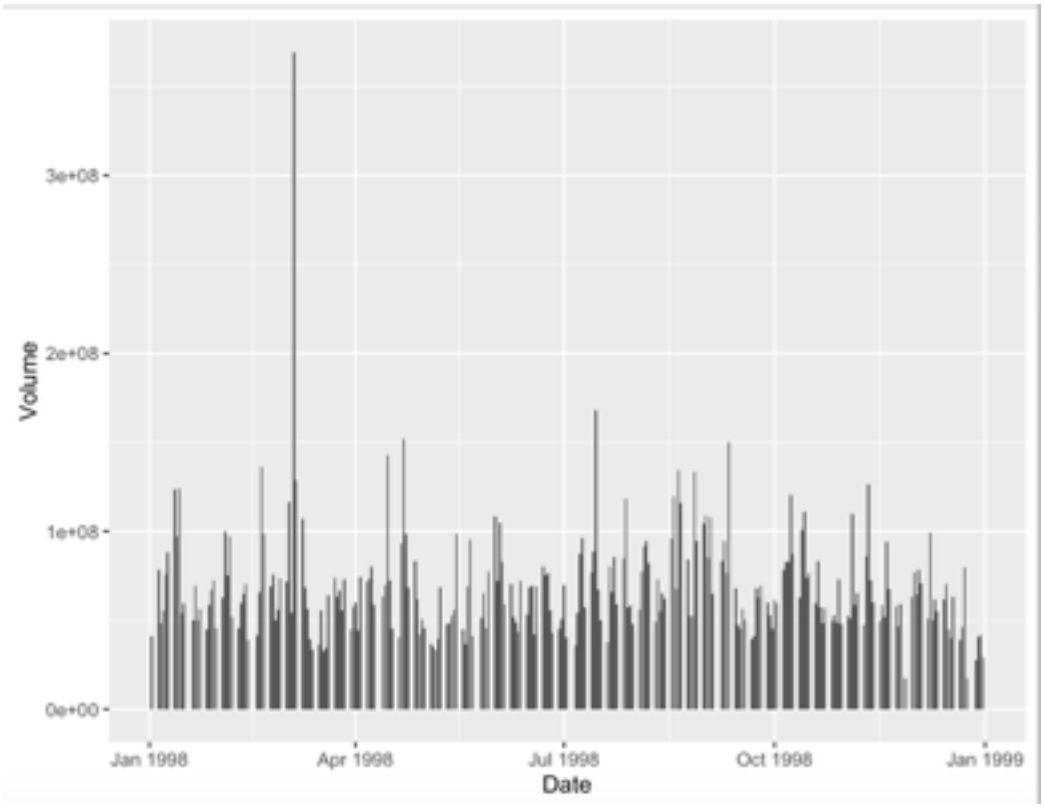
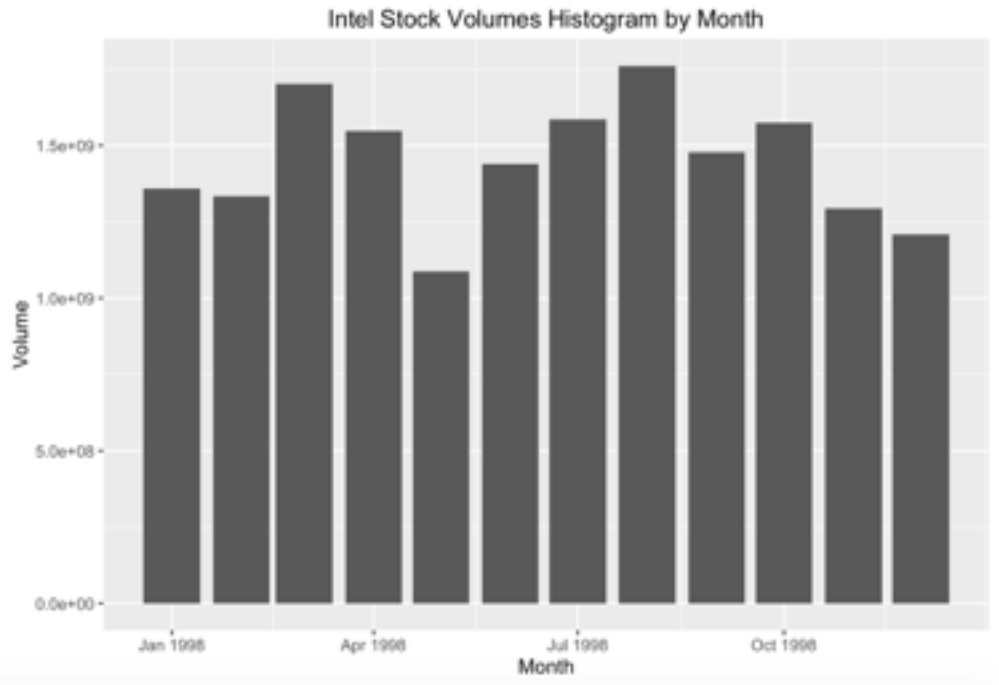
Homework 1— CSC 465
Sarah Cummings

1) Intel 1998 Data
    a) Line Graph of closing price vs. the date

b) Graph the volume vs. the exact date as a bar chart



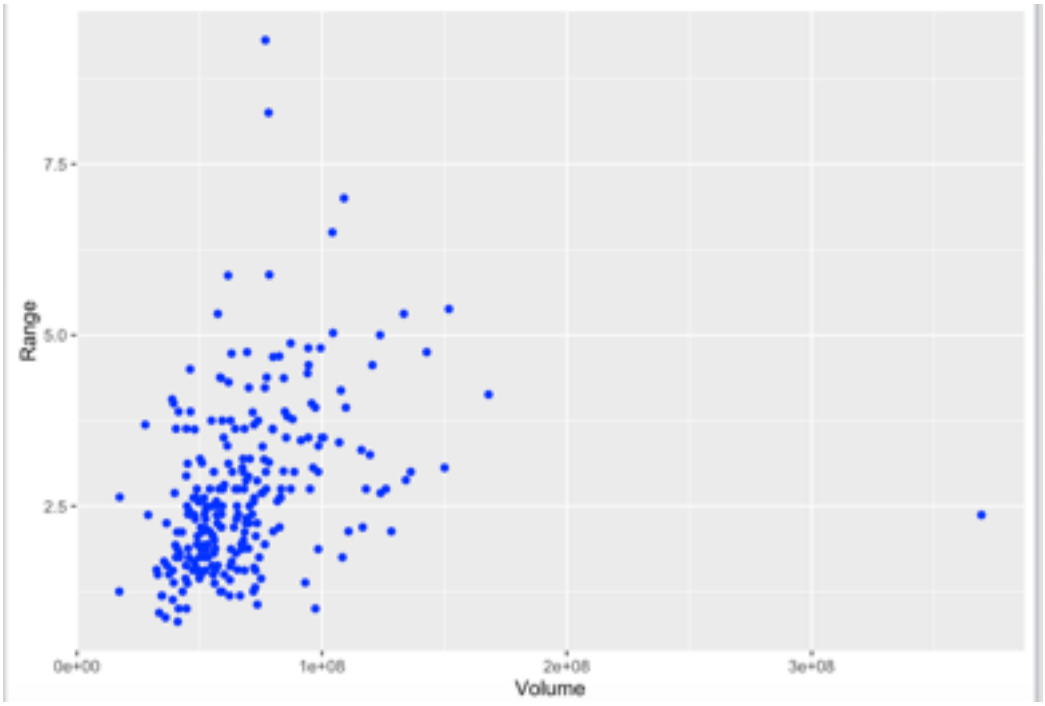
c) Histogram of daily stock volume



I made my own histogram in ggplot with bins as months, rather than using hist. I hope thats ok.

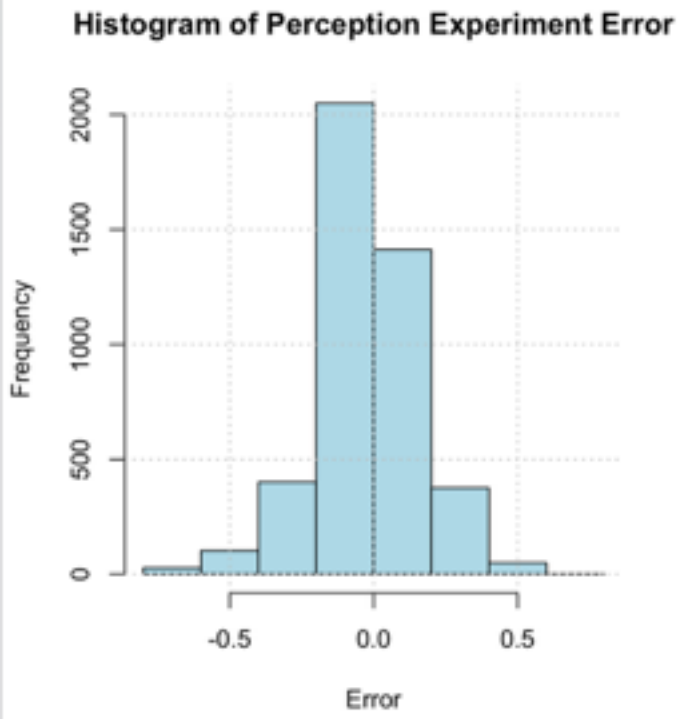
ggplot(data=intelSub2,aes(x=Month,y=Volume))+stat_summary(fun.y=sum,geom = "bar")+ggtitle("Intel Stock Volumes Histogram by Month")

d) Scatterplot of Volume versus price range

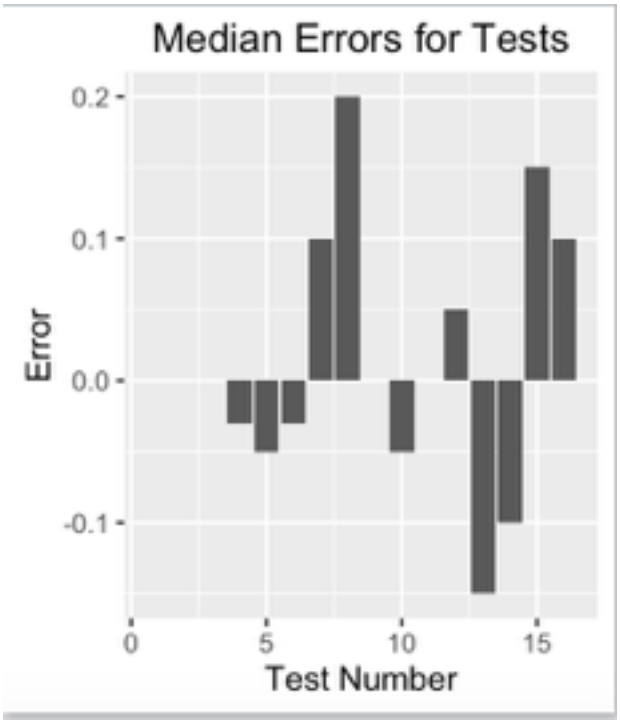


2) Perception Experiment Data

a) Histogram of distribution of errors

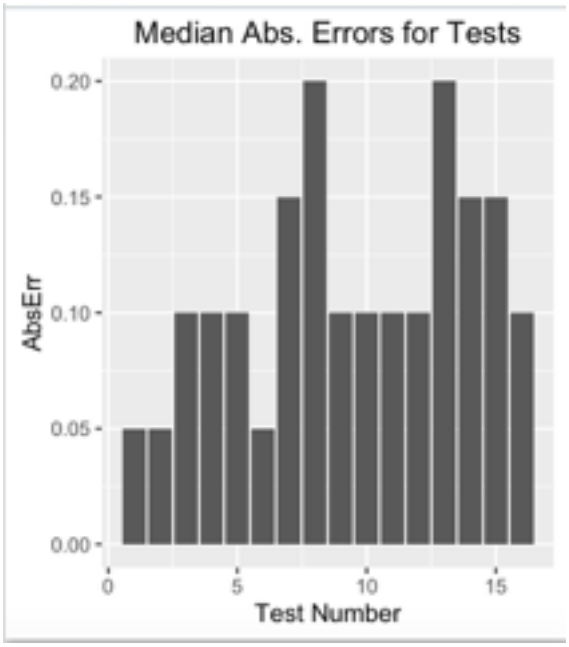


b) Bar graph of the median



c) Bar graph of standard deviation of the error

d) Bar graph of abs. median errors

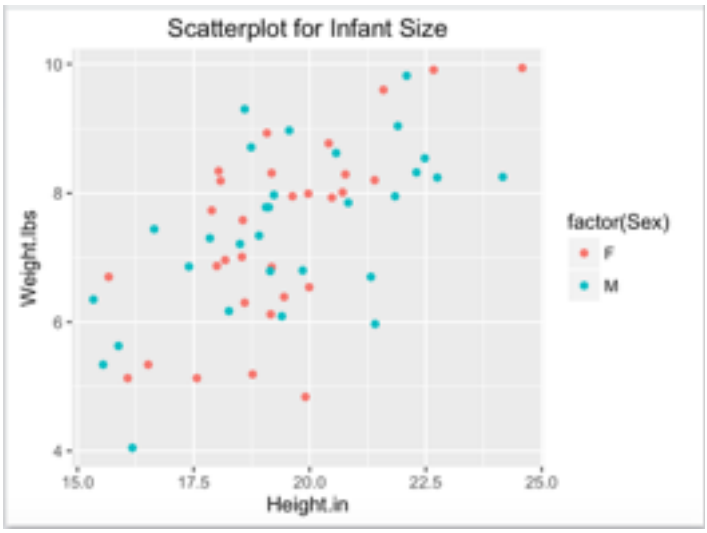


e) Evaluation of results of above graphs

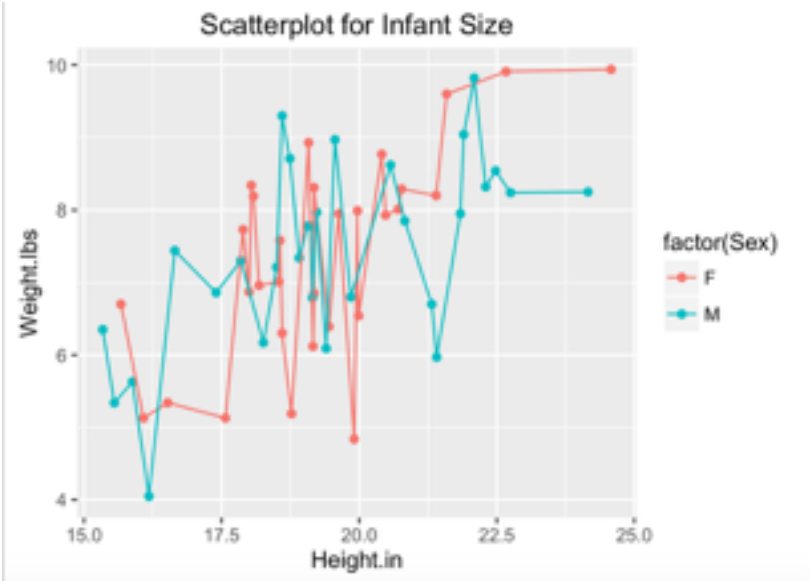
Looking at graph a, the error for the perception experiment appears to be normally distributed. Looking at graph b, we can see that tests 1,2,3,9,11 have median error of zero and thus the tests had the easiest visuals to interpret. Test 8 had the largest median error. As seen in graph c, test 8 had the most variation in response.

3) Infant Data

a) Scatterplot of length (x) by weight (y) with differentiation in gender



b) Scatterplot of length, weight and gender with trend lines as well as points/

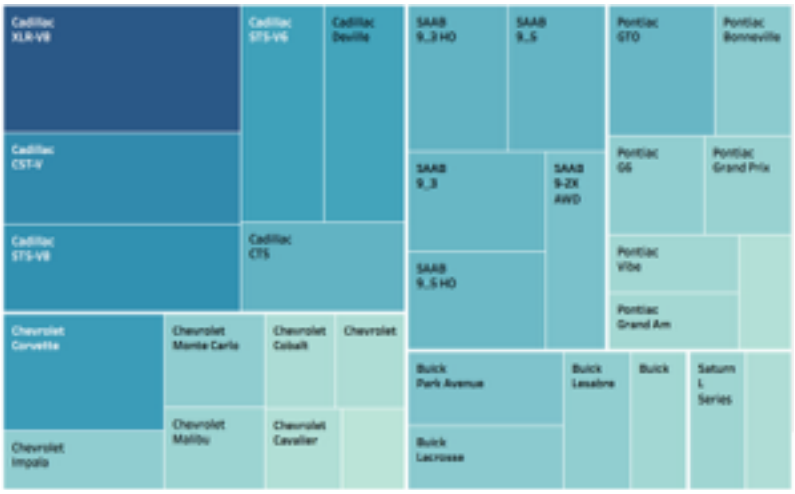


c) Explanation of choices for above graph

For these graphs, I used color to differentiate sex. This way, we can easily see the way height and weight differ by gender. Its easiest to see the difference between the sexes at the upper right and lower left corners of the graphs, as there are many muddled responses in the middle. Depending on the needs for the graph, I would consider stretching the graph a little larger/ making the trend lines a little thinner so one can more easily see the trendiness in the center.

4) GmCars dataset using Tableau

a) A tree-map based on price with a main subdivision from the make of the car and a minor subdivision based on the model.



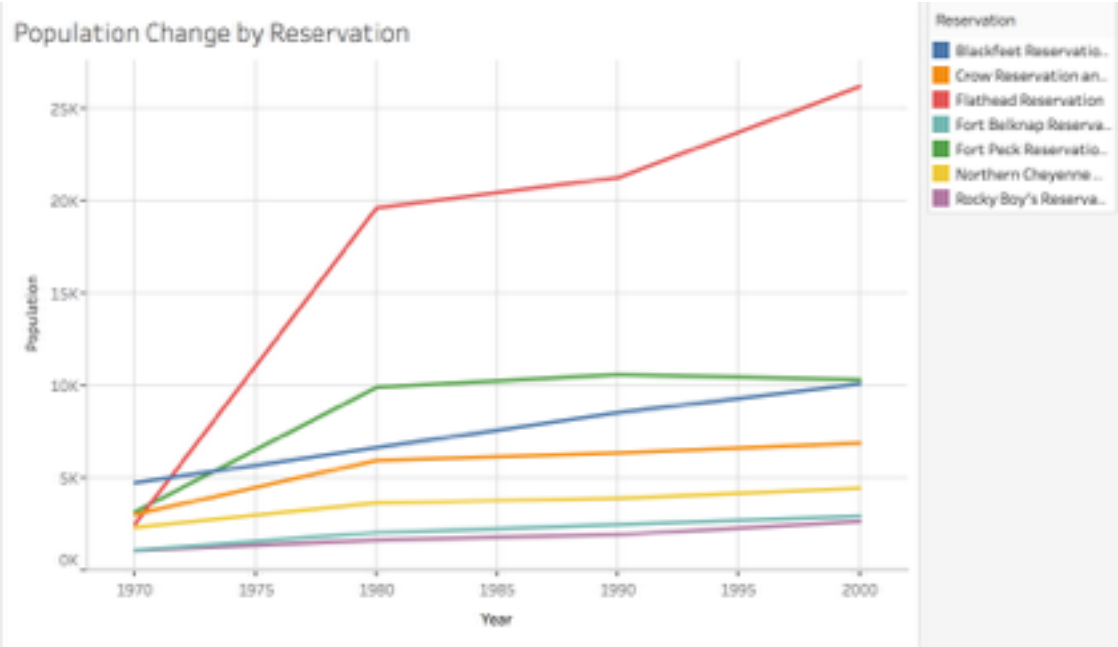
b) Bubble chart

c) Discussion of differences between the graphs, including one thing each graph displays better than the other

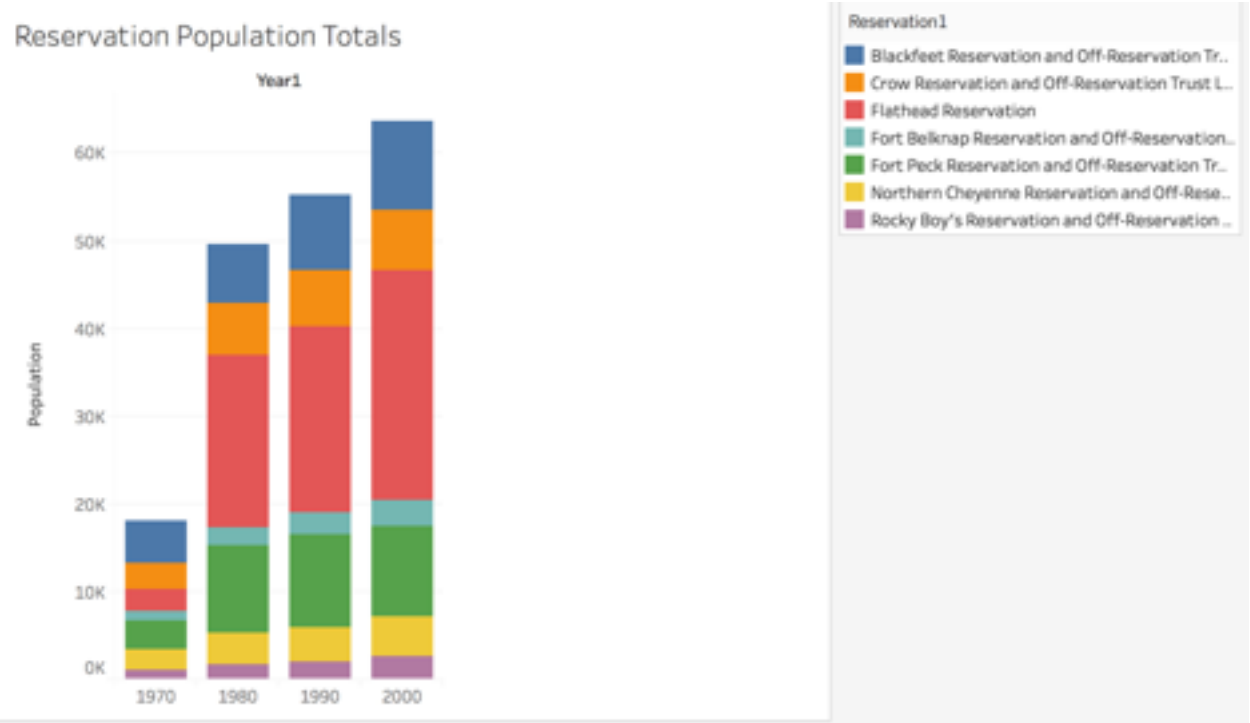
These graphs both use area to indicate price. The bubble chart uses color to distinguish make, whereas the tree map grouped the responses together by make. The tree map is best at showing the price differences because comparing the areas of aligned rectangles is much easier than comparing the areas of circles. The bubble chart is best at including the model of the cars, because it allowed me to force the text on to the bubbles despite their size. The tree map would not allow me to force text on to the rectangles.

5) Montana Native American Reservation Populations

a) Chart that graphs the population growth over the years for the individual reservations.



b) Chart that graphs the total **reservation** population subdivided among the different reservations for each year.



c) Chart that graphs the population distribution for each reservation with a box- and-whisker plot.