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Term Project Summary

Gun violence is has become a controversial topic for discussion in the most recent years, by analyzing data from a firearm background check, cvs file, there can be insightful information for civilians. 5 important variables within the data set that are used in the analysis are permits, permit rechecks, handguns, long guns, and lastly, other guns. The data set has monthly updated values for every state from march of 2023 to November of 1998. All the variables are integers of the cumulative count of the variable name within that value’s designated month, year and state, The variables begin within the data set with large values but as it moves down to older years, the values decrease rapidly, they also all have some outliers that have an abnormal distance from the rest of the data. Permit For the outliers, an efficient way to remove them would be to replace them with the mean of the variable, on the other hand, for other guns I would remove the empty zeros from the set but also accounting for that missing data would allow the data to present patterns quicker. I would have added a totals for the analysis to be able to compare the total amount of firearms which would account for handguns, long guns, and other guns. While performing a pmf comparison, I would further investigate the difference but from the pmf it is evident that the biggest difference is at the start of the data which is the most present month. A challenge I faced was during my hypothesis testing of my null hypothesis, there is a positive correlation between permits in a state and the number of handguns owned by the public. ​After performing a pearson correlation test the result was a P value of 0, this means the effect of the other variable isn't strong and they are likely not affected by one another.​ However, the test was testing handguns and permits that had a positive correlation, this information made me confused about my hypothesis test results. My EDA had a great outcome with positive and negative correlations, demonstrating that permits are positively correlated to handguns which is great that people actually have permits for their firearms.