POLS/COMS228 – Data Visualisation

HW 1

You will submit your homework as 3 files: 1) an R Script (.R) file, 2) an R Markdown (.Rmd) file and 3) HTML file knitted from your R Markdown file. You must upload both files to AKO|LEARN using Xxx.R, Xxx.Rmd and Xxx.html as file names where Xxx is your last name.

I will review all your files. To receive full credit:

- You must submit your files on time. They must be named exactly as specified, and your .Rmd file must knit without errors to produce a .html file. Double check your file for errors before submitting.
- The .html file should read as a well written report with plots and your comments and answers included in the file. Your report should not contain any extra or foreign material, such as leftovers from code or notes.
- The R code in your .R and .Rmd files must be clear, readable, and well organized.

1. R Script

Create a new R script file. At the top of your file add information about the file, including at minimum your name, date, and the purpose of the file.

In your R Script, write a code to create a vector `my_numbers` containing the following numbers: 3, 65, 83, 23, 1, 2, 5, 45. Create a new vector that contains values from my_numbers multiplied by 10. Compute means of both vectors.

Save your file and name it as specified above.

2. New Zealand population in 2000

Create a new R Markdown file. Using the New Zealand population dataset provided with this HW assignment and following the example from Tutorial 1, plot a bar chart of New Zealand population data in 2020, by region. Use classic theme `theme_classic()`. Provide meaningful axes labels and a title for your graph.

Which region has the 4^{th} highest population? Provide the answer under the graph. Report all your work (echo = TRUE) and comment your code.

Replicate a bar chart from Tutorial 1 plotting NZ population in 2023 by region.

Plot the two population charts side by side. How did the population change over time? Did the population in all regions increase? Can you think of a better way to plot the data to answer these questions? Explain.

3. Guidelines for better data visualisations

Continue working in you your R Markdown file. Summarize 5 primary guidelines (2-3 sentences per guidelines) for better data visualisations outlined in Chapter 2 from “Better Data Visualizations: A Guide for Scholars, Researchers, and Wonks” by Schwabish, Jonathan A.

Save your .Rmd file. Knit your .Rmd file into .html file. Submit your R Script, R Markdown and HTML to LEARN.