Homework 7

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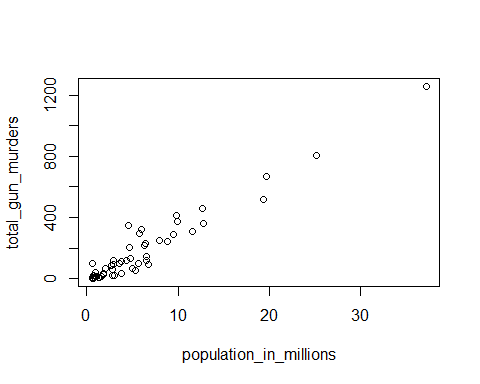
11/10/2021

1. We made a plot of total murders versus population and noted a strong relationship. Not surprisingly, states with larger populations had more murders.

library(dslabs)

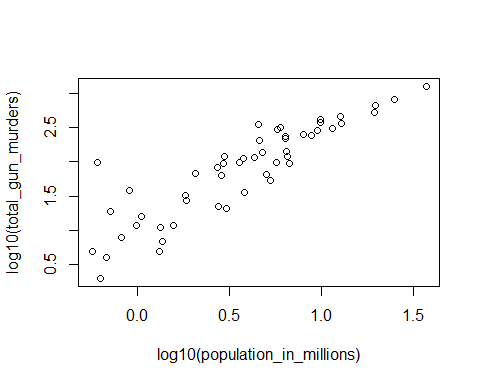
## Warning: package 'dslabs' was built under R version 4.0.5

data(murders)  
population\_in\_millions <- murders$population/10^6  
total\_gun\_murders <- murders$total  
plot(population\_in\_millions, total\_gun\_murders)



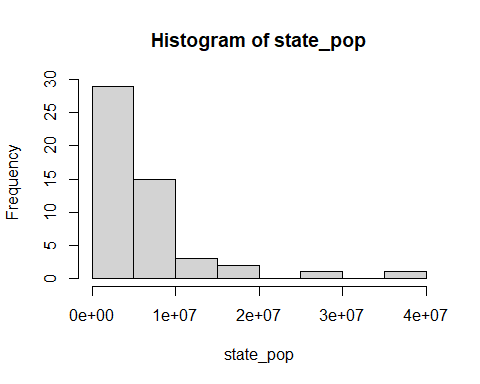
keep in mind that many states have populations below 5 million and are bunched up. We may gain further insights from making this plot in the log scale. Transform the variables using the log10 transformation and then plot them.

plot(log10(population\_in\_millions), log10(total\_gun\_murders))



1. Create a histogram of the state populations

state\_pop <- with(murders, murders$population)  
hist(state\_pop)



1. Generate boxplots of the state populations by region

boxplot(population~region, data = murders, xlab="region", ylab="population")

