0.60	2.20	20.70	0.90	2.40	3.50
Brandon Roy	2.80	1.10	0.38	5.10	0.30	3.40	16.90	8.10	0.48	6.50	5.30	0.82	78.00	37.20	1.30	1.60	22.60	1.10	1.90	4.70
Carmelo Anthony	2.60	1.00	0.37	3.40	0.40	5.20	18.30	8.10	0.44	7.10	5.60	0.79	66.00	34.50	1.60	3.00	22.80	1.10	3.00	6.80
Caron Butler	3.10	1.00	0.31	4.30	0.30	4.40	16.20	7.30	0.45	6.00	5.10	0.86	67.00	38.60	1.80	2.50	20.80	1.60	3.10	6.20
Chauncey Billups	5.00	2.10	0.41	6.40	0.20	2.60	12.40	5.20	0.42	5.80	5.30	0.91	79.00	35.30	0.40	2.00	17.70	1.20	2.20	3.00
Chris Bosh	0.60	0.20	0.25	2.50	1.00	7.20	16.40	8.00	0.49	8.00	6.50	0.82	77.00	38.10	2.80	2.50	22.70	0.90	2.30	10.00
Chris Paul	2.30	0.80	0.36	11.00	0.10	4.70	16.10	8.10	0.50	6.70	5.80	0.87	78.00	38.50	0.90	2.70	22.80	2.80	3.00	5.50
Corey Maggette	1.90	0.50	0.25	1.80	0.20	4.60	12.40	5.70	0.46	8.10	6.70	0.82	51.00	31.10	1.00	3.80	18.60	0.90	2.40	5.50
Danny Granger	6.70	2.70	0.40	2.70	1.40	4.40	19.10	8.50	0.45	6.90	6.00	0.88	67.00	36.20	0.70	3.10	25.80	1.00	2.50	5.10
David West	0.30	0.10	0.24	2.30	0.90	6.40	17.00	8.00	0.47	5.50	4.80	0.88	76.00	39.30	2.10	2.70	21.00	0.60	2.10	8.50
Deron Williams	3.30	1.00	0.31	10.70	0.30	2.50	14.50	6.80	0.47	5.60	4.80	0.85	68.00	36.90	0.40	2.00	19.40	1.10	3.40	2.90
Devin Harris	3.20	0.90	0.29	6.90	0.20	2.90	15.10	6.60	0.44	8.80	7.20	0.82	69.00	36.10	0.40	2.40	21.30	1.70	3.10	3.30
Dirk Nowitzki	2.10	0.80	0.36	2.40	0.80	7.30	20.00	9.60	0.48	6.70	6.00	0.89	81.00	37.70	1.10	2.20	25.90	0.80	1.90	8.40
Dwight Howard	0.00	0.00	0.00	1.40	2.90	9.60	12.40	7.10	0.57	10.70	6.40	0.59	79.00	35.70	4.30	3.40	20.60	1.00	3.00	13.80
Dwyane Wade	3.50	1.10	0.32	7.50	1.30	3.90	22.00	10.80	0.49	9.80	7.50	0.77	79.00	38.60	1.10	2.30	30.20	2.20	3.40	5.00
Jamal Crawford	6.10	2.20	0.36	4.40	0.20	2.60	15.70	6.40	0.41	5.30	4.60	0.87	65.00	38.10	0.40	1.40	19.70	0.90	2.30	3.00
Jason Terry	6.20	2.30	0.37	3.40	0.30	1.90	15.80	7.30	0.46	3.00	2.70	0.88	74.00	33.60	0.50	1.90	19.60	1.30	1.60	2.40
Joe Johnson	5.20	1.90	0.36	5.80	0.20	3.60	18.00	7.80	0.44	4.60	3.80	0.83	79.00	39.50	0.80	2.20	21.40	1.10	2.50	4.40
John Salmons	3.80	1.60	0.42	3.20	0.30	3.50	13.80	6.50	0.47	4.40	3.60	0.83	79.00	37.50	0.70	2.30	18.30	1.10	2.10	4.20
Josh Howard	3.20	1.10	0.35	1.60	0.60	3.90	15.10	6.80	0.45	4.20	3.30	0.78	52.00	31.90	1.10	2.60	18.00	1.10	1.70	5.10
Kevin Durant	3.10	1.30	0.42	2.80	0.70	5.50	18.80	8.90	0.48	7.10	6.10	0.86	74.00	39.00	1.00	1.80	25.30	1.30	3.00	6.50
Kevin Martin	5.40	2.30	0.42	2.70	0.20	3.00	15.90	6.70	0.42	10.30	9.00	0.87	51.00	38.20	0.60	2.30	24.60	1.20	2.90	3.60
Kobe Bryant	4.10	1.40	0.35	4.90	0.50	4.10	20.90	9.80	0.47	6.90	5.90	0.86	82.00	36.20	1.10	2.30	26.80	1.50	2.60	5.20
LaMarcus Aldridge	0.30	0.10	0.25	1.90	1.00	4.60	15.30	7.40	0.48	4.10	3.20	0.78	81.00	37.10	2.90	2.60	18.10	1.00	1.50	7.50
LeBron James	4.70	1.60	0.34	7.20	1.10	6.30	19.90	9.70	0.49	9.40	7.30	0.78	81.00	37.70	1.30	1.70	28.40	1.70	3.00	7.60
Maurice Williams	5.20	2.30	0.44	4.10	0.10	2.90	13.90	6.50	0.47	2.80	2.60	0.91	81.00	35.00	0.60	2.70	17.80	0.90	2.20	3.40
Michael Redd	5.80	2.10	0.37	2.70	0.10	2.50	16.60	7.50	0.46	4.90	4.00	0.81	33.00	36.40	0.70	1.40	21.20	1.10	1.60	3.20
Monta Ellis	1.00	0.30	0.31	3.70	0.30	3.80	17.20	7.80	0.45	3.80	3.10	0.83	25.00	35.60	0.60	2.70	19.00	1.60	2.70	4.30
Nate Robinson	5.20	1.70	0.33	4.10	0.10	2.60	13.90	6.10	0.44	4.00	3.40	0.84	74.00	29.90	1.30	2.80	17.20	1.30	1.90	3.90
O.J. Mayo	4.60	1.80	0.38	3.20	0.20	3.10	15.60	6.90	0.44	3.40	3.00	0.88	82.00	38.00	0.70	2.50	18.50	1.10	2.80	3.80
Pau Gasol	0.00	0.00	0.50	3.50	1.00	6.40	12.90	7.30	0.57	5.40	4.20	0.78	81.00	37.10	3.20	2.10	18.90	0.60	1.90	9.60
Paul Pierce	3.80	1.50	0.39	3.60	0.30	5.00	14.60	6.70	0.46	6.80	5.70	0.83	81.00	37.40	0.70	2.70	20.50	1.00	2.80	5.60
Rashard Lewis	7.00	2.80	0.40	2.60	0.60	4.60	13.80	6.10	0.44	3.40	2.80	0.84	79.00	36.20	1.20	2.50	17.70	1.00	2.00	5.70
Ray Allen	6.20	2.50	0.41	2.80	0.20	2.70	13.20	6.30	0.48	3.20	3.00	0.95	79.00	36.30	0.80	2.00	18.20	0.90	1.70	3.50
Richard Hamilton	2.80	1.00	0.37	4.40	0.10	2.40	15.60	7.00	0.45	3.90	3.30	0.85	67.00	34.00	0.70	2.60	18.30	0.60	2.00	3.10
Richard Jefferson	3.60	1.40	0.40	2.40	0.20	3.90	14.90	6.50	0.44	6.30	5.10	0.81	82.00	35.90	0.70	3.10	19.60	0.80	2.00	4.60
Rudy Gay	3.10	1.10	0.35	1.70	0.70	4.20	16.00	7.20	0.45	4.40	3.30	0.77	79.00	37.30	1.40	2.80	18.90	1.20	2.60	5.50
Shaquille O'neal	0.00	0.00	0.00	1.70	1.40	5.90	11.20	6.80	0.61	6.90	4.10	0.60	75.00	30.10	2.50	3.40	17.80	0.70	2.20	8.40
Stephen Jackson	5.20	1.70	0.34	6.50	0.50	3.90	16.90	7.00	0.41	6.00	5.00	0.83	59.00	39.70	1.20	2.60	20.70	1.50	3.90	5.10
Tim Duncan	0.00	0.00	0.00	3.50	1.70	8.00	14.80	7.40	0.50	6.40	4.50	0.69	75.00	33.70	2.70	2.30	19.30	0.50	2.20	10.70
Tony Parker	0.90	0.30	0.29	6.90	0.10	2.70	17.50	8.90	0.51	5.00	3.90	0.78	72.00	34.10	0.40	1.50	22.00	0.90	2.60	3.10
Vince Carter	4.90	1.90	0.39	4.70	0.50	4.20	16.80	7.40	0.44	5.10	4.20	0.82	80.00	36.80	0.90	2.90	20.80	1.00	2.10	5.10
Yao Ming	0.00	0.00	1.00	1.80	1.90	7.20	13.40	7.40	0.55	5.70	4.90	0.87	77.00	33.60	2.60	3.30	19.70	0.40	3.00	9.90
Zachary Randolph	1.90	0.60	0.33	2.10	0.30	6.90	17.50	8.30	0.48	4.90	3.60	0.73	50.00	35.10	3.10	2.70	20.80	0.90	2.30	10.10
Average	3.22	1.19	0.34	3.86	0.60	4.51	15.94	7.46	0.47	5.86	4.74	0.82	70.84	36.29	1.36	2.46	20.86	1.13	2.42	5.86

Geospatial Map

Costco Locations

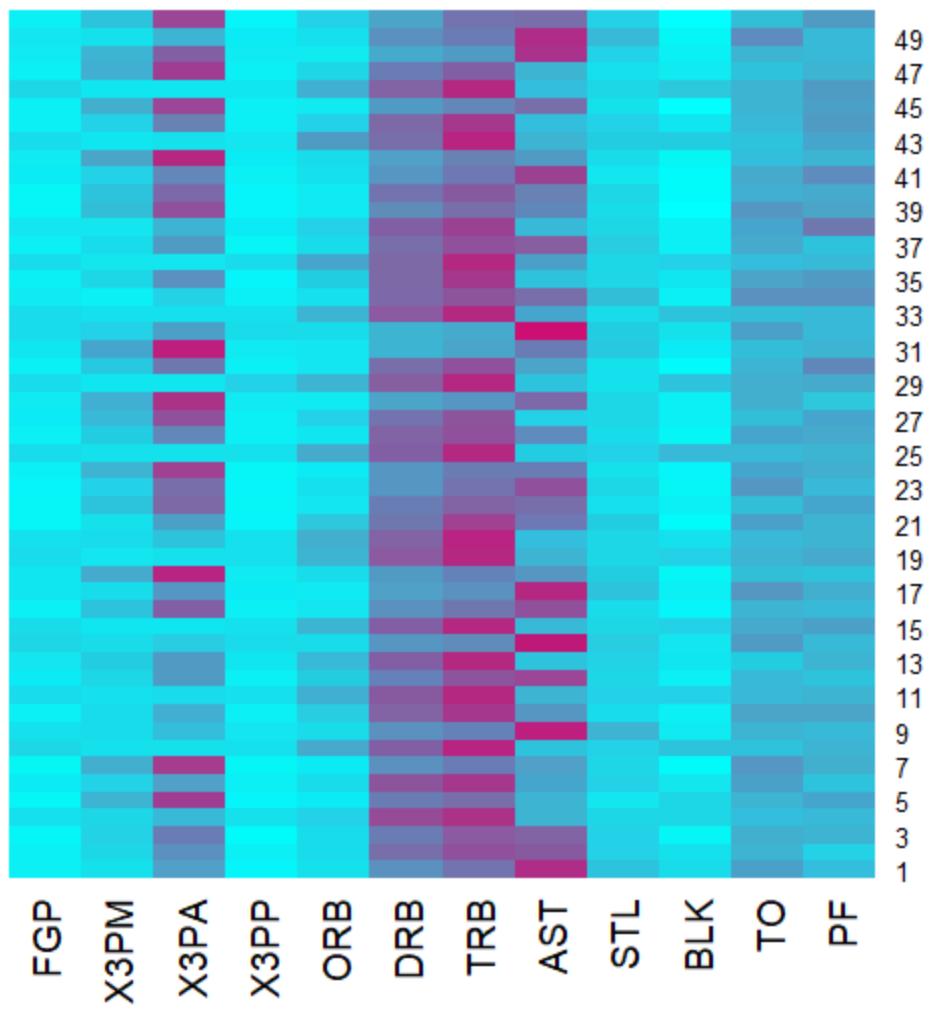


Lollipop Chart



RSTUDIO

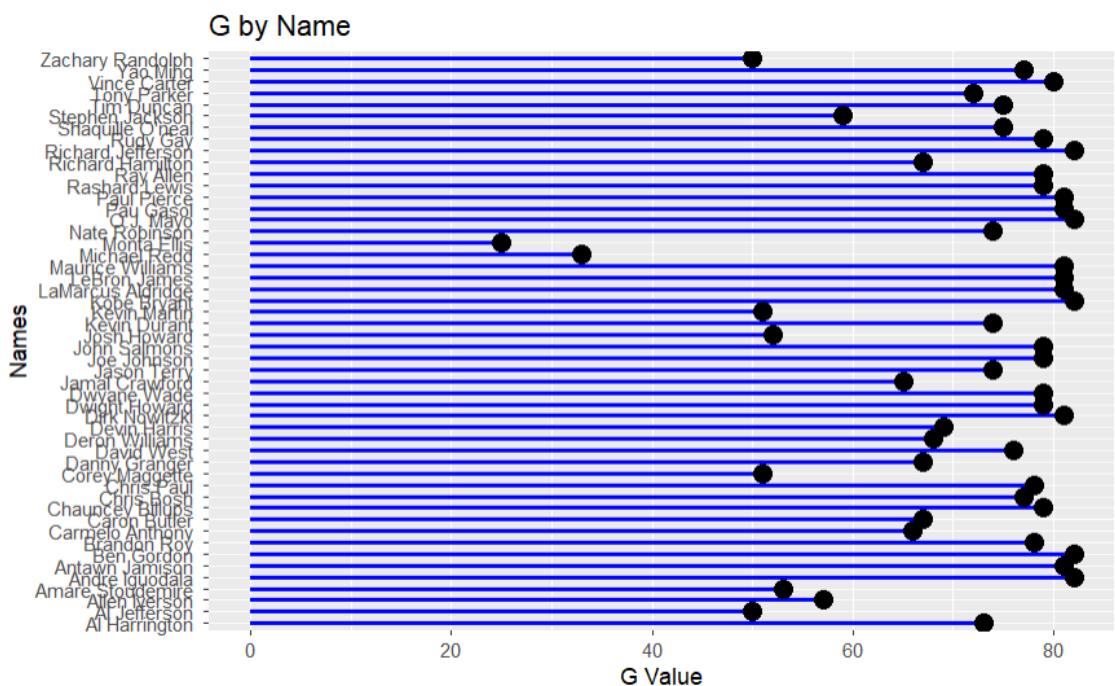
HeatMap



Spatial Chart



Lollipop Chart



```
In [32]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import folium
```

```
In [33]: #import data to dataframe, number 1
df1=pd.read_csv('costcos-geocoded.csv')
df1.head()
```

Out[33]:

	Address	City	State	Zip Code	Latitude	Longitude
0	1205 N. Memorial Parkway	Huntsville	Alabama	35801-5930	34.743095	-86.600955
1	3650 Galleria Circle	Hoover	Alabama	35244-2346	33.377649	-86.812420
2	8251 Eastchase Parkway	Montgomery	Alabama	36117	32.363889	-86.150884
3	5225 Commercial Boulevard	Juneau	Alaska	99801-7210	58.359200	-134.483000
4	330 West Dimond Blvd	Anchorage	Alaska	99515-1950	61.143266	-149.884217

```
In [34]: #import data to dataframe, number 2
df2=pd.read_csv('ppg2008.csv')
df2.head()
```

Out[34]:

	Name	G	MIN	PTS	FGM	FGA	FGP	FTM	FTA	FTP	...	3PA	3PP	ORB	DRB	TR
0	Dwyane Wade	79	38.6	30.2	10.8	22.0	0.491	7.5	9.8	0.765	...	3.5	0.317	1.1	3.9	5
1	LeBron James	81	37.7	28.4	9.7	19.9	0.489	7.3	9.4	0.780	...	4.7	0.344	1.3	6.3	7
2	Kobe Bryant	82	36.2	26.8	9.8	20.9	0.467	5.9	6.9	0.856	...	4.1	0.351	1.1	4.1	5
3	Dirk Nowitzki	81	37.7	25.9	9.6	20.0	0.479	6.0	6.7	0.890	...	2.1	0.359	1.1	7.3	8
4	Danny Granger	67	36.2	25.8	8.5	19.1	0.447	6.0	6.9	0.878	...	6.7	0.404	0.7	4.4	5

5 rows × 21 columns



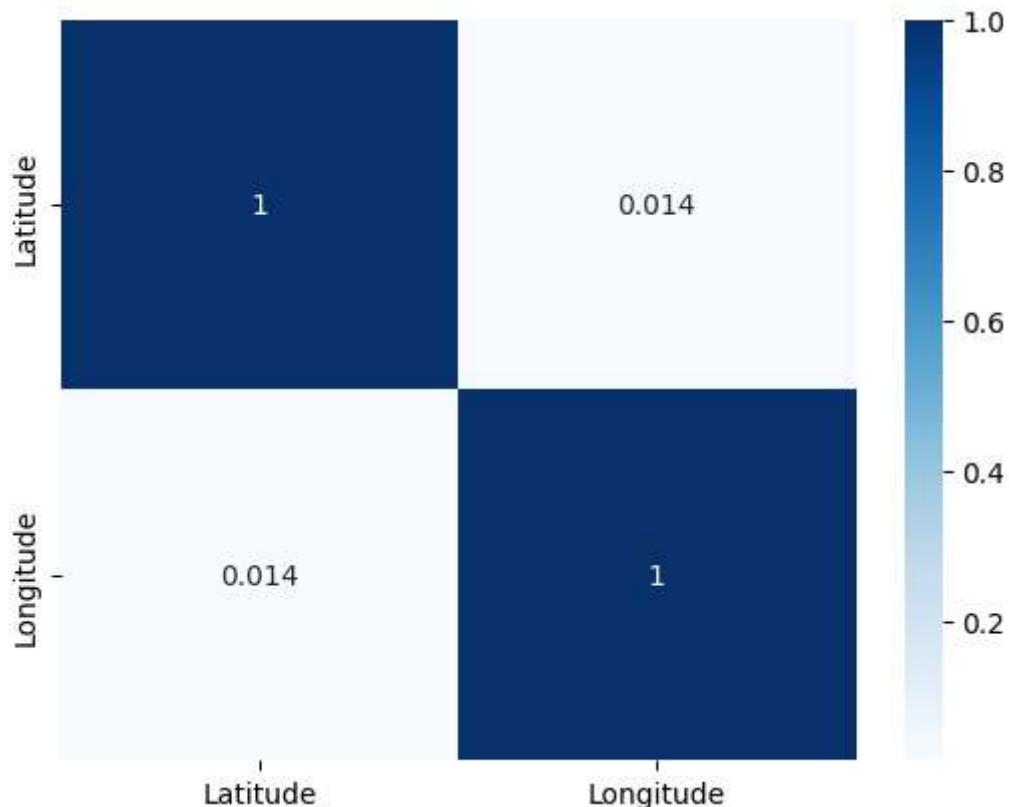
In [35]: *#heatmap of dataset1*

```
sns.heatmap(df1.corr(), annot = True, cmap='Blues')
```

C:\Users\brean\AppData\Local\Temp\ipykernel_22788\3220616026.py:2: FutureWarning: The default value of numeric_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select only valid columns or specify the value of numeric_only to silence this warning.

```
sns.heatmap(df1.corr(), annot = True, cmap='Blues')
```

Out[35]: <AxesSubplot: >



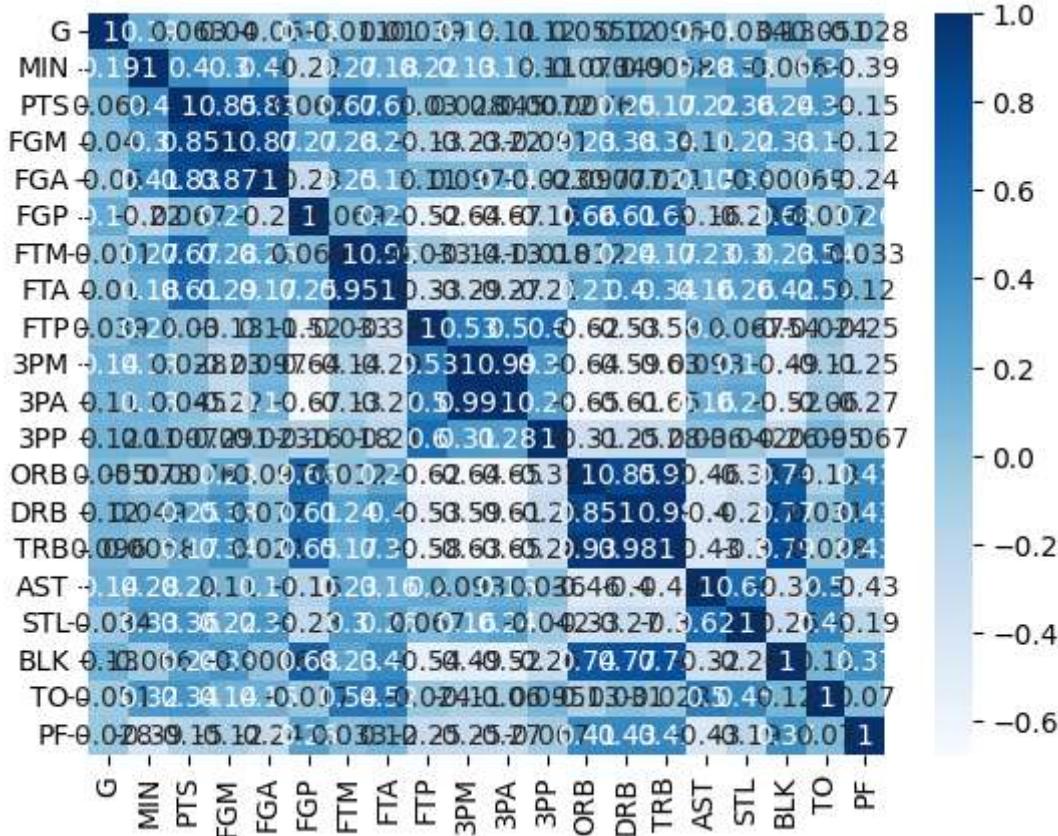
In [36]: `#heatmap of dataset2`

```
sns.heatmap(df2.corr(), annot = True, cmap='Blues')
```

C:\Users\brean\AppData\Local\Temp\ipykernel_22788\3347667493.py:2: FutureWarning: The default value of numeric_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select only valid columns or specify the value of numeric_only to silence this warning.

```
sns.heatmap(df2.corr(), annot = True, cmap='Blues')
```

Out[36]: <AxesSubplot: >



In [37]: `#getting the map`

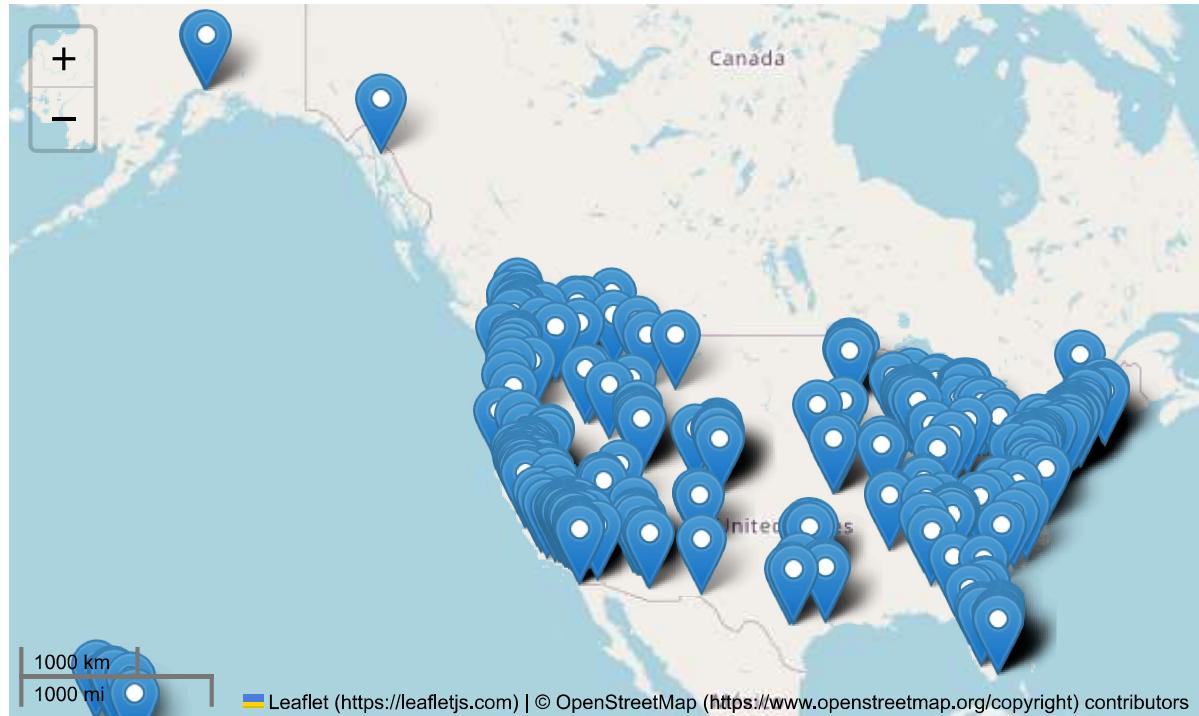
```
map = folium.Map(location=[df1.Latitude.mean(), df1.Longitude.mean()], zoom_start=1)
```

In [38]: `#mapping the data`

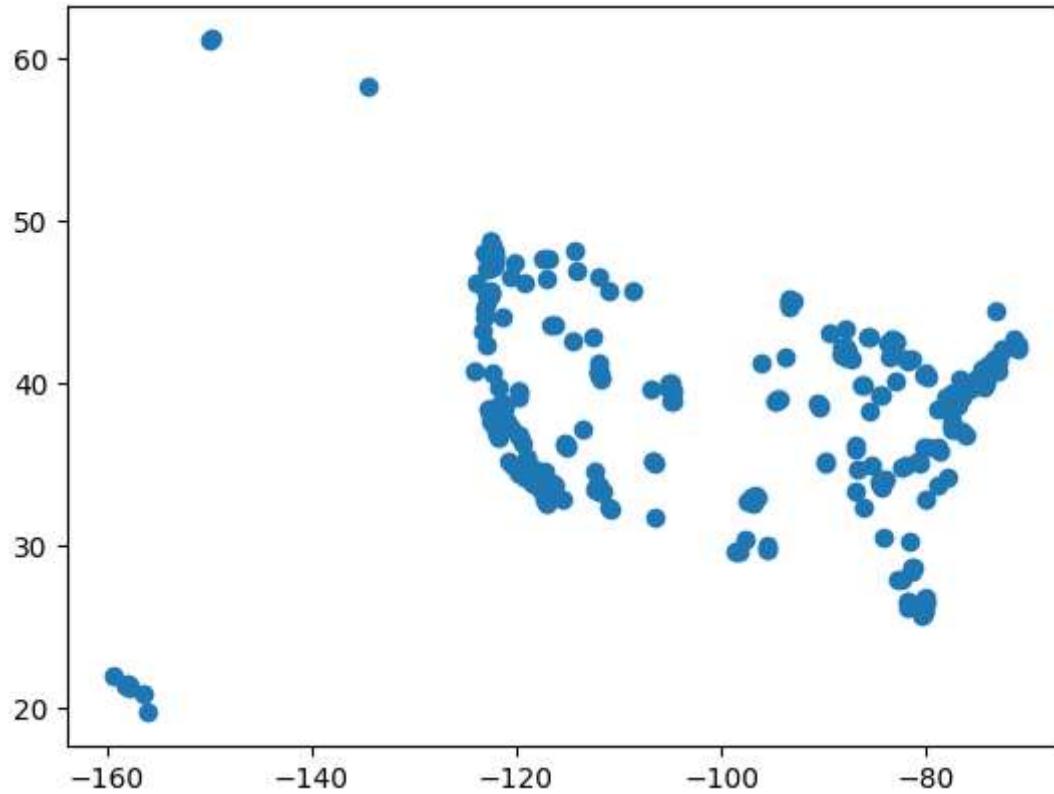
```
for index, location in df1.iterrows():
    folium.Marker([location["Latitude"], location["Longitude"]], popup=location["Team"])
```

In [39]: map

Out[39]:



In [40]: *#second way to graph this (thought couldn't get the map to show up)*
plt.scatter(x = df1.Longitude, y = df1.Latitude)
plt.show()



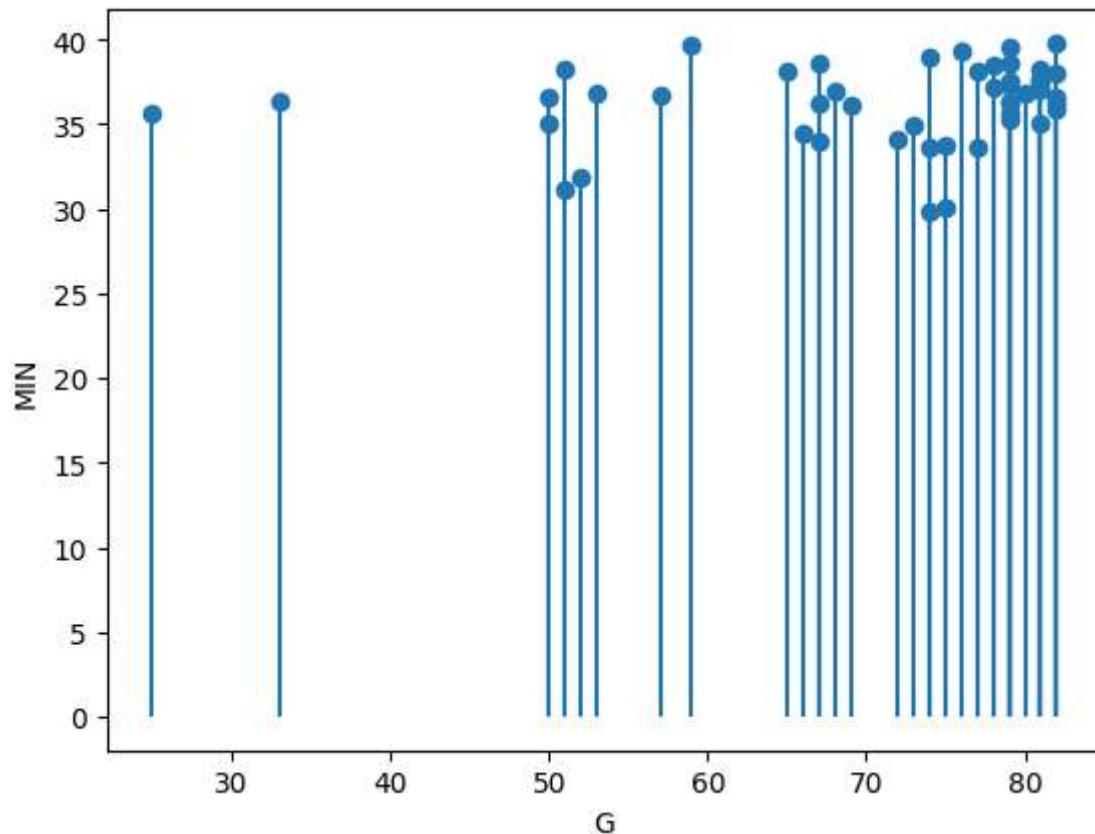
In [41]: #Lollipop chart

```
fig, axes = plt.subplots()
axes.stem(df2['G'], df2['MIN'],
          use_line_collection=True, basefmt=' ')
plt.xlabel('G')
plt.ylabel('MIN')
```

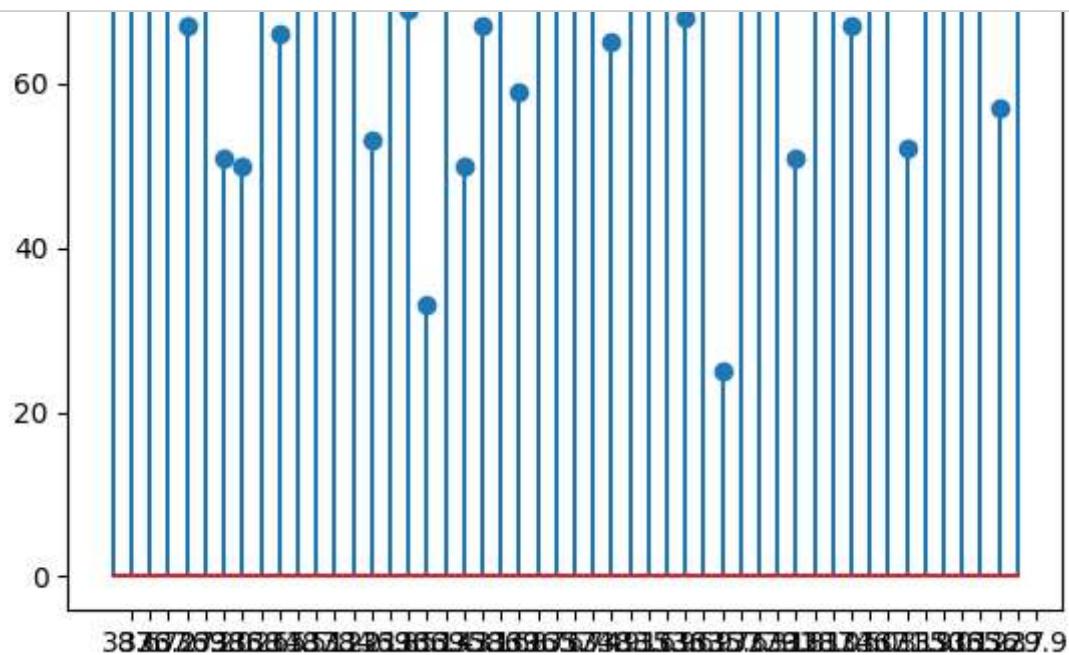
C:\Users\brean\AppData\Local\Temp\ipykernel_22788\1041189478.py:3: Matplotlib DeprecationWarning: The 'use_line_collection' parameter of stem() was deprecated in Matplotlib 3.6 and will be removed two minor releases later. If any parameter follows 'use_line_collection', they should be passed as keyword, not positionally.

```
axes.stem(df2['G'], df2['MIN'],
```

Out[41]: Text(0, 0.5, 'MIN')



```
In [43]: #Lollipop chart second way  
lolli_range=range(1,len(df2.index)+1)  
  
plt.stem(df2['G'])  
plt.xticks(lolli_range, df2['MIN'])
```



```
In [ ]:
```



```

```
````{r}
#making a map
library("ggmap")
library(ggplot2)

usa <- c(left = -125, bottom = 25.75, right = -67, top = 49)
get_stadiamap(usa, zoom = 5, maptype = "alidade_smooth") |> ggmap()

```
```
````{r}
#libraries
library("dplyr", warn.conflicts = FALSE)
library("forcats")
library(ggplot2)

geospatial plot
qmpplot(Longitude, Latitude, data = data1, maptype = "stamen_toner_lite", color =
I("black"))

```
```
````{r}
#lollipop chart

library(ggplot2)

df = data.frame(x = data2$Name,
                 y = data2$G, replace = TRUE)

# Plot
ggplot(df, aes(x = x, y = y)) +
  geom_point() +
  geom_segment(aes(x=x, xend=x, y=0, yend=y),
               color = "blue", lwd = 1) +
  geom_point(size = 4) +
  coord_flip() +
  ggtitle("G by Name") +
  xlab("Names") + ylab("G Value")

```
```

```