In [1]:
```
#Load libraries
import pandas as pd
import seaborn as sns

import numpy as np
import matplotlib.pyplot as plt

#import squarify
#import matplotlib.ticker as plticker # for plot ticks
```

In [2]:
```
#import data as dataframe

data1 = pd.read_csv('crimerates-by-state-2005.csv')
tv = pd.read_csv('tv_sizes.txt',names=['Year','Size'], skiprows=1, sep='\t') #tab seper
#data2 = pd.read_csv('expenditures.txt',names=['Year','Category','Expenditure','Sex'],
```

In [3]:
```
data1 = data1.iloc[1: , :] # drops US row
data1['populationM'] = data1['population'].div(1000000)
```

In [4]:
```
neighbors = ['Nebraska','Iowa','Wyoming','Colorado','Kansas','South Dakota','Missouri',
```

In [5]:
```
neighborsdf = data1[data1['state'].isin(neighbors)]
```

In [6]:
```
neighborsdf
```

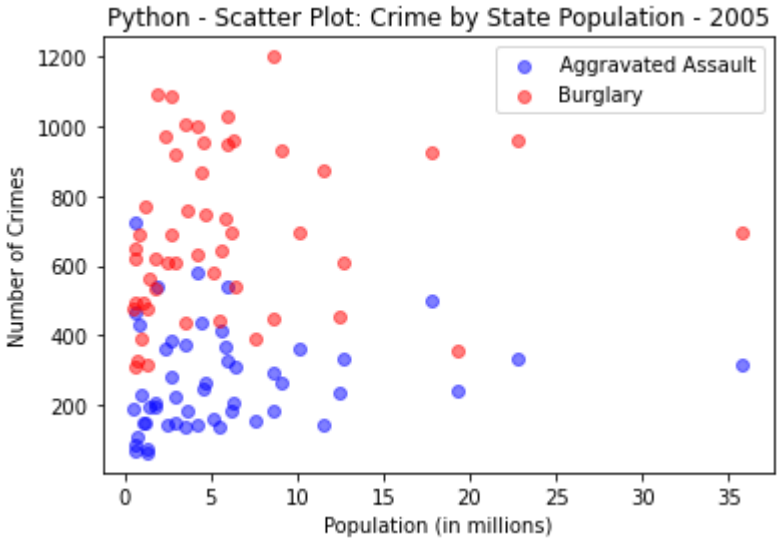
Out[6]:

	state	murder	forcible_rape	robbery	aggravated_assault	burglary	larceny_theft	motor_vehicl
6	Colorado	3.7	43.4	84.6	264.7	744.8	2735.2	
16	Iowa	1.3	27.9	38.9	223.3	606.4	2042.7	
17	Kansas	3.7	38.4	65.3	280.0	689.2	2758.1	
26	Missouri	6.9	28.0	124.1	366.4	738.3	2746.2	
28	Nebraska	2.5	32.9	59.1	192.5	532.4	2574.3	
42	South Dakota	2.3	46.7	18.6	108.1	324.4	1343.7	
51	Wyoming	2.7	24.0	15.3	188.1	476.3	2533.9	

Scatter Plot

In [7]:
```
plt.scatter(data1["populationM"], data1["aggravated_assault"], color='blue',alpha=0.5,l
plt.scatter(data1["populationM"], data1["burglary"], color='red',alpha=0.5,label='Burgl
plt.xlabel("Population (in millions)")  # X-axis label
plt.ylabel("Number of Crimes")  # Y-axis label
plt.title("Python - Scatter Plot: Crime by State Population - 2005")  # title
```

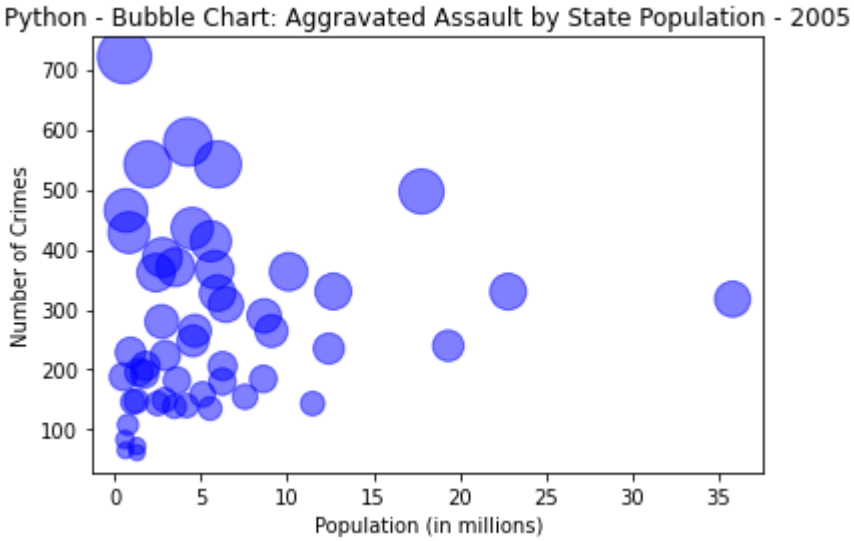
```
plt.legend(loc='upper right')
plt.show()
```



Bubble Chart

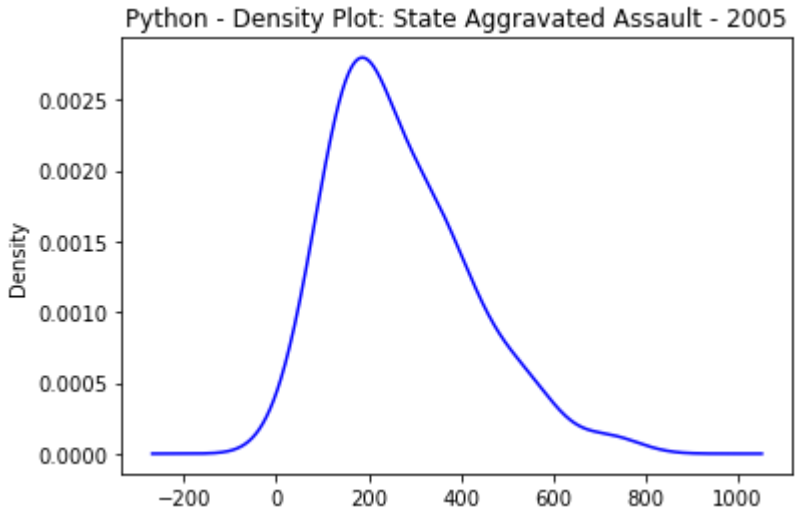
In [8]:
```
plt.scatter(data1["populationM"], data1["aggravated_assault"], color='blue',alpha=0.5,s
plt.xlabel("Population (in millions)")  # X-axis label
plt.ylabel("Number of Crimes")  # Y-axis label
plt.title("Python - Bubble Chart: Aggravated Assault by State Population - 2005")  # ti

plt.show()
```



Density Plot

In [9]:
```
data1.aggravated_assault.plot.density(color='blue')
plt.title('Python - Density Plot: State Aggravated Assault - 2005')
plt.show()
```


Python - Density Plot: State Aggravated Assault - 2005
Density
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
−200
0
200
400
600
800
1000

In [ ]: