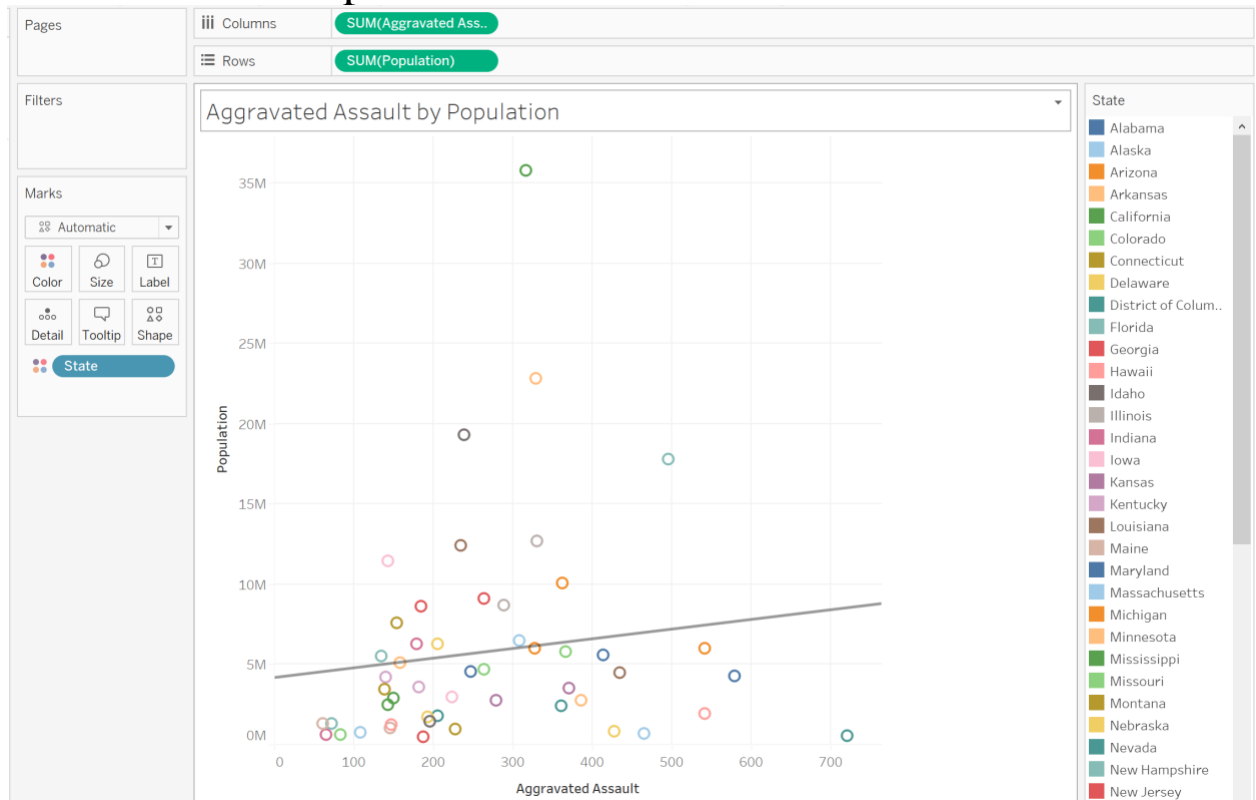


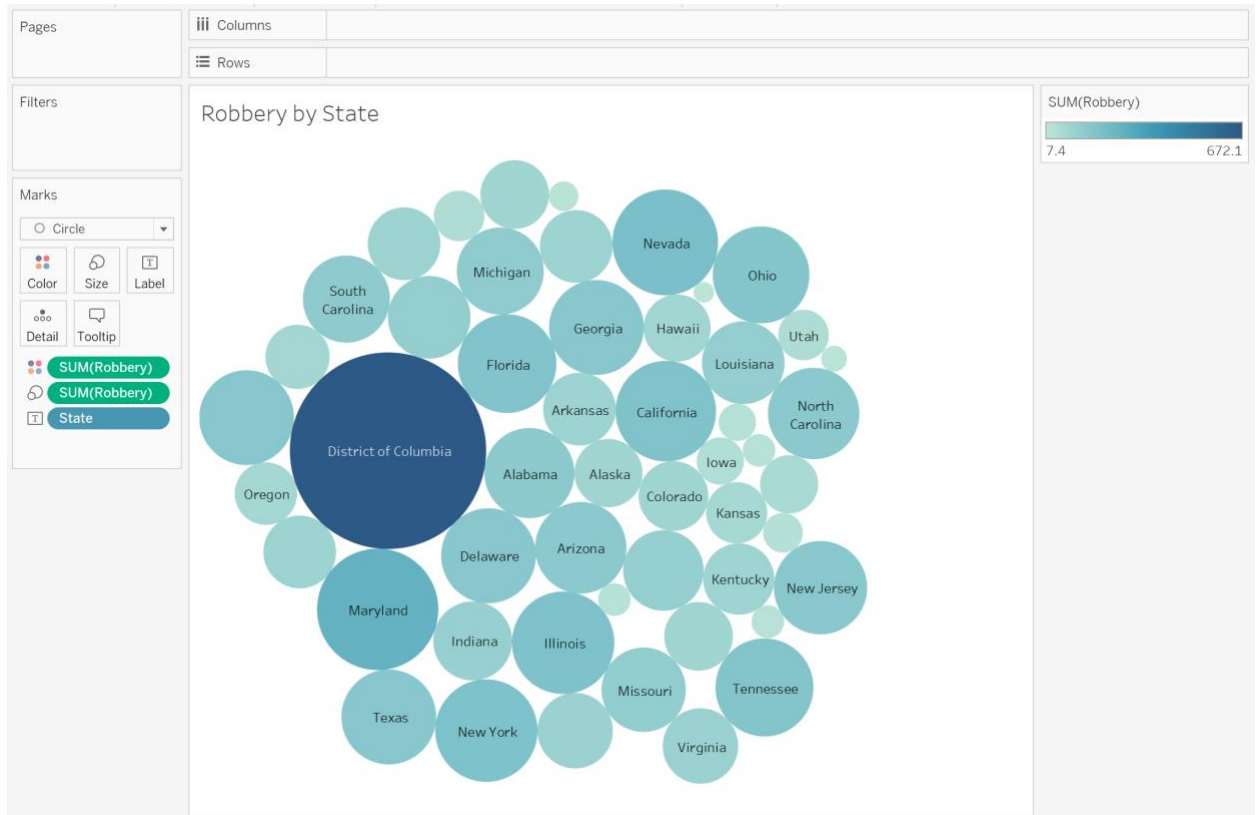
3.2 Exercise Charts

Tableau Charts

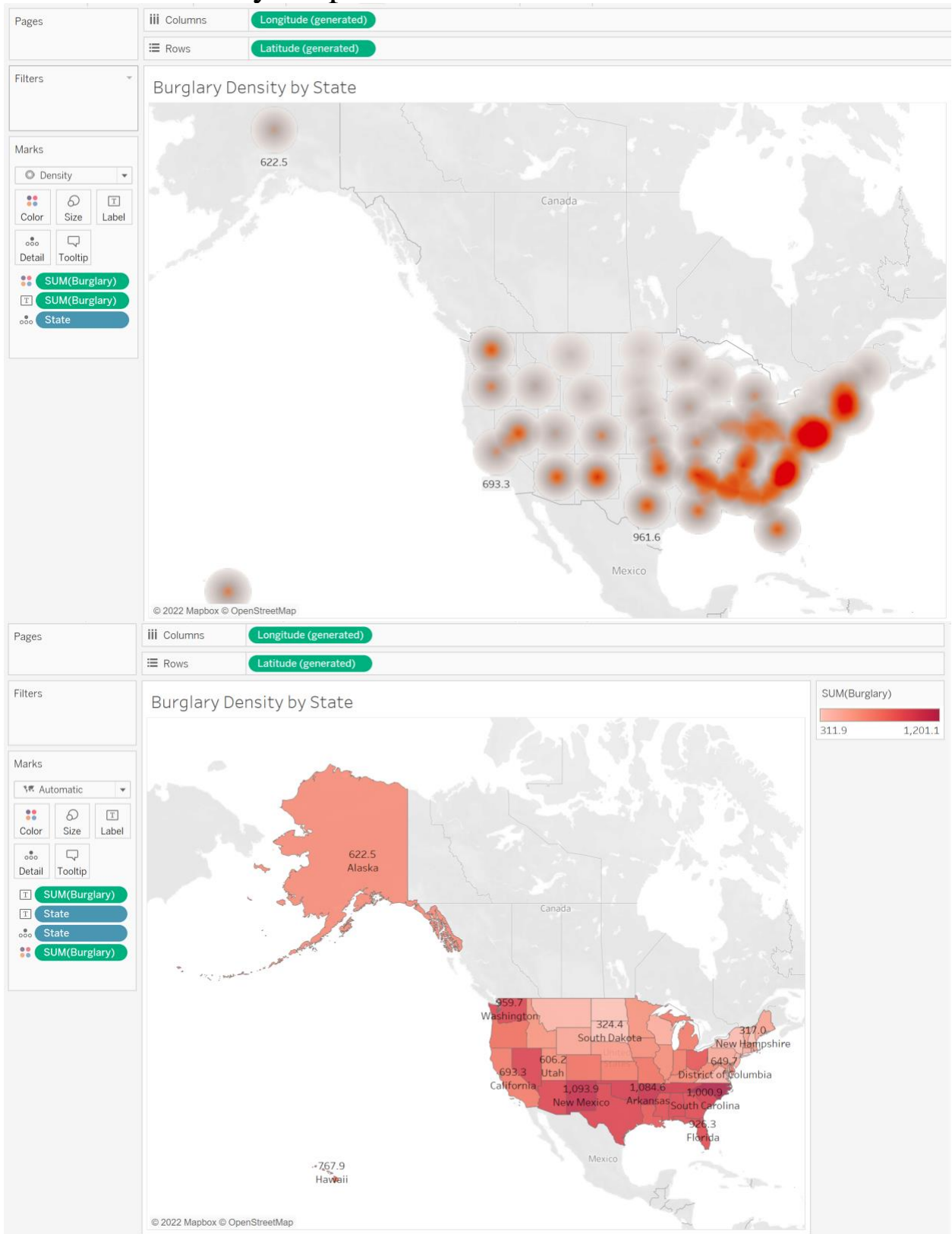
- Tableau – Scatterplot



- Tableau – Bubble Chart



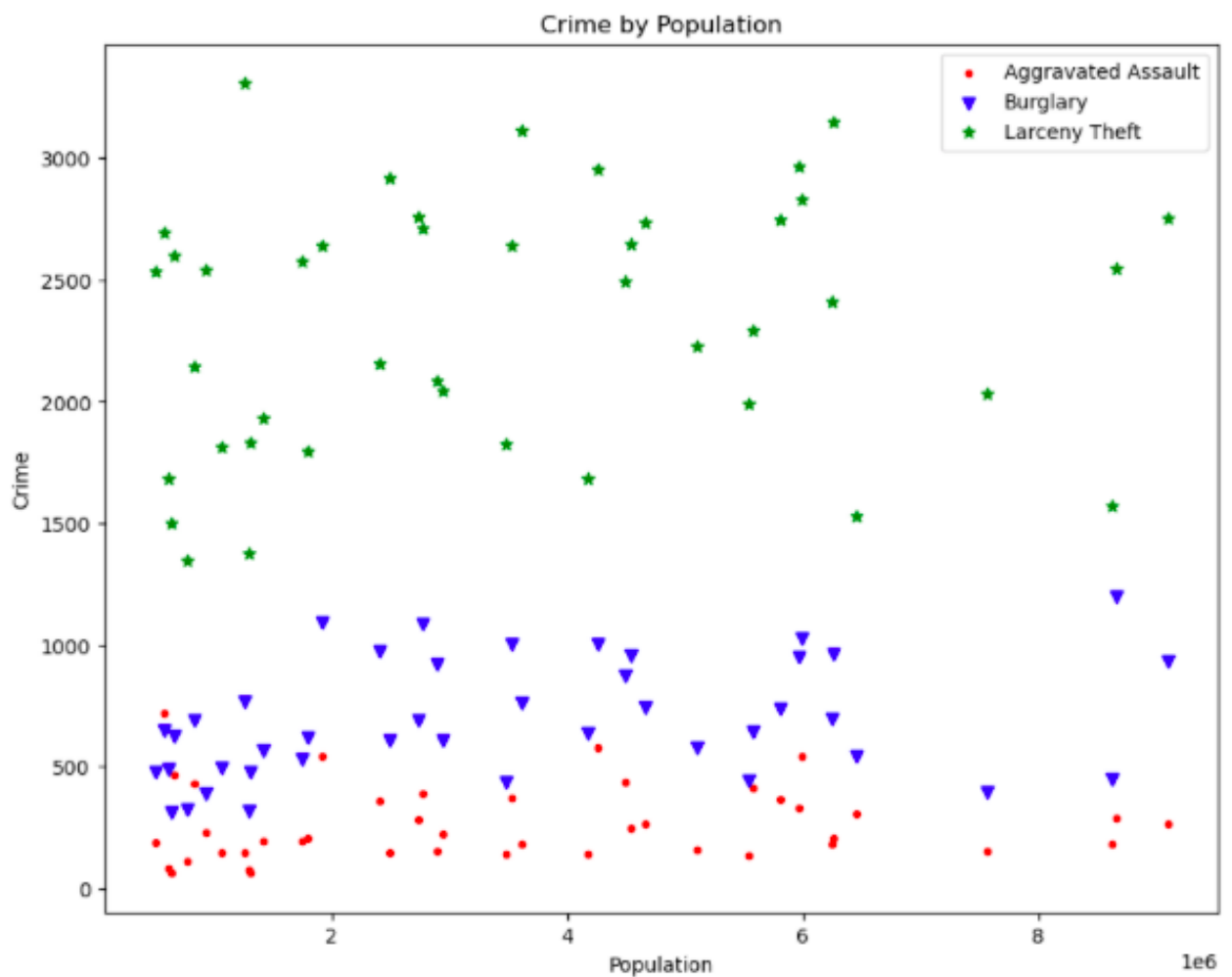
- Tableau – Density Map



Python Charts

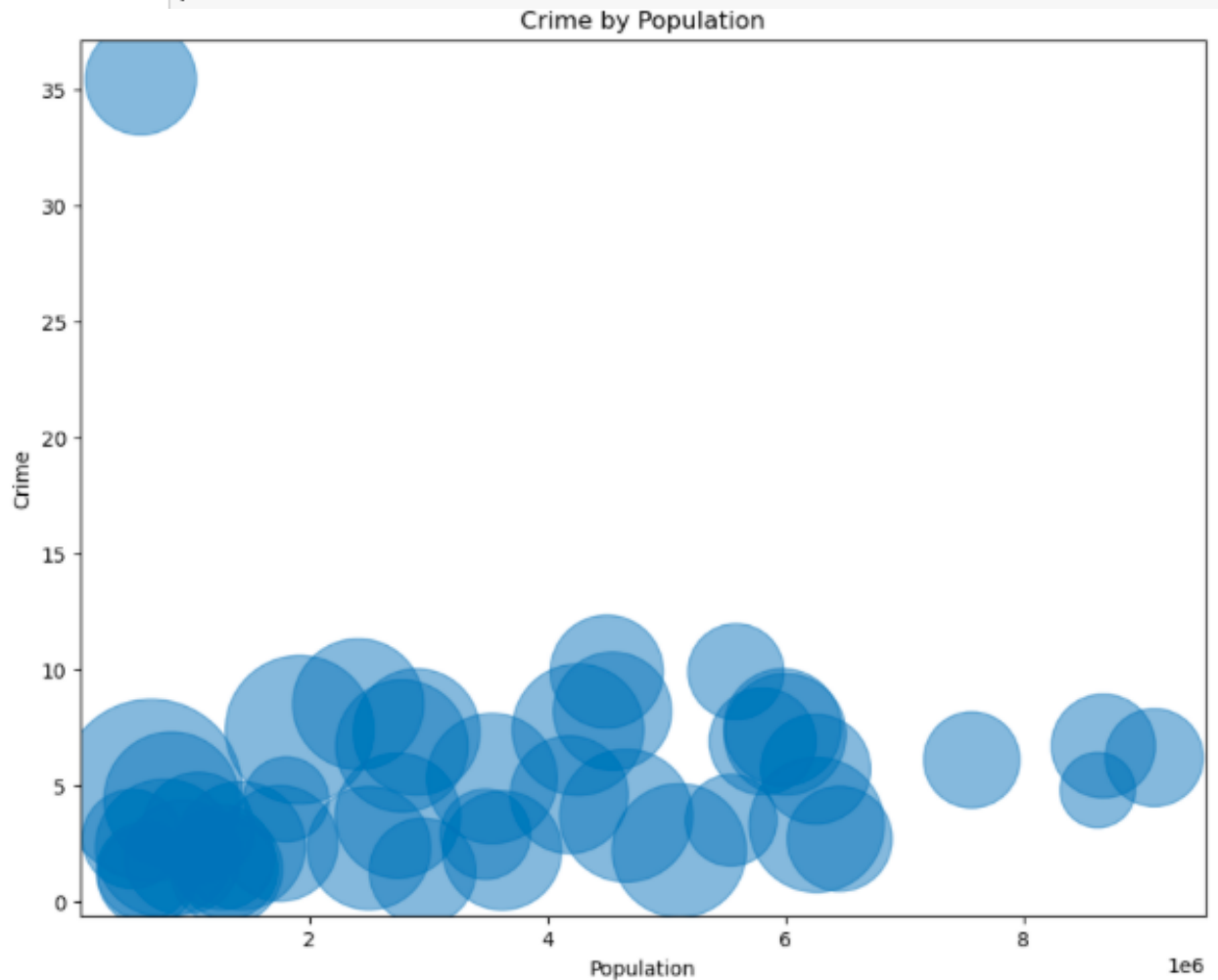
- Python – Scatterplot

```
In [20]: # Create a scatterplot that displays different crimes by
# population in hunder thousands
population = crimerates_by_state_2005.population
aggravated_assault = crimerates_by_state_2005.aggravated_assault
burglary = crimerates_by_state_2005.burglary
larceny_theft = crimerates_by_state_2005.larceny_theft
plt.scatter(population,aggravated_assault,color='red', marker= '.',
            label='Aggravated Assault')
plt.scatter(population,burglary,color= 'blue', marker='v',
            label='Burglary')
plt.scatter(population,larceny_theft,color= 'green', marker='*',
            label='Larceny Theft')
plt.title('Crime by Population')
plt.xlabel('Population')
plt.ylabel('Crime')
plt.legend(loc='best')
plt.show()
```



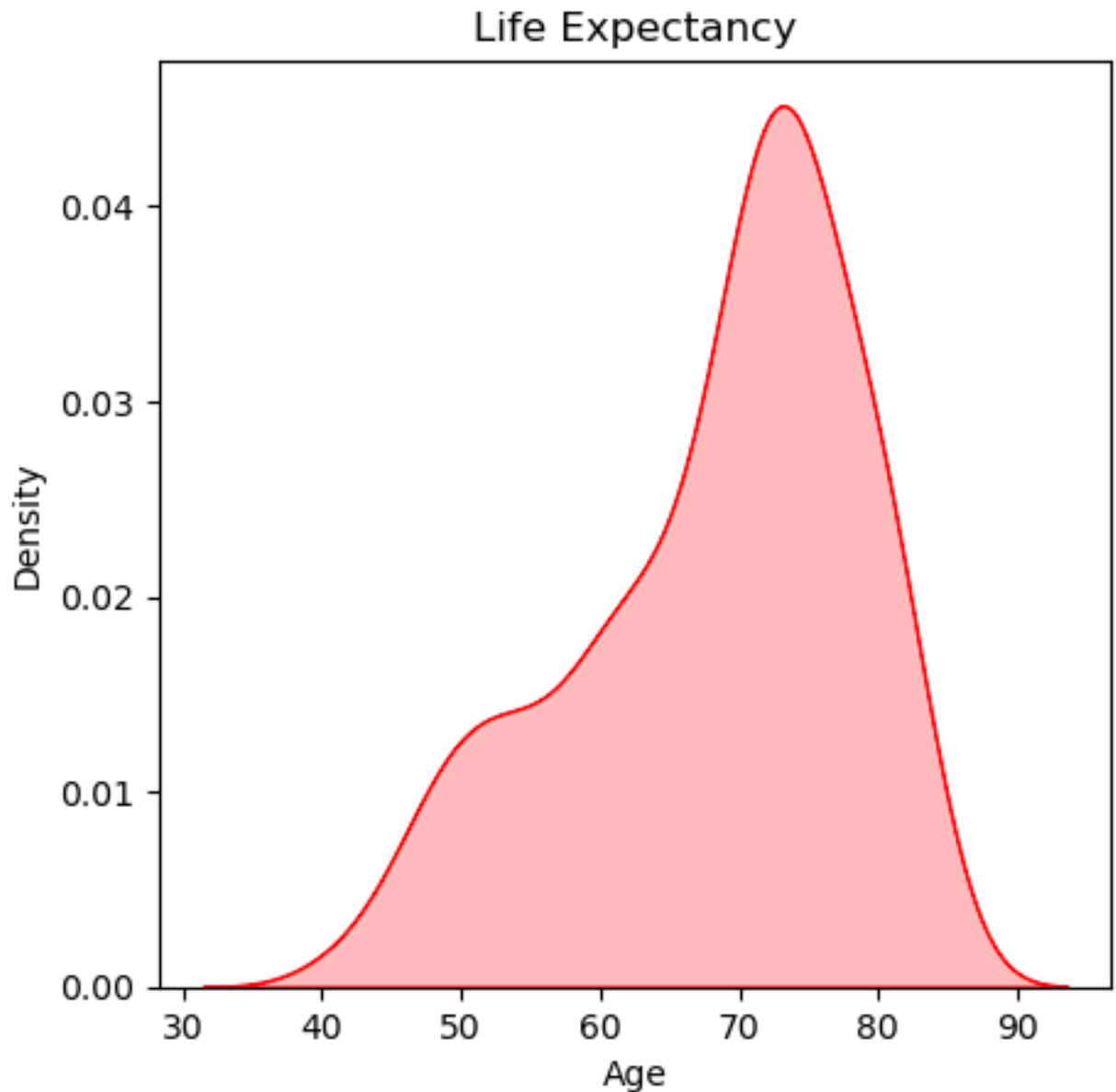
- Python - Bubble Chart

```
In [47]: # Create a bubble plot by using matplotlib.pyplot
# and numpy for population and crime
population = crimerates_by_state_2005.population
murder = crimerates_by_state_2005.murder
forcible_rape = crimerates_by_state_2005.forcible_rape
plt.scatter(population, murder, s=forcible_rape*100, alpha=0.5)
plt.title('Crime by Population')
plt.xlabel('Population')
plt.ylabel('Crime')
plt.show()
```



- Python – Density Plot Chart

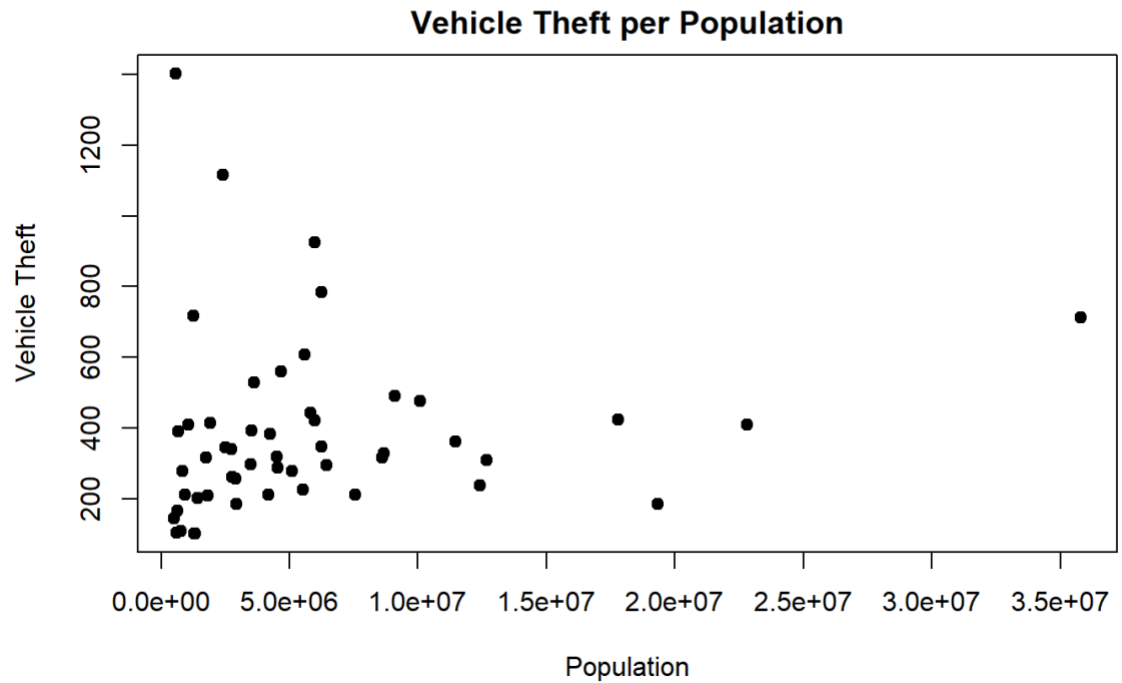
```
In [61]: # Create a density plot through the use of seaborn kdeplot
plt.figure(figsize = (5,5))
sns.kdeplot(life_expectancy.expectancy, fill = True, color='red')
plt.title('Life Expectancy')
plt.xlabel('Age')
plt.show()
```



R Studios Charts

- R Studios – Scatterplot

```
``{r scatterplot, include=TRUE}  
# I will now use plot to create my scatterplot that shows the vehicle theft per population  
  
x <- crimerates_by_state_2005$population  
y <- crimerates_by_state_2005$motor_vehicle_theft  
  
plot(x, y, main = "Vehicle Theft per Population",  
      xlab = "Population", ylab = "Vehicle Theft", pch = 19)  
``
```

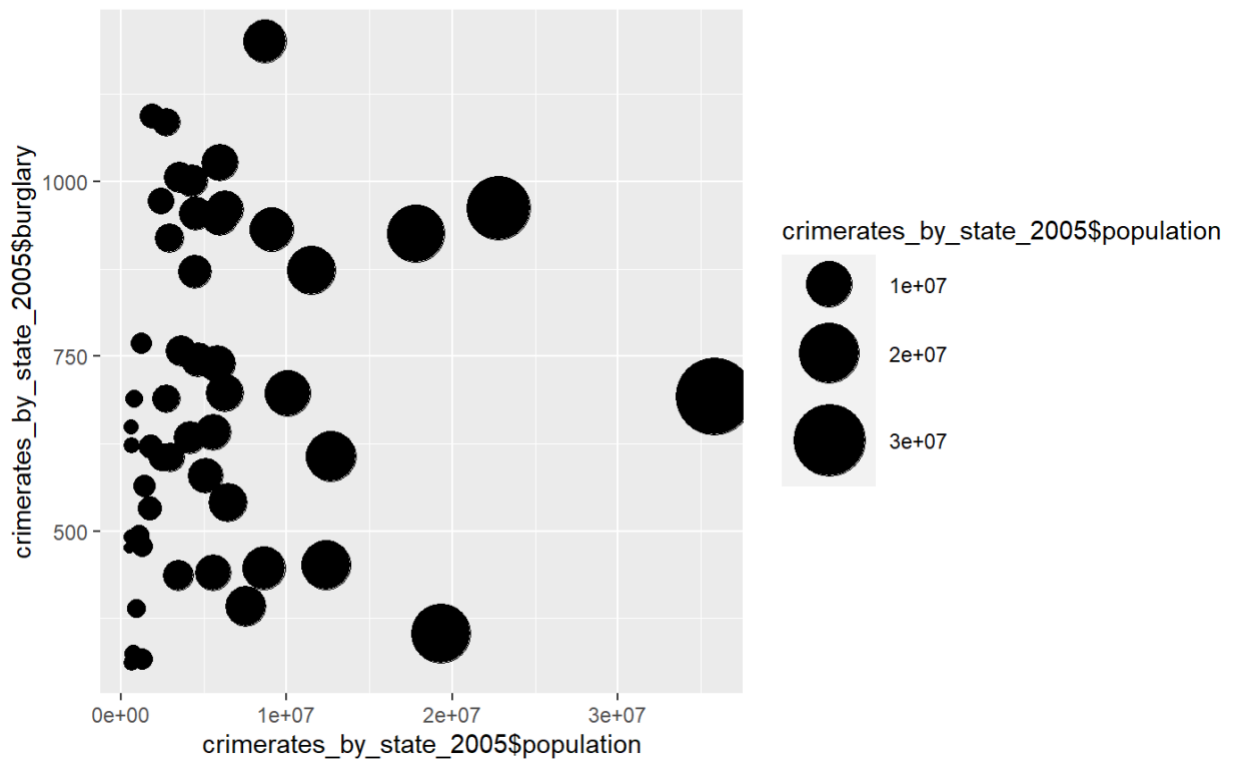


- R Studios - Bubble Chart

```
```{r Bubble plot, include=TRUE}  
I will use ggplot to create a bubble plot that shows the burglary by the population

library(ggplot2)

ggplot(data=crimerates_by_state_2005, aes(x=crimerates_by_state_2005$population,
y=crimerates_by_state_2005$burglary)) +
 geom_point(aes(size=crimerates_by_state_2005$population)) +
 scale_size_continuous(range=c(2,15))
```
```



- R Studios – Density Plot Chart

```
##{r density plot chart, include=TRUE}  
# I will create a density plot and add the mean line  
  
plot(density(life_expectancy$expectancy))  
abline(v = mean(life_expectancy$expectancy), col = "blue", )  
##
```

