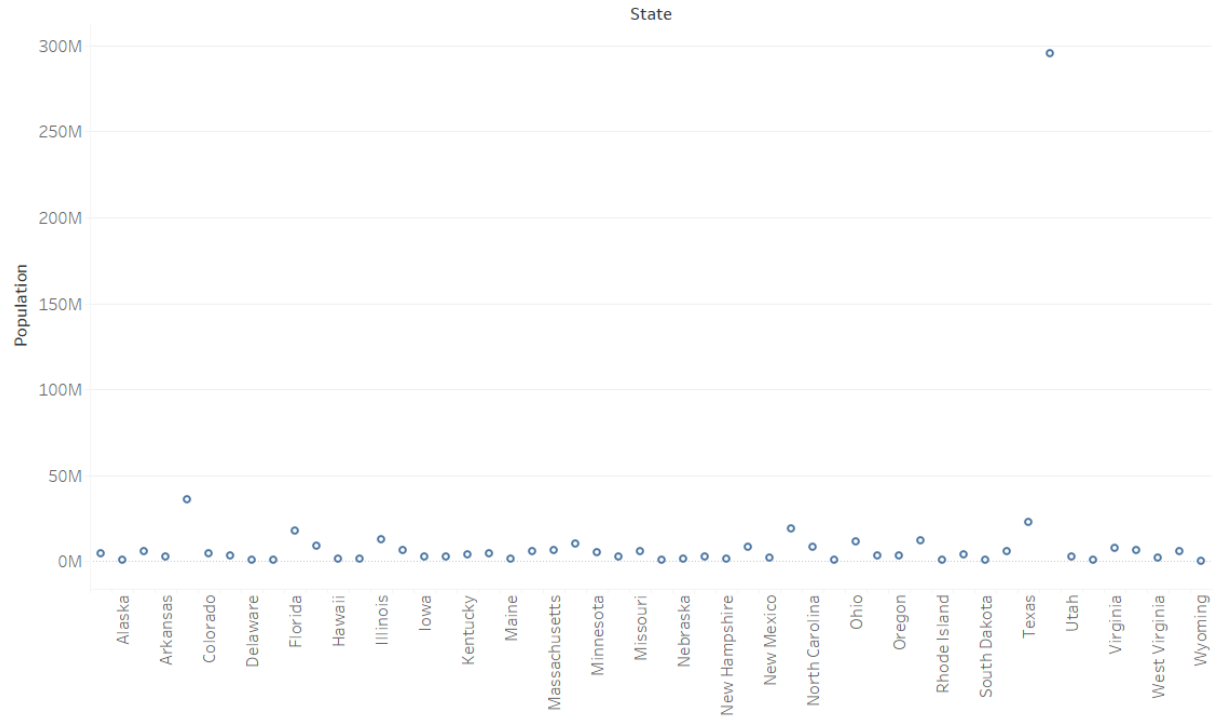
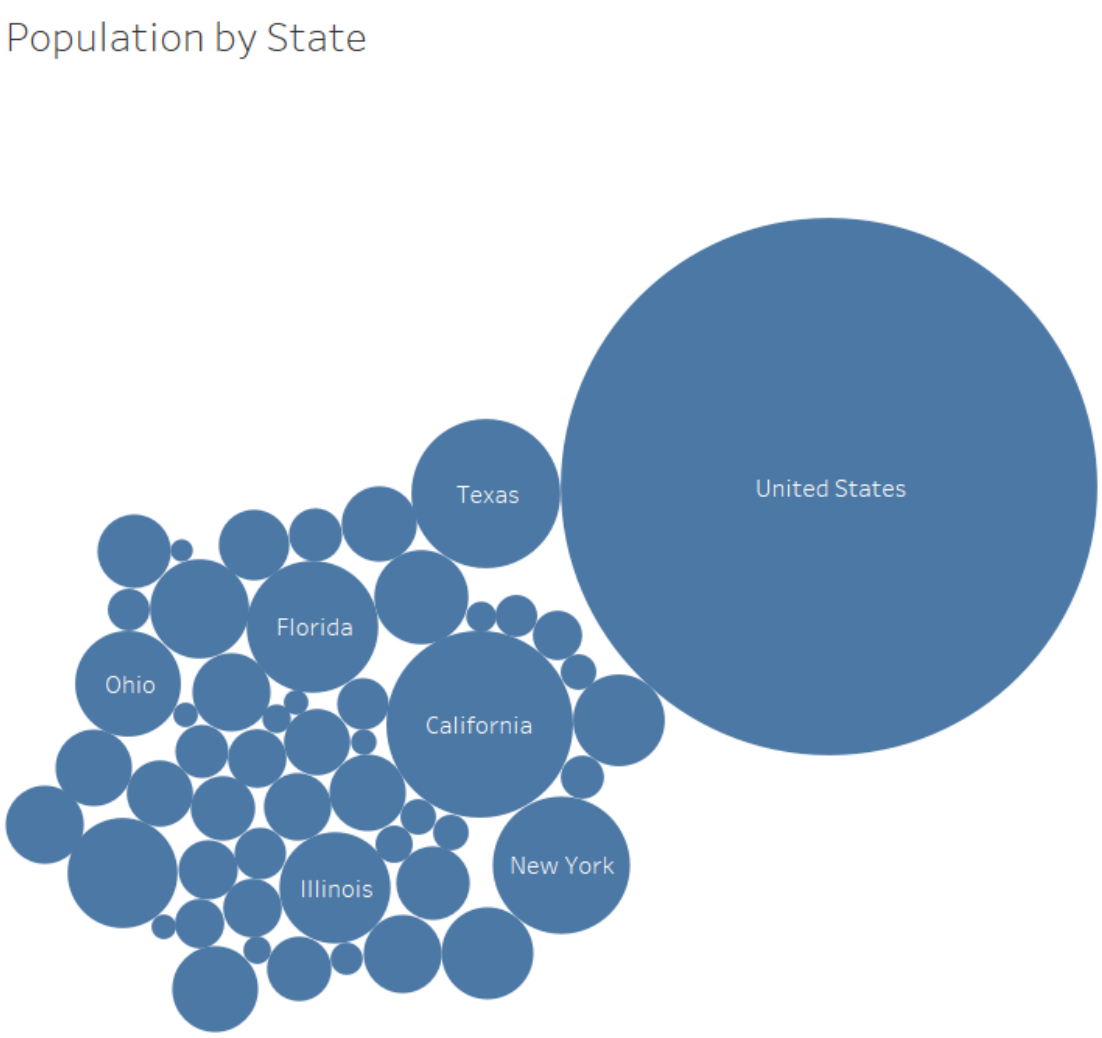
TABLEAU

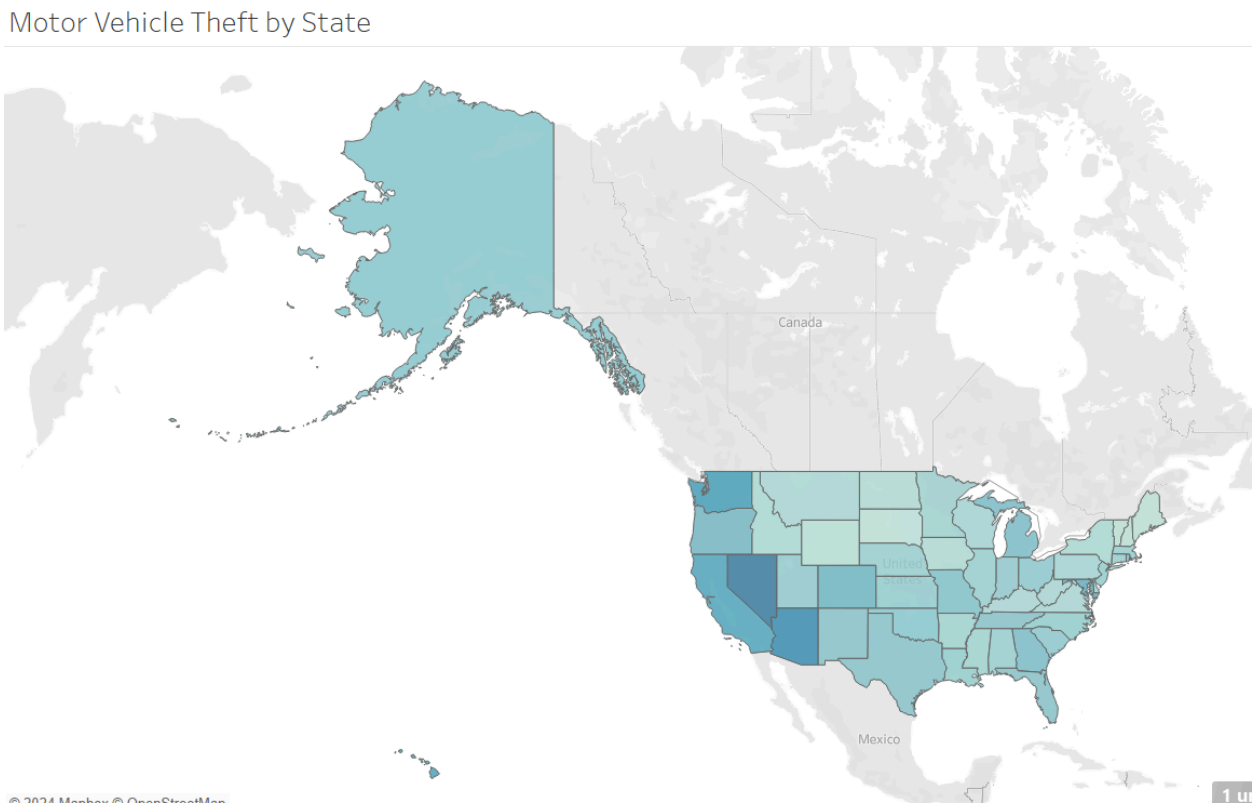
ScatterPlot



Bubble Graph

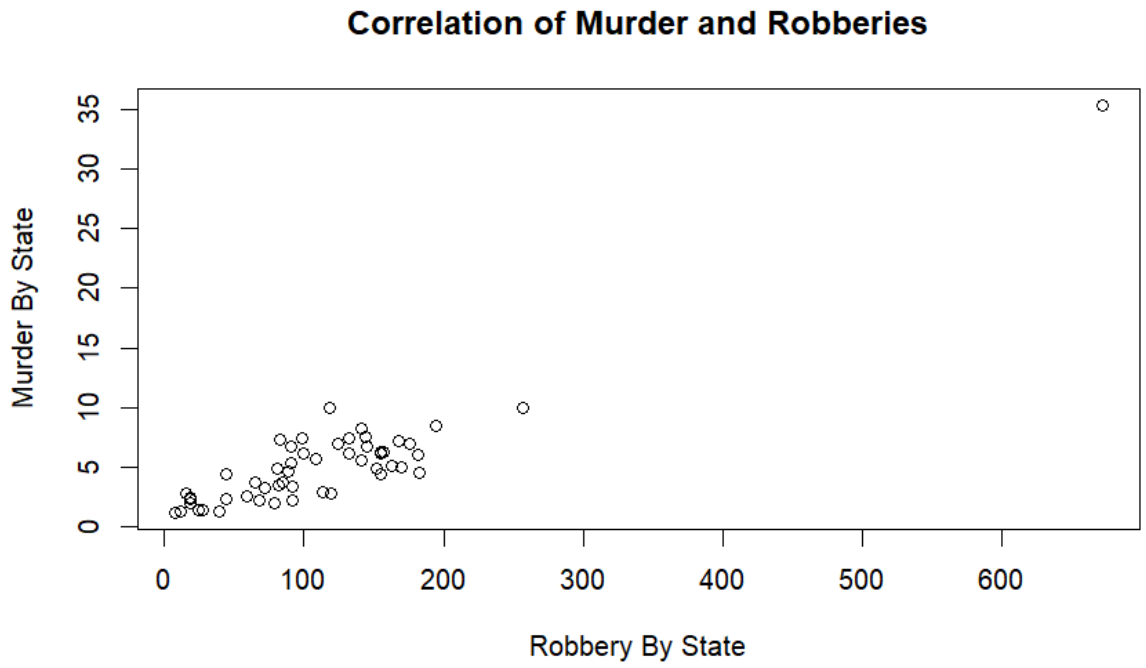


Density Map

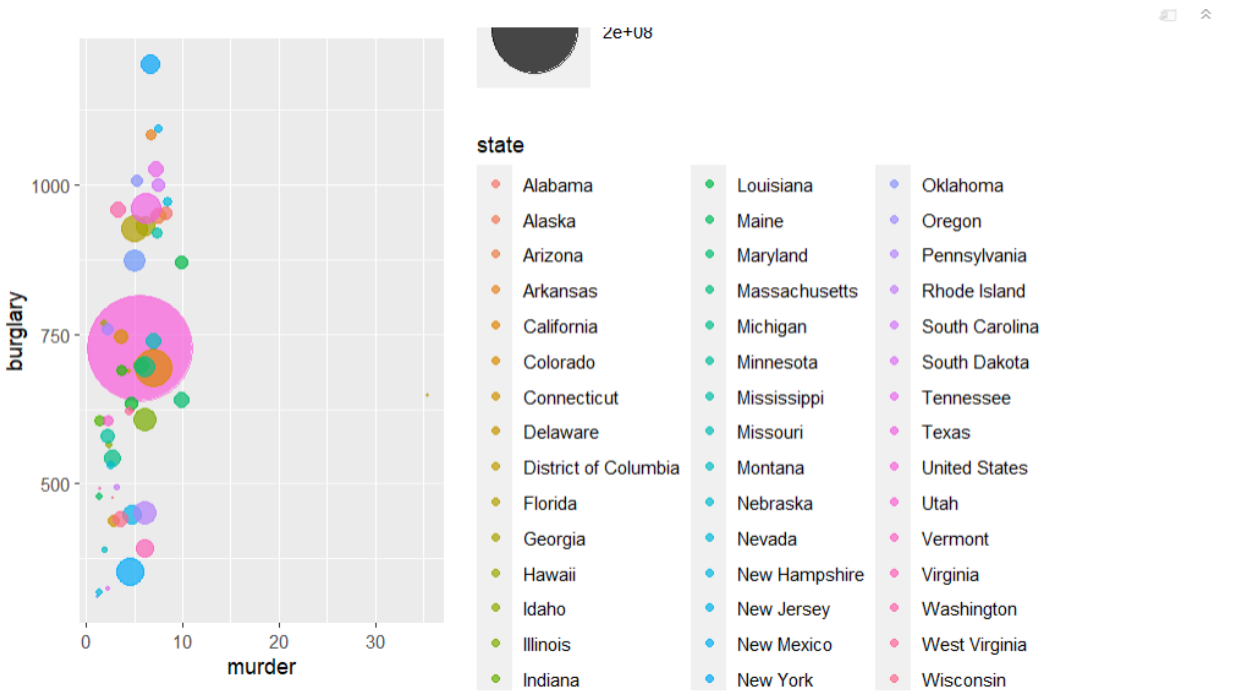


RSTUDIO

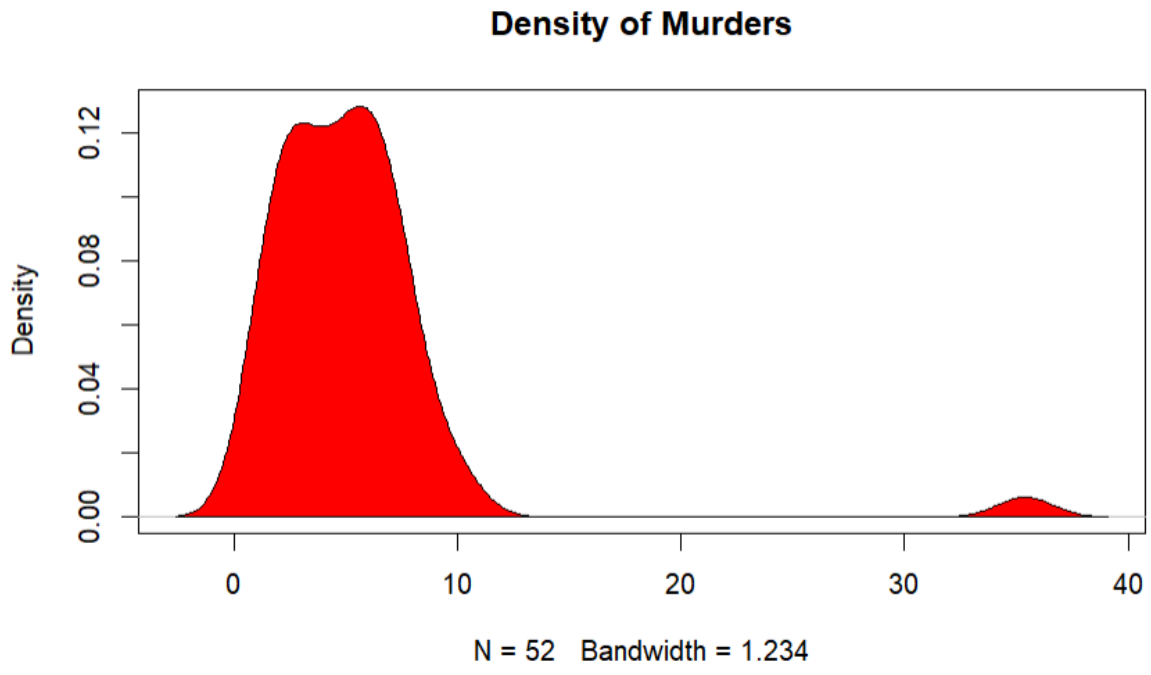
Scatterplot



BubbleGraph
#size is via population and color is via state


2e+08
state
Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
District of Columbia
Florida
Georgia
Hawaii
Idaho
Illinois
Indiana
Louisiana
Maine
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
Oklahoma
Oregon
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
United States
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
burglary
1000
750
500
0
10
20
30
murder

Density Map


Density of Murders
Density
0.00
0.04
0.08
0.12
0
10
20
30
40
N = 52 Bandwidth = 1.234

In [15]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import plotly.express as px
import seaborn as sns
```

In [4]:
```
#import data to dataframe
df1=pd.read_csv('birth-rates-yearly.csv')
df1.head()
```

Out[4]:

	year	rate
0	1960	36.400
1	1961	35.179
2	1962	33.863
3	1963	32.459
4	1964	30.994

In [5]:
```
#import data to dataframe
df2=pd.read_csv('birth-rate.csv')
df2.head()
```

Out[5]:

	Country	1960	1961	1962	1963	1964	1965	1966	1967	1968	...	1999
0	Aruba	36.400	35.179	33.863	32.459	30.994	29.513	28.069	26.721	25.518	...	15.024
1	Afghanistan	52.201	52.206	52.208	52.204	52.192	52.168	52.130	52.076	52.006	...	51.229
2	Angola	54.432	54.394	54.317	54.199	54.040	53.836	53.585	53.296	52.984	...	48.662
3	Albania	40.886	40.312	39.604	38.792	37.913	37.008	36.112	35.245	34.421	...	17.713
4	Netherlands Antilles	32.321	30.987	29.618	28.229	26.849	25.518	24.280	23.173	22.230	...	15.809

5 rows × 50 columns

In [6]:
```
#import data to dataframe
df3=pd.read_csv('crimerates-by-state-2005.csv')
df3.head()
```

Out[6]:

	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	

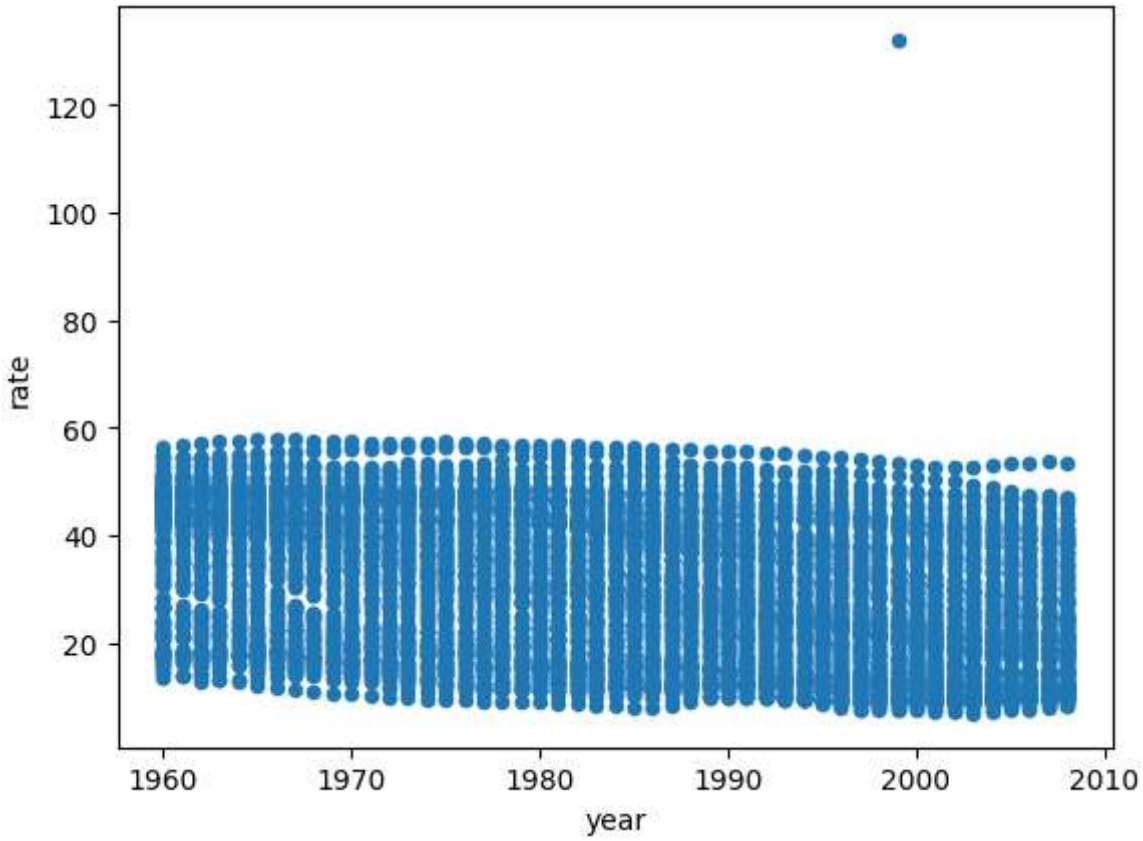
In [7]:
```
#import data to dataframe
df4=pd.read_csv('life-expectancy.csv')
df4.head()
```

Out[7]:

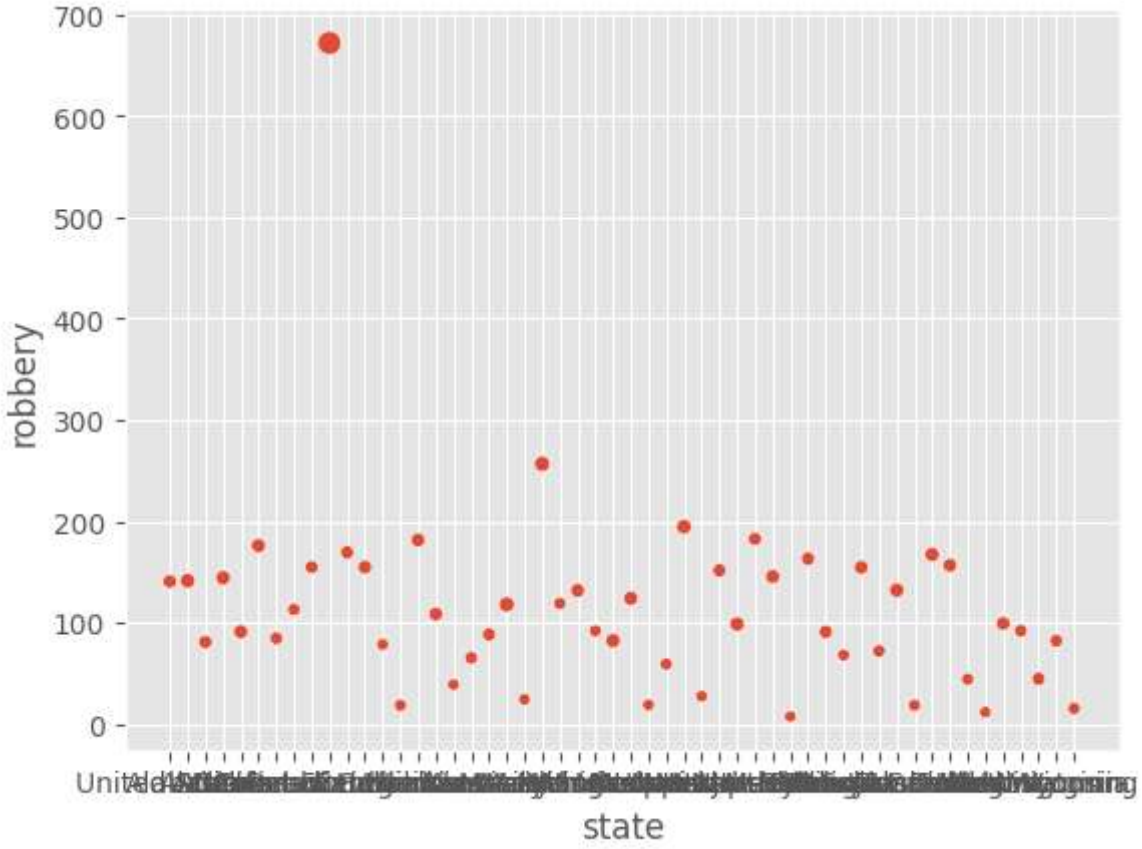
	country	year	expectancy
0	Afghanistan	2008	42
1	Albania	2008	73
2	Algeria	2008	71
3	Angola	2008	46
4	Antigua and Barbuda	2008	74

In [9]:
```
#scatter plot
df1.plot.scatter(x = 'year', y = 'rate')
```

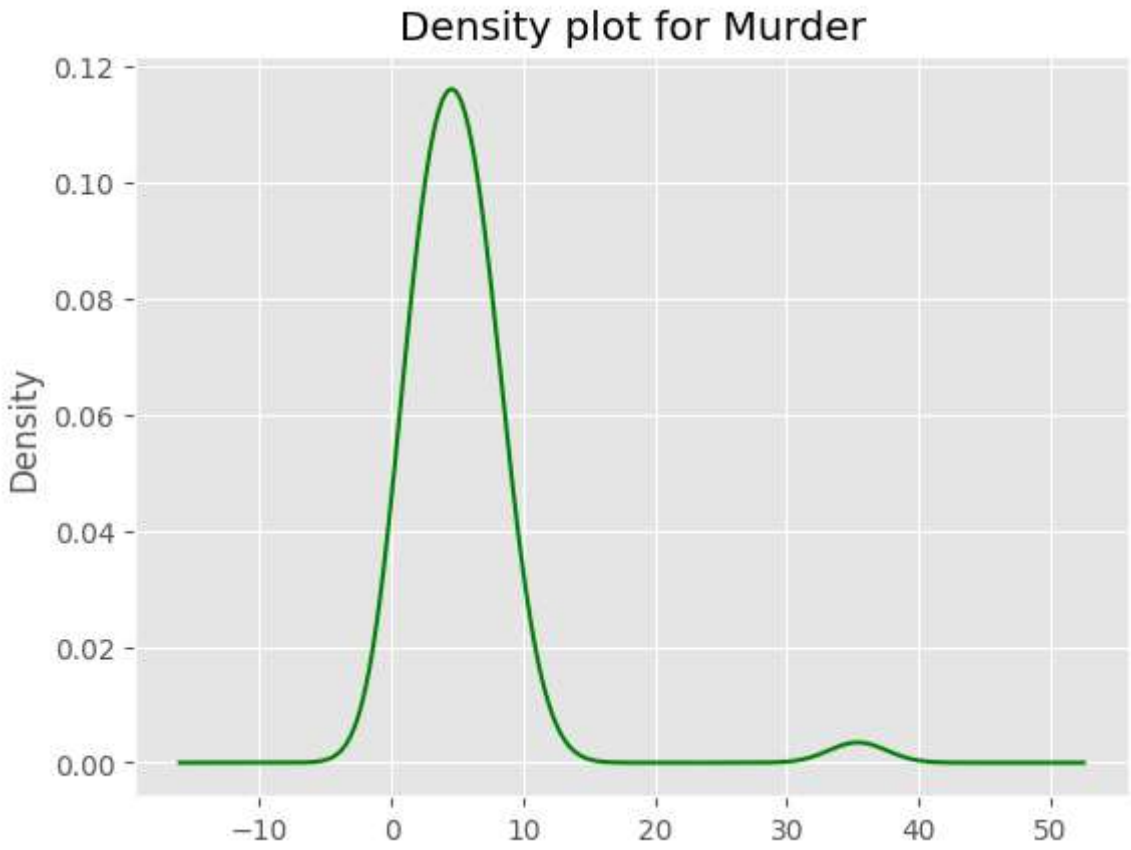
Out[9]: <AxesSubplot: xlabel='year', ylabel='rate'>



In [24]:
```
# use the scatterplot function to build the bubble map
#comparing if robbery and murder are correlated by state
sns.scatterplot(data=df3, x="state", y="robbery", size="murder", legend=False)
plt.show()
```



In [25]:
```
#density plot
#graph shows the murder rate between 0 and 10 is the most common
df3.murder.plot.density(color='green')
plt.title('Density plot for Murder')
plt.show()
```



In [ ]:
```
```

````
---
title: "Week7"
output: html_document
date: "2024-01-22"
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)

setwd("C:/Users/brean/OneDrive/Desktop/640/week7/breannaparkerdsc640week7")
knitr::opts_chunk$set(echo = TRUE)
```



```{r}
library(readr)

data <- read.csv("crimerates-by-state-2005.csv")
data


```



```{r }
#scatterplot
plot(x=data$robbery, y=data$murder,
     xlab="Robbery By State", ylab="Murder By State",
     main="Correlation of Murder and Robberies")

```


```{r }
#bubble graph
library(ggplot2)
library(dplyr)
library(plotly)

ggplot(data, aes(x=murder, y=burglary, size = population, color=state)) +
    geom_point(alpha=0.7) +
    scale_size(range = c(.1, 24), name="Population (M)")

```

```{r }
#density graph
d <- density(data$murder)
plot(d, main="Density of Murders")
polygon(d, col="red")


```
````