Computing Assignment 5

Due Wednesday, March 1, before class.

The Assignment

Go to the course webpage and save the `guns` data file to your `data` folder.

This data set has the following variables:

- `state`: the full name of the state.
- `state_abbr`: the state's two-letter abbreviation.
- `firearm_death_rate`: the (age-adjusted) death rate due to firearms per 100,000 in 2014. Suicides, accidental deaths, and homicides are included in this category, if the death was causes by a gun.
- `homicide_death_rate`: the (age-adjusted) death rate due to homicide per 100,000 in 2014. These homicides do not necessarily involve firearms.
- `total_points`: the measure of gun control laws in a state in 2013 by the Brady Campaign. Higher values indicate more gun control. Their score sheet is available on the course webpage.
- 38 other variables that are the components of `total_points`.

Write an R script that does the following, thoroughly commenting your code along the way:

1. Completes any prerequisites for the actions below, such as setting the working directory, loading needed packages, and loading the `guns` data.
2. Create a scatterplot of and calculate the correlation between `total_points` and `firearm_death_rate`. In a comment, briefly interpret the correlation and scatterplot.
3. Create a scatterplot of and calculate the correlation between `total_points` and `homicide_death_rate`. In a comment, briefly interpret the correlation and scatterplot.
4. In a comment, compare the two correlations and/or scatterplots above. Which is relevant for policy? How does this change your views, if at all?
5. Plot a correlation matrix using `ggcorrplot()` after creating a data frame that excludes the variables `state` and `state_abbr` (the only two non-numeric variables in the guns data set). Comment briefly and generally on how the components relate to the two death rates.

Compile a report and submit the report via eCampus using the usual process. If you have any questions about the process, earlier assignments provide a more complete description of the process.

I expect you to submit the assignment on eCampus *before* class. However, I have given you until noon in case you encounter technical difficulties.