```python
import pandas as pd
import matplotlib.pyplot as plt
```

```python
crime_rate = pd.read_csv('crimerates-by-state-2005.csv')
crime_rate2 = crime_rate[(crime_rate['state'] != 'United States') & (crime_rate['state'
crime_rate
```

Out[19]:

	state	murder	forcible_rape	robbery	aggravated_assault	burglary	larceny_theft	motor_v
0	United States	5.6	31.7	140.7	291.1	726.7	2286.3	
1	Alabama	8.2	34.3	141.4	247.8	953.8	2650.0	
2	Alaska	4.8	81.1	80.9	465.1	622.5	2599.1	
3	Arizona	7.5	33.8	144.4	327.4	948.4	2965.2	
4	Arkansas	6.7	42.9	91.1	386.8	1084.6	2711.2	
5	California	6.9	26.0	176.1	317.3	693.3	1916.5	
6	Colorado	3.7	43.4	84.6	264.7	744.8	2735.2	
7	Connecticut	2.9	20.0	113.0	138.6	437.1	1824.1	
8	Delaware	4.4	44.7	154.8	428.2	688.9	2144.0	
9	District of Columbia	35.4	30.2	672.1	721.3	649.7	2694.9	
10	Florida	5.0	37.1	169.4	496.6	926.3	2658.3	
11	Georgia	6.2	23.6	154.8	264.3	931.0	2751.1	
12	Hawaii	1.9	26.9	78.5	147.8	767.9	3308.4	
13	Idaho	2.4	40.4	18.6	195.4	564.4	1931.7	
14	Illinois	6.0	33.7	181.7	330.2	606.9	2164.8	
15	Indiana	5.7	29.6	108.6	179.9	697.6	2412.0	
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	
18	Kentucky	4.6	34.0	88.4	139.8	634.0	1685.8	
19	Louisiana	9.9	31.4	118.0	435.1	870.6	2494.5	
20	Maine	1.4	24.7	24.4	61.7	478.5	1832.6	
21	Maryland	9.9	22.6	256.7	413.8	641.4	2294.3	
22	Massachusetts	2.7	27.1	119.0	308.1	541.1	1527.4	
23	Michigan	6.1	51.3	131.8	362.9	696.8	1917.8	
24	Minnesota	2.2	44.0	92.0	158.7	578.9	2226.9	
25	Mississippi	7.3	39.3	82.3	149.4	919.7	2083.9	
26	Missouri	6.9	28.0	124.1	366.4	738.3	2746.2	

|	state	murder	forcible_rape	robbery	aggravated_assault	burglary	larceny_theft	motor_v
27	Montana	1.9	32.2	18.9	228.5	389.2	2543.0	
28	Nebraska	2.5	32.9	59.1	192.5	532.4	2574.3	
29	Nevada	8.5	42.1	194.7	361.5	972.4	2153.9	
30	New Hampshire	1.4	30.9	27.4	72.3	317.0	1377.3	
31	New Jersey	4.8	13.9	151.6	184.4	447.1	1568.4	
32	New Mexico	7.4	54.1	98.7	541.9	1093.9	2639.9	
33	New York	4.5	18.9	182.7	239.7	353.3	1569.6	
34	North Carolina	6.7	26.5	145.5	289.4	1201.1	2546.2	
35	North Dakota	1.1	24.2	7.4	65.5	311.9	1500.3	
36	Ohio	5.1	39.8	163.1	143.4	872.8	2429.0	
37	Oklahoma	5.3	41.7	91.0	370.5	1006.0	2644.2	
38	Oregon	2.2	34.8	68.1	181.8	758.6	3112.2	
39	Pennsylvania	6.1	28.9	154.6	235.0	451.6	1729.1	
40	Rhode Island	3.2	29.8	72.1	146.1	494.2	1816.0	
41	South Carolina	7.4	42.5	132.1	579.0	1000.9	2954.1	
42	South Dakota	2.3	46.7	18.6	108.1	324.4	1343.7	
43	Tennessee	7.2	36.4	167.3	541.9	1026.9	2828.1	
44	Texas	6.2	37.2	156.6	329.8	961.6	2961.7	
45	Utah	2.3	37.3	44.3	143.4	606.2	2918.8	
46	Vermont	1.3	23.3	11.7	83.5	491.8	1686.1	
47	Virginia	6.1	22.7	99.2	154.8	392.1	2035.0	
48	Washington	3.3	44.7	92.1	205.8	959.7	3149.5	
49	West Virginia	4.4	17.7	44.6	206.1	621.2	1794.0	
50	Wisconsin	3.5	20.6	82.2	135.2	440.8	1992.8	
51	Wyoming	2.7	24.0	15.3	188.1	476.3	2533.9	

In [62]:

```python
plt.scatter(crime_rate2['population'], crime_rate2['murder'], color= 'darkred')
plt.suptitle('Scatter Plot in Python', size= 15, x= .25)
plt.title('Murder Rate by Population', x= .16)
plt.xlabel('population')
plt.ylabel('murder')
ax = plt.gca()
ax.spines['top'].set_visible(False)
ax.spines['right'].set_visible(False);
```
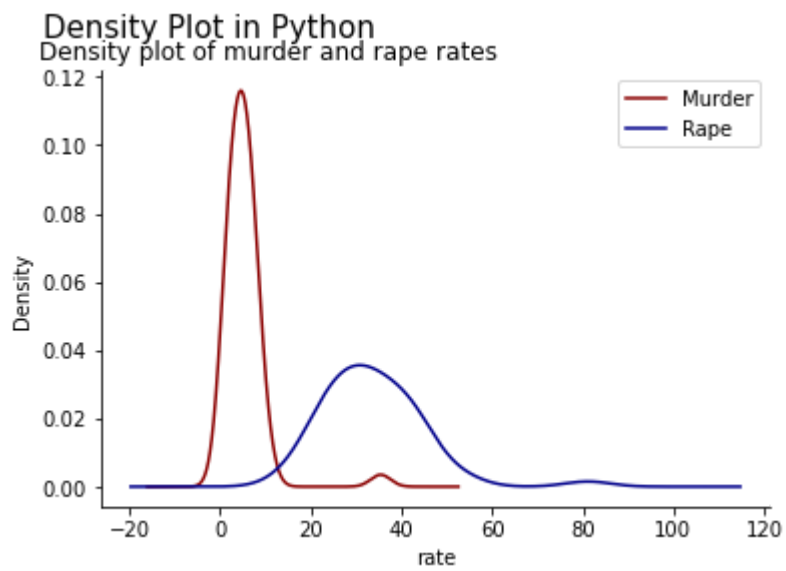
Scatter Plot in Python
Murder Rate by Population
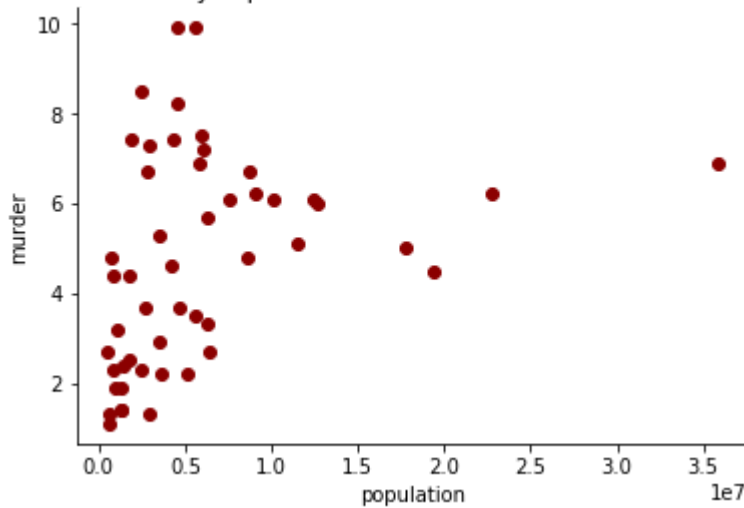
```python
plt.scatter(crime_rate2['population'], crime_rate2['forcible_rape'], s= (crime_rate2['m
plt.suptitle('Bubble Plot in Python', size= 15, x= .25)
plt.title('Murder Rate by Population and Rape', x= .25)
plt.xlabel('population')
plt.ylabel('rape')
ax = plt.gca()
ax.spines['top'].set_visible(False)
ax.spines['right'].set_visible(False);
```

Bubble Plot in Python
Murder Rate by Population and Rape
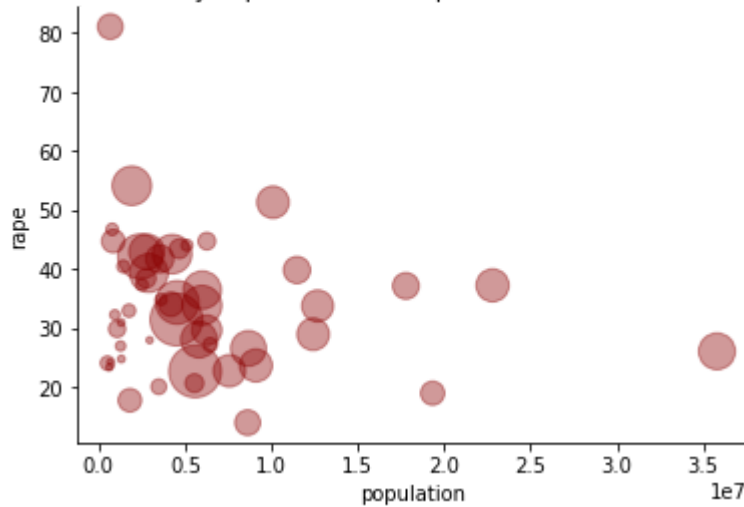
```python
crime_rate.murder.plot.density(label= 'Murder', color= 'darkred')
crime_rate.forcible_rape.plot.density(label= 'Rape', color= 'darkblue')
plt.legend()
plt.suptitle('Density Plot in Python', size= 15, x= .25)
plt.title('Density plot of murder and rape rates', x= .25)
plt.xlabel('rate')

ax = plt.gca()
ax.spines['top'].set_visible(False)
ax.spines['right'].set_visible(False);
```

Density Plot in Python

Density plot of murder and rape rates

In [ ]: