DSC640_Exercise3_2_Asumbaraju

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import libraries

```
library(ggplot2)
```

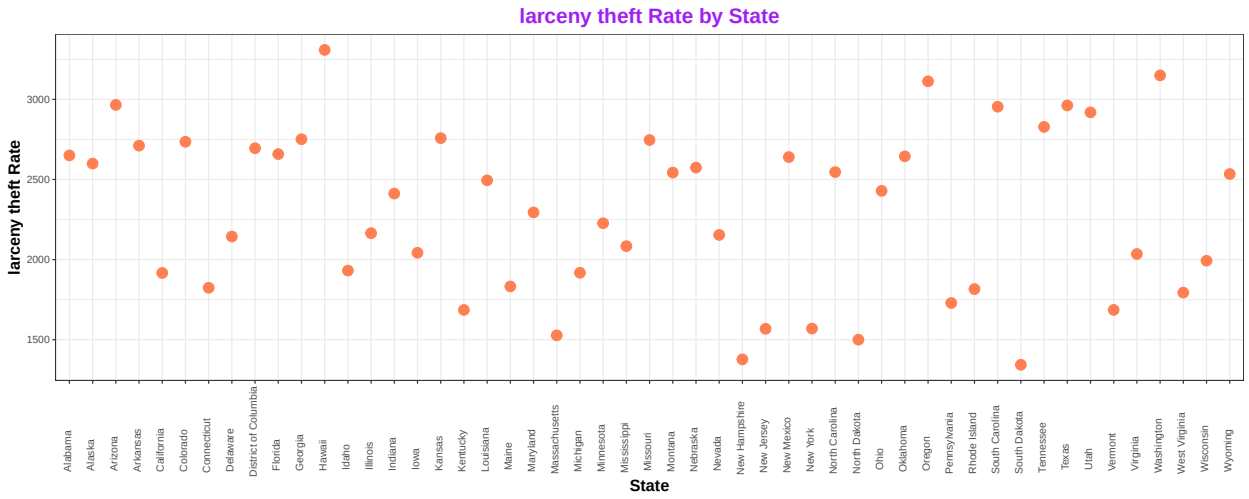
Data loading and Cleansing csv file

```
crime_data <- read.csv("C:/BU/DSC640/wk5-6/ex4-2/crimerates-by-state-2005.csv")
# Data cleansing step -  drop "United states" record from data frame
crime_data <- crime_data[-c(1),]
head(crime_data,5)
```

```
##        state murder forcible_rape robbery aggravated_assault burglary
## 2    Alabama    8.2          34.3   141.4             247.8    953.8
## 3     Alaska    4.8          81.1    80.9             465.1    622.5
## 4    Arizona    7.5          33.8   144.4             327.4    948.4
## 5   Arkansas    6.7          42.9    91.1             386.8   1084.6
## 6 California    6.9          26.0   176.1             317.3    693.3
##   larceny_theft motor_vehicle_theft population
## 2        2650.0               288.3    4545049
## 3        2599.1               391.0     669488
## 4        2965.2               924.4    5974834
## 5        2711.2               262.1    2776221
## 6        1916.5               712.8   35795255
```

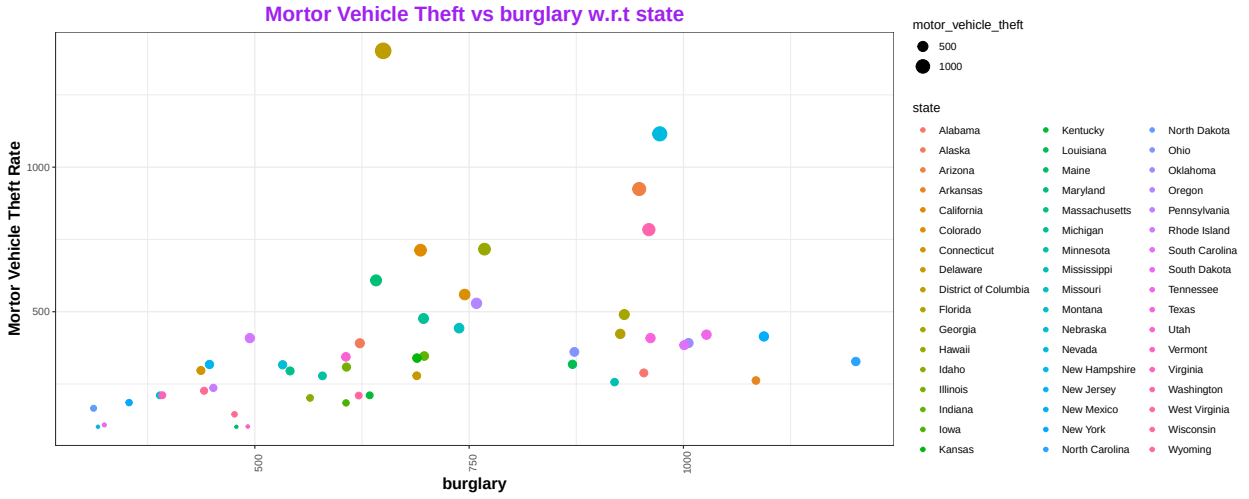
Scatterplot

```
P1 <- ggplot(crime_data, aes(x=state, y=larceny_theft)) +  theme_bw()+
  theme(axis.text.x = element_text(angle = 90,hjust=0.10,vjust=0.22)) +
  theme(
    plot.title = element_text(color="purple", size=18, face="bold"),
    axis.title.x = element_text(color="black", size=14, face="bold"),
    axis.title.y = element_text(color="black", size=14, face="bold")
  ) +
  theme(plot.title = element_text(hjust = 0.5)) +
  ggtitle("larceny theft Rate by State") +
  xlab("State") +
  ylab("larceny theft Rate")  +
  geom_point(color='coral',size = 4)
P1
```



bubble chart

```
ggplot(crime_data, aes(x=burglary, y=motor_vehicle_theft, size = motor_vehicle_theft,color= state)) + tl
  theme(axis.text.x = element_text(angle = 90)) +
  theme(
    plot.title = element_text(color="purple", size=18, face="bold"),
    axis.title.x = element_text(color="black", size=14, face="bold"),
    axis.title.y = element_text(color="black", size=14, face="bold")
  ) +
  theme(plot.title = element_text(hjust = 0.5)) +
  ggtitle("Mortor Vehicle Theft vs burglary w.r.t state") +
  xlab("burglary") +
  ylab("Mortor Vehicle Theft Rate") +
  geom_point(alpha=10)
```



Density plot

```r
ggplot(data=crime_data, aes(x=aggravated_assault)) + theme_bw()+

  theme(axis.text.x = element_text(angle = 90)) +
  theme(
    plot.title = element_text(color="purple", size=18, face="bold"),
    axis.title.x = element_text(color="black", size=14, face="bold"),
    axis.title.y = element_text(color="black", size=14, face="bold")
  ) +
  theme(plot.title = element_text(hjust = 0.5)) +
  ggtitle("Aggravated Assault Rate Density Plot") +
  xlab("Aggravated Assault Rate") +
  ylab("Density") +
  geom_density(alpha=10)
```