

DSC640_Exercise3_2_Asumbaraju

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import libraries

```
library(ggplot2)
```

Data loading and Cleansing csv file

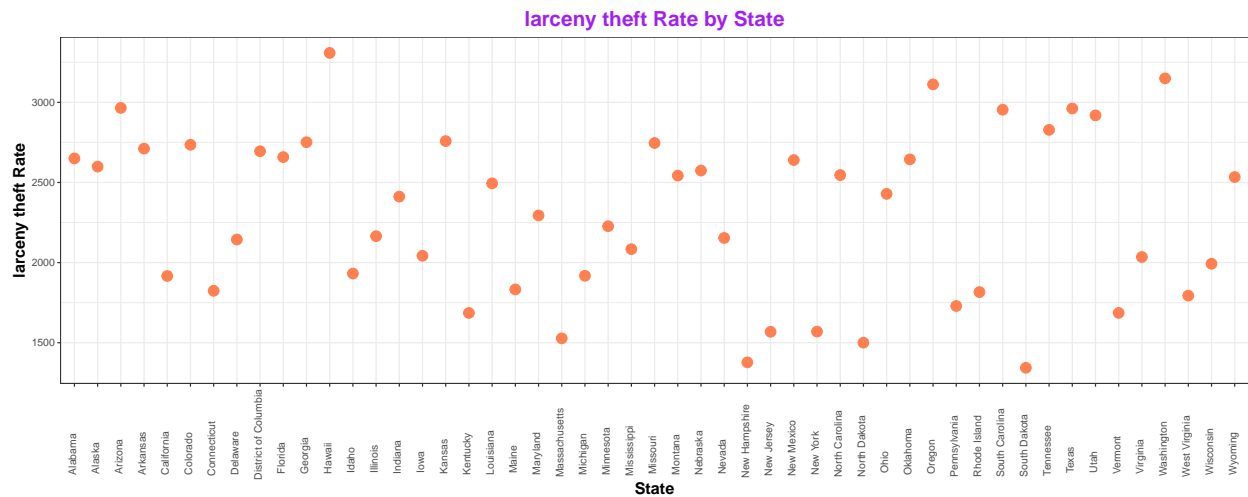
```
crime_data <- read.csv("C:/BU/DSC640/wk5-6/ex4-2/crimerates-by-state-2005.csv")  
# Data cleansing step - drop "United states" record from data frame  
crime_data <- crime_data[-c(1),]  
head(crime_data,5)
```

```
##      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

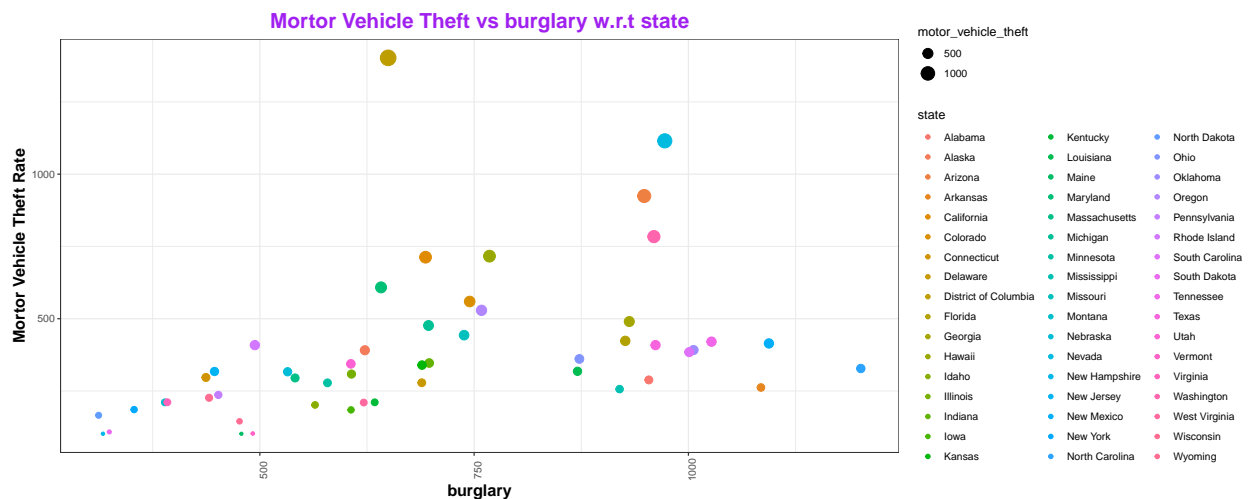
```
P1 <- ggplot(crime_data, aes(x=state, y=larceny_theft)) + theme_bw() +  
  theme(axis.text.x = element_text(angle = 90,hjust=0.10,vjust=0.22)) +  
  theme(  
    plot.title = element_text(color="purple", size=18, face="bold"),  
    axis.title.x = element_text(color="black", size=14, face="bold"),  
    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)) +
  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 charts

```

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)

```

