

lab0

Loading in packages and data

```
suppressMessages(library(tidyverse))
library(readtext)
library(tinytex)

data("USArrests")
USArrests$State <- attributes(USArrests)$row.names

statecoord <- read.delim('~/.Documents/STAT-215A-Fall-2018/week1/lab0/data/stateCoord.txt') %>%
  separate(1, c('State', 'Coord'), sep = " ", extra = "merge") %>%
  separate(Coord, c("drop", "Coord"), sep = '-') %>%
  separate(Coord, c("Long", "Lat"), sep = ' ', extra = "merge") %>%
  select(-drop)

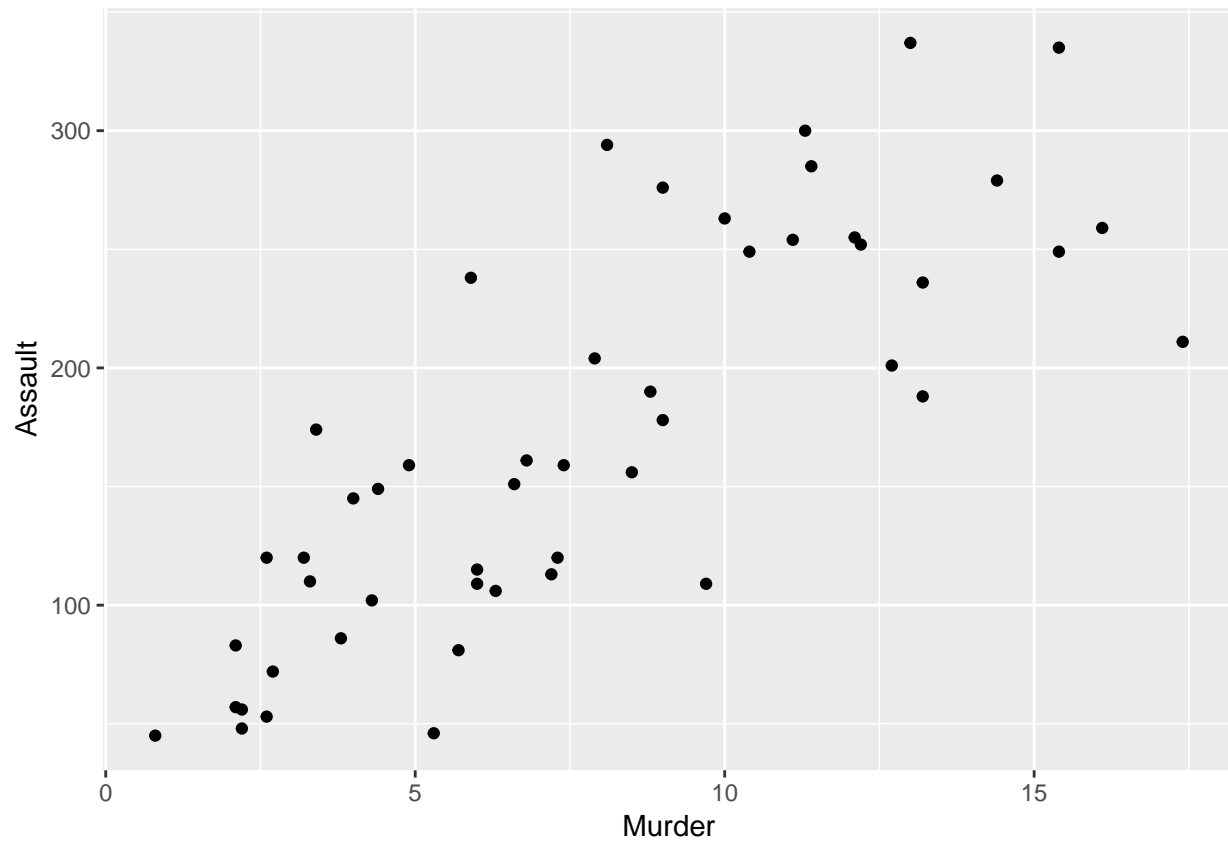
statecoord$Long <- -1 * as.double(statecoord$Long)
statecoord$State <- as.character(attributes(USArrests)$row.names)
```

Merging datasets

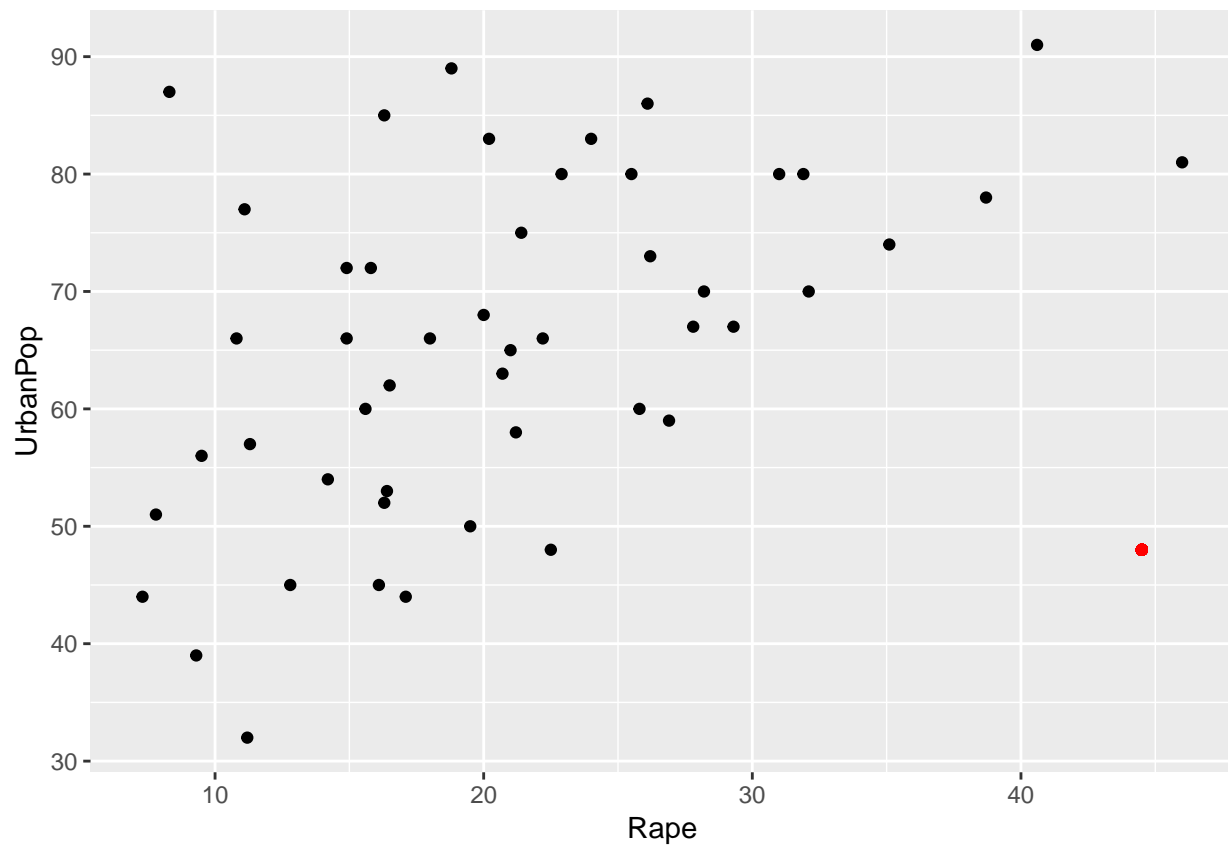
```
state_data <- full_join(USArrests, statecoord, by = 'State') %>%
  select(State, UrbanPop, Assault, Murder, Rape, Lat, Long)
```

Visualizing the data

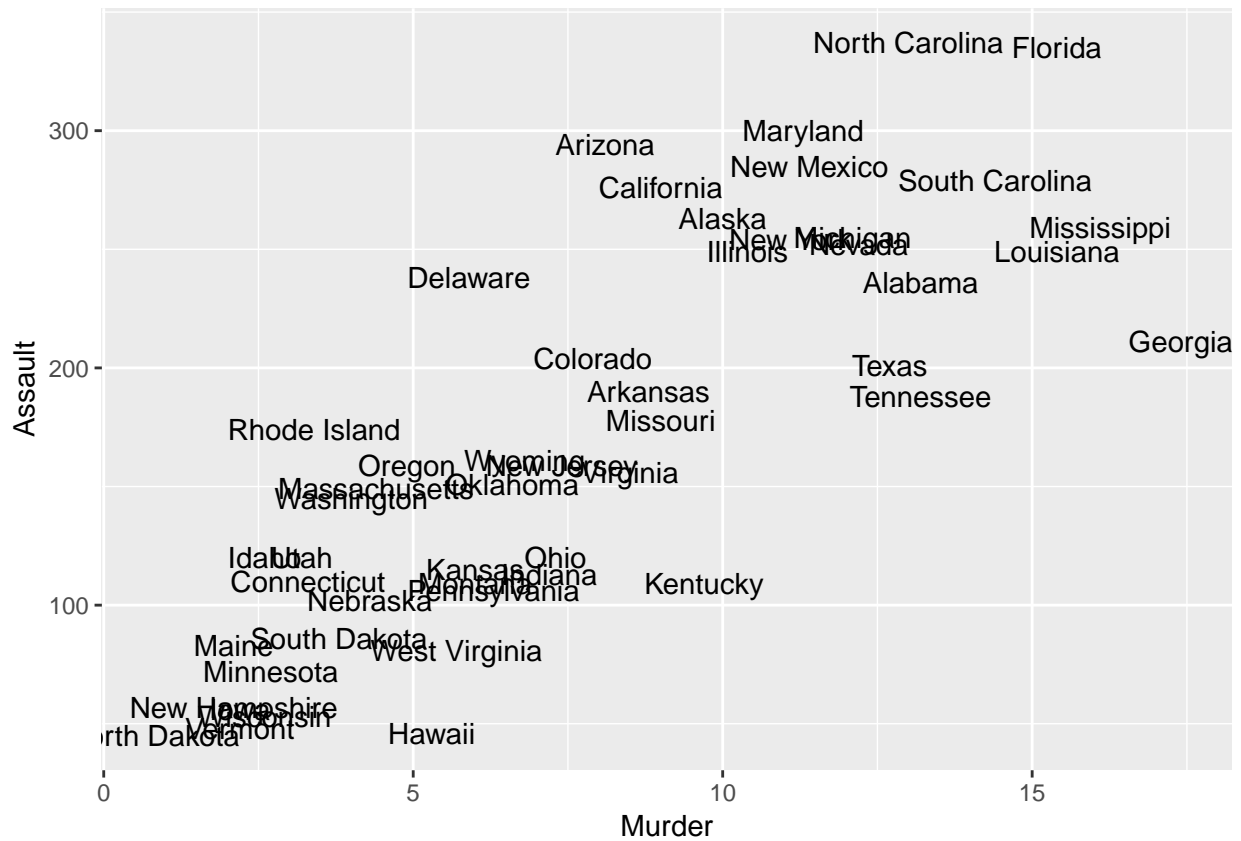
```
ggplot(state_data) +
  geom_point(mapping = aes(x = Murder, y = Assault))
```



```
ggplot(state_data) +  
  geom_point(mapping = aes(x = Rape, y = UrbanPop)) +  
  geom_point(x = 44.5, y = 48, color = 'red')
```



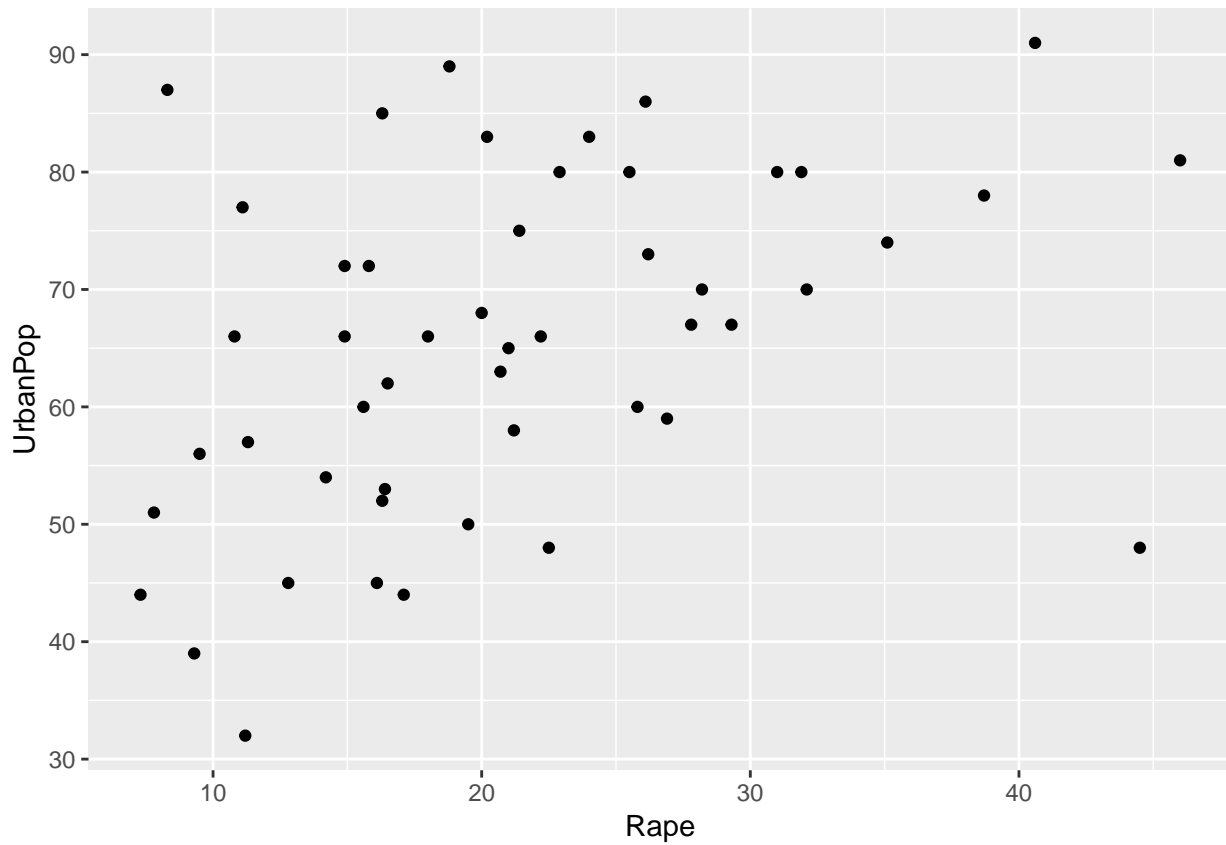
```
ggplot(state_data) +  
  geom_text(mapping = aes(x = Murder, y = Assault, label = State))
```



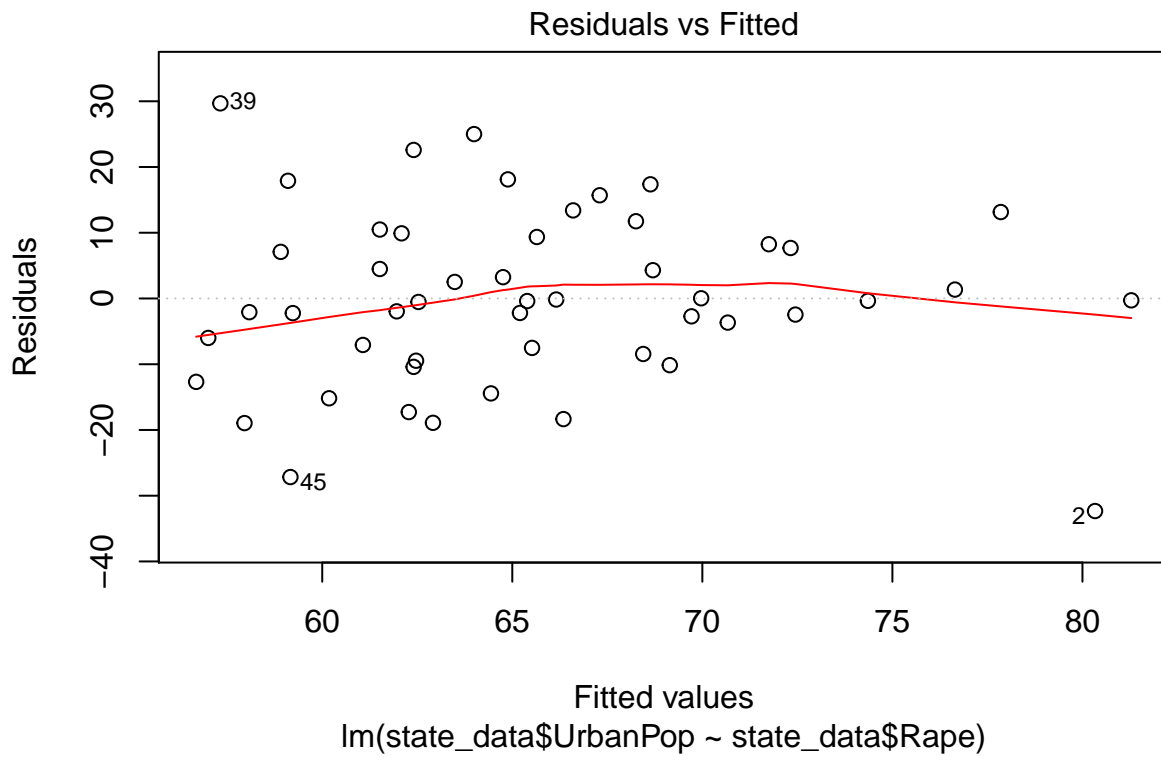
Regressions

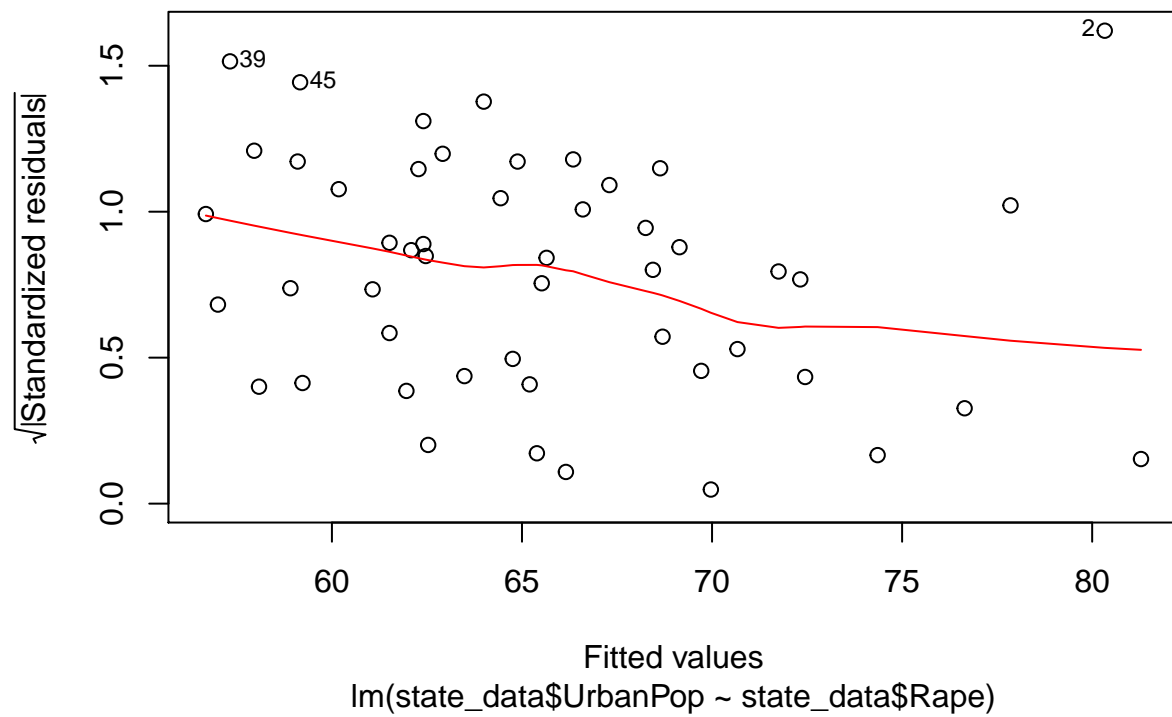
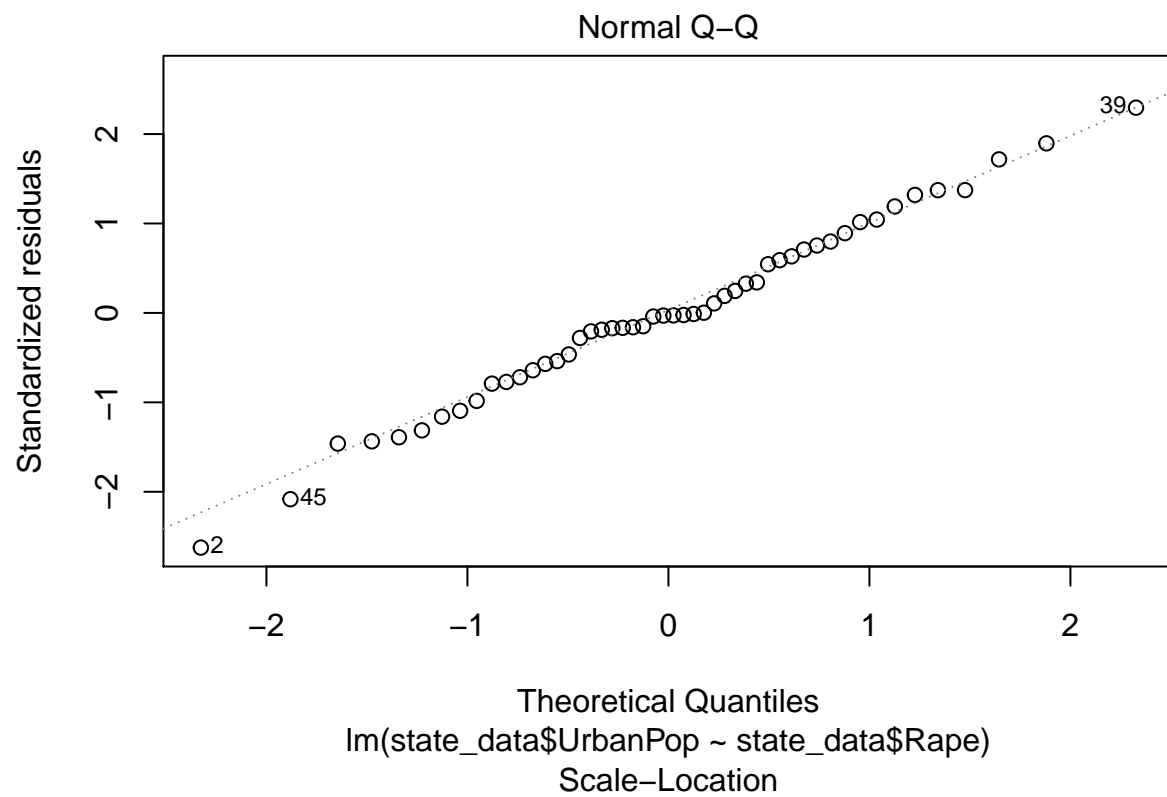
```
fit <- lm(state_data$UrbanPop ~ state_data$Rape)

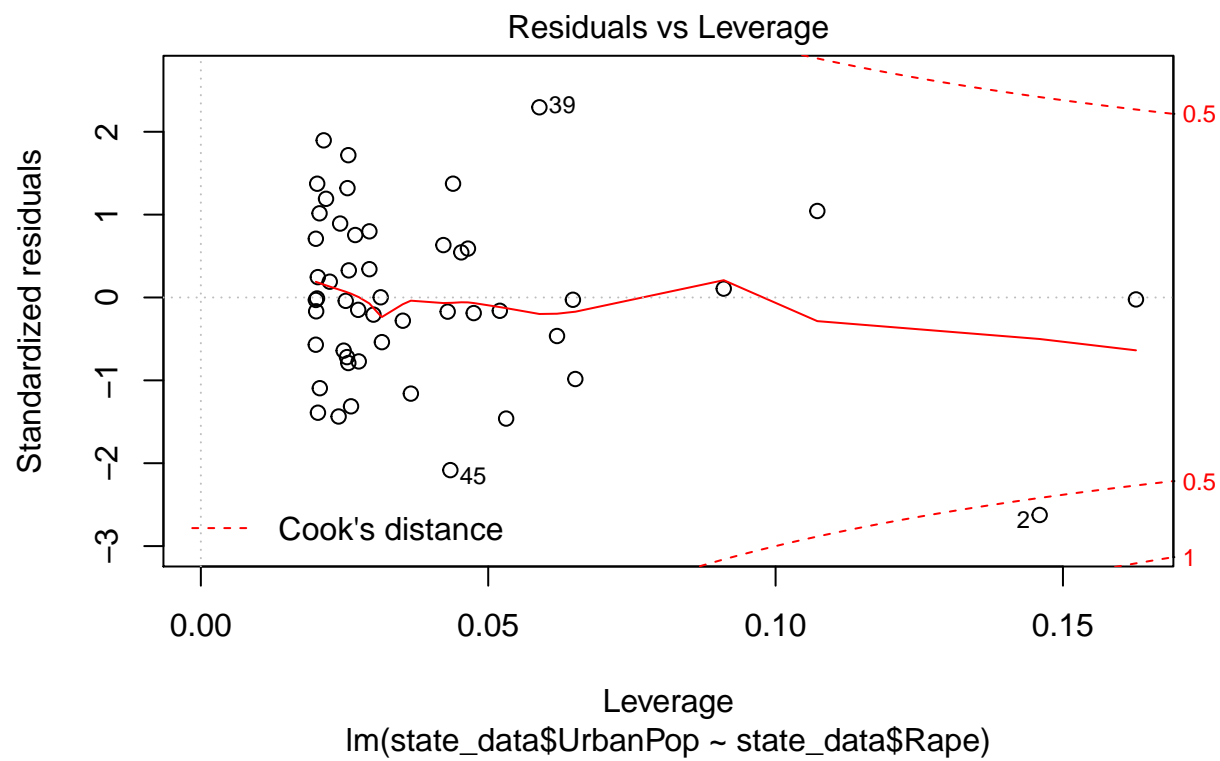
ggplot(state_data) +
  geom_point(mapping = aes(x = Rape, y = UrbanPop))
```



```
plot(fit)
```







I didn't do parts 3-6 of the regression section.