In [1]:
```python
import pandas as pd
```

In [5]:
```python
df=pd.read_csv('datasets/Police_Department_Incidents_-_Previous_Year__2016_.csv')
df.dtypes
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150500 entries, 0 to 150499
Data columns (total 13 columns):
 #   Column      Non-Null Count   Dtype
---  ------      --------------   -----
 0   IncidntNum  150500 non-null  int64
 1   Category    150500 non-null  object
 2   Descript    150500 non-null  object
 3   DayOfWeek   150500 non-null  object
 4   Date        150500 non-null  object
 5   Time        150500 non-null  object
 6   PdDistrict  150499 non-null  object
 7   Resolution  150500 non-null  object
 8   Address     150500 non-null  object
 9   X           150500 non-null  float64
 10  Y           150500 non-null  float64
 11  Location    150500 non-null  object
 12  PdId        150500 non-null  int64
dtypes: float64(2), int64(2), object(9)
memory usage: 14.9+ MB
```

In [6]: 1 df

Out[6]:

	IncidntNum	Category	Descript	DayOfWeek	Date	Time	PdDistrict	Resolution	Address	X	Y	
0	120058272	WEAPON LAWS	POSS OF PROHIBITED WEAPON	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	ARREST, BOOKED	800 Block of BRYANT ST	-122.403405	37.775421	-
1	120058272	WEAPON LAWS	FIREARM, LOADED, IN VEHICLE, POSSESSION OR USE	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	ARREST, BOOKED	800 Block of BRYANT ST	-122.403405	37.775421	-
2	141059263	WARRANTS	WARRANT ARREST	Monday	04/25/2016 12:00:00 AM	14:59	BAYVIEW	ARREST, BOOKED	KEITH ST / SHAFTER AV	-122.388856	37.729981	(_
3	160013662	NON-CRIMINAL	LOST PROPERTY	Tuesday	01/05/2016 12:00:00 AM	23:50	TENDERLOIN	NONE	JONES ST / OFARRELL ST	-122.412971	37.785788	(_
4	160002740	NON-CRIMINAL	LOST PROPERTY	Friday	01/01/2016 12:00:00 AM	00:30	MISSION	NONE	16TH ST / MISSION ST	-122.419672	37.765050	(_
...	...	...	...	...	...	...	...	...	...	...	...	
150495	161061000	ASSAULT	BATTERY	Friday	12/30/2016 12:00:00 AM	21:01	PARK	NONE	OAK ST / STANYAN ST	-122.453982	37.771428	(_
150496	176000742	NON-CRIMINAL	LOST PROPERTY	Friday	12/30/2016 12:00:00 AM	08:00	CENTRAL	NONE	JACKSON ST / SANSOME ST	-122.401857	37.796626	(_
150497	176000758	LARCENY/THEFT	PETTY THEFT OF PROPERTY	Thursday	12/29/2016 12:00:00 AM	20:00	CENTRAL	NONE	PINE ST / TAYLOR ST	-122.412269	37.790673	(
150498	176000764	LARCENY/THEFT	GRAND THEFT OF PROPERTY	Friday	12/30/2016 12:00:00 AM	10:00	CENTRAL	NONE	200 Block of STOCKTON ST	-122.406659	37.788275	(_
150499	179002868	OTHER OFFENSES	FRAUDULENT GAME OR TRICK, OBTAINING MONEY OR P...	Friday	12/02/2016 12:00:00 AM	14:00	SOUTHERN	NONE	800 Block of BRYANT ST	-122.403405	37.775421	-

150500 rows × 13 columns

In [8]:
```python
1  df.shape
```

Out[8]: (150500, 13)

In [10]:
```python
1  df=df.iloc[0:100:]
```

```
In [11]:    1  df
```

Out[11]:

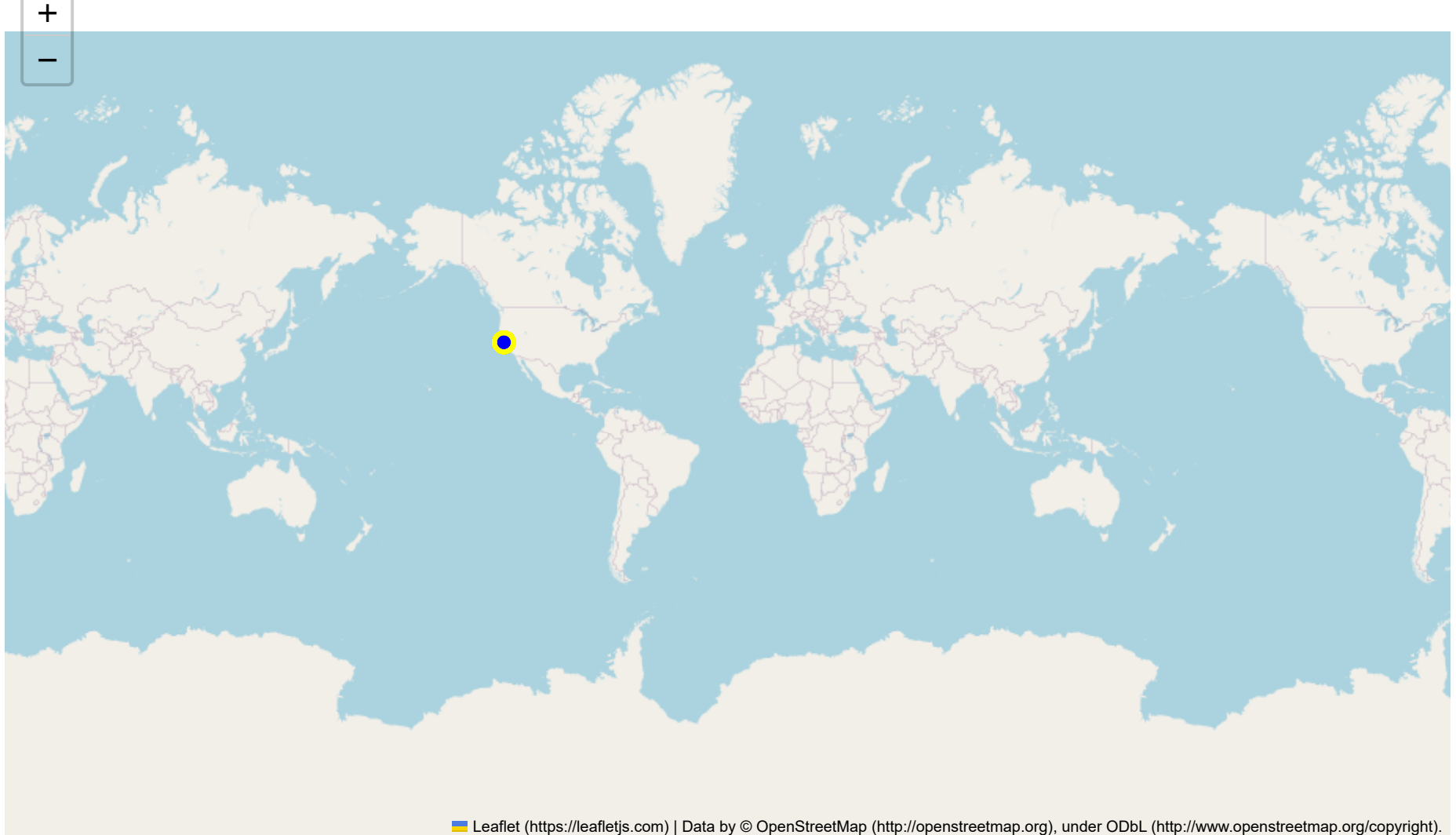|	IncidntNum	Category	Descript	DayOfWeek	Date	Time	PdDistrict	Resolution	Address	X	Y	
0	120058272	WEAPON LAWS	POSS OF PROHIBITED WEAPON	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	ARREST, BOOKED	800 Block of BRYANT ST	-122.403405	37.775421	(3 -12
1	120058272	WEAPON LAWS	FIREARM, LOADED, IN VEHICLE, POSSESSION OR USE	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	ARREST, BOOKED	800 Block of BRYANT ST	-122.403405	37.775421	(3 -12
2	141059263	WARRANTS	WARRANT ARREST	Monday	04/25/2016 12:00:00 AM	14:59	BAYVIEW	ARREST, BOOKED	KEITH ST / SHAFTER AV	-122.388856	37.729981	(37 -12
3	160013662	NON-CRIMINAL	LOST PROPERTY	Tuesday	01/05/2016 12:00:00 AM	23:50	TENDERLOIN	NONE	JONES ST / OFARRELL ST	-122.412971	37.785788	(37 -12
4	160002740	NON-CRIMINAL	LOST PROPERTY	Friday	01/01/2016 12:00:00 AM	00:30	MISSION	NONE	16TH ST / MISSION ST	-122.419672	37.765050	(37 -12
...	...	...	...	...	...	...	...	...	...	...	...	...
95	160014858	OTHER OFFENSES	FRAUDULENT GAME OR TRICK, OBTAINING MONEY OR P...	Wednesday	01/06/2016 12:00:00 AM	06:00	TARAVAL	NONE	2000 Block of 29TH AV	-122.486926	37.749084	(37 -12
96	160015163	NON-CRIMINAL	AIDED CASE	Wednesday	01/06/2016 12:00:00 AM	16:09	MISSION	NONE	14TH ST / FOLSOM ST	-122.415616	37.768536	(37 -1
97	160015276	BURGLARY	BURGLARY, UNLAWFUL ENTRY	Tuesday	01/05/2016 12:00:00 AM	20:00	PARK	NONE	1000 Block of COLE ST	-122.449752	37.764430	(37 -12
98	160015276	LARCENY/THEFT	GRAND THEFT FROM UNLOCKED AUTO	Tuesday	01/05/2016 12:00:00 AM	20:00	PARK	NONE	1000 Block of COLE ST	-122.449752	37.764430	(37 -12
99	160015282	LARCENY/THEFT	GRAND THEFT FROM LOCKED AUTO	Tuesday	01/05/2016 12:00:00 AM	17:00	TARAVAL	NONE	0 Block of ARDENWOOD WY	-122.472716	37.735268	(37 -12

100 rows × 13 columns

In [12]:
```python
1  df.shape
```

Out[12]: (100, 13)

In [13]:
```python
1  import folium
```

In [19]:
```python
1
2  m=folium.Map(locaion=[37.7749,-122.4194],zoom_start=13)
3  incident=folium.FeatureGroup()
4  for lat , lon , category in zip(df.Y,df.X,df.Category):
5      popup_text=f"Category:{category}"
6      folium.CircleMarker(location=[lat,lon],radius=6, color="yellow", fill=True,fill_color="blue",popup=popup_text).a
7      incident.add_to(m)
8
```

In [20]: `1  m`

Out[20]:   Make this Notebook Trusted to load map: File -> Trust Notebook

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In [21]:
```python
1  l1=[1,2,3,4]
2  l2=[5,6,7,8]
3  for i , j in zip(l1,l2):
4      print(i,j)
```

```
1 5
2 6
3 7
4 8
```

In [ ]:
```python
1
```