

# Choropleth map to visualize crime in San Francisco

In [1]:

```
#import libraries and read data
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline
```

In [5]:

```
df = pd.read_csv('https://cocl.us/sanfran_crime_dataset')
df.head()
```

Out[5]:

	IncidentNum	Category	Descript	DayOfWeek	Date	Time	PdDistrict	Res
0	120058272	WEAPON LAWS	POSS OF PROHIBITED WEAPON	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	Al B...
1	120058272	WEAPON LAWS	FIREARM, LOADED, IN VEHICLE, POSSESSION OR USE	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	Al B...
2	141059263	WARRANTS	WARRANT ARREST	Monday	04/25/2016 12:00:00 AM	14:59	BAYVIEW	Al B...
3	160013662	NON-CRIMINAL	LOST PROPERTY	Tuesday	01/05/2016 12:00:00 AM	23:50	TENDERLOIN	
4	160002740	NON-CRIMINAL	LOST PROPERTY	Friday	01/01/2016 12:00:00 AM	00:30	MISSION	



In [7]:

```
total_count = df.PdDistrict.value_counts()
df_nt = pd.DataFrame(data=total_count.values, index=total_count.index, columns=['Total
Count'])
df_nt = df_nt.reindex(["CENTRAL", "NORTHERN", "PARK", "SOUTHERN", "MISSION", "TENDERLOI
N", "RICHMOND", "TARAVAL", "INGLESIDE", "BAYVIEW"])
df_nt = df_nt.reset_index()
df_nt.rename({'index': 'Neighborhood'}, axis='columns', inplace=True)
df_nt
```

Out[7]:

	Neighborhood	Total Count
0	CENTRAL	17666
1	NORTHERN	20100
2	PARK	8699
3	SOUTHERN	28445
4	MISSION	19503
5	TENDERLOIN	9942
6	RICHMOND	8922
7	TARAVAL	11325
8	INGLESIDE	11594
9	BAYVIEW	14303

In [8]:

```
#import folium and set coordinates
import folium
gjjson = r'https://cocl.us/sanfran_geojson'
CSF_map = folium.Map(location = [37.77, -122.42], zoom_start = 12)
```

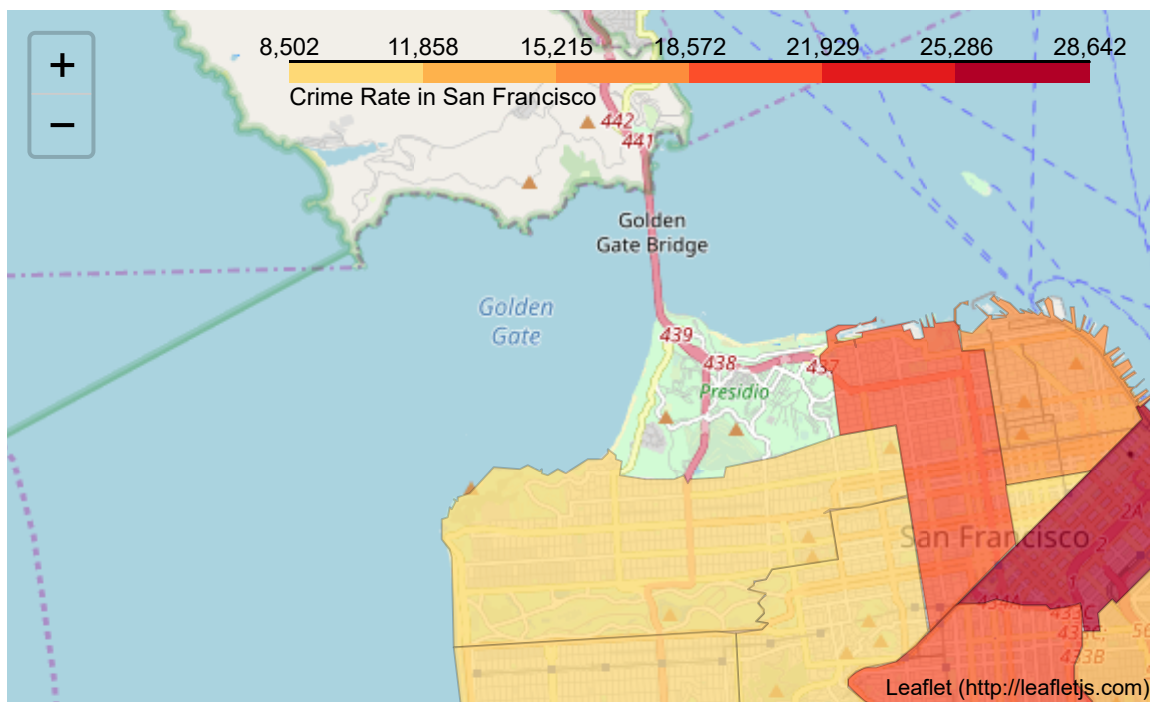
For the map

it is centred around San Francisco, zoom level of 12, fill\_color = 'YlOrRd', fill\_opacity = 0.7, line\_opacity=0.2, a legend and use the default threshold scale.

In [9]:

```
CSF_map.choropleth(  
    geo_data=gjson,  
    data=df_nt,  
    columns=['Neighborhood', 'Total Count'],  
    key_on='feature.properties.DISTRICT',  
    fill_color='YlOrRd',  
    fill_opacity=0.7,  
    line_opacity=0.2,  
    legend_name='Crime Rate in San Francisco'  
)  
CSF_map
```

Out[9]:



In [ ]: