Assignment 02: Data Visualization Techniques

The attached data set shows "Global CO2 Emissions vs. Life Expectancy 2016"

Instructions: ONLY USING R

1. First install R: (https://www.r-project.org/)

2. Download R 4.1.2 for Windows https://cran.r-project.org/bin/windows/base/

3. Read: Rob Kabacoff (2020). Read Data Visualization with R, https://rkabacoff.github.io/datavis/ (especially chapter 1, 2, 3, and 8)

Assignment:

1. Plot the histogram for life expectancy. Calculate the summary statistics (e.g. mean, median, mode etc.)

2. Plot the bar-plot for the "CO_2 emission vs. Country code".

3. Plot the bar-plot for the "Life expectancy vs. Country code"

4. Plot the box-plot for the "yearly change". Calculate the summary statistics (e.g. median, first quartile, third quartile, inter quartile range, min, max, and extreme values, etc.).

5. Plot the stem and leaf-plot for the "yearly change".

6. Plot the correlation-plot for the "Life expectancy vs. CO_2 emission". Find the Person's and Spearmen's rank correlation coefficients.

7. Fit a simple linear regression for the "Life expectancy vs. CO_2 emission". Calculate the two coefficients of the linear regression model. Estimate the life expectancy when CO2 emission is "20000000000".

8. Plot the correlation-plot for "CO_2 emission vs. Population". Find the Person's correlation coefficients.

9. Fit the multiple linear regression model for the Life expectancy (Y) and CO_2 emission (X_2), Population (X_2). Find the multiple linear regression model coefficients and summary statistics.

Note: Figure number and question number must be same. Each Figure should have *X* and *Y* labels. R codes for questions 1-8 must be submitted with a separate text file (SYYXXX.txt).

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Submission Instructions:

1. You should use Font type: Times New Romans, Font size: 12, line spacing: 1.5.
2. Only PDF files (with the SYYXXX.PDF) are accepted.
3. 10% marks will be reduced for those who do not follow any of the instructions from 1-3.
4. Copy and paste assignments get maximum 40 marks.
5. Sent your assignment only: sarangaamila@gmail.com.
6. Submit on or before 22th Nov. 2021. Excuses are accepted. However, 10% marks will be reduced for all type of delayed submission.