Technical Programming II

Practical 5: Plotting with Pandas and Seaborn

Download and extract (unzip) the Practical_5 folder. It contains the datasets as well as an empty notebook file named `Practical_5.ipynb` to be used in the completion of this practical.

For submission, compress (zip) the Practical_5 folder and upload it to the learn site. Make sure to do a complete submission and not a draft as these will be ignored.

Make sure you upload the correct file. No additional submissions will be granted.

Questions

Questions 1 through 7 are all Pandas plots.

1. Use the wide data (`mortality_wide.pkl`) to create a line plot for just the data in the 15-19 age group. Include a title "**Mortality Data for Age Group 15 to 19 Years**" and remove the legend.
2. Use the wide data to create an area plot for all age groups and reverse the order of the items in the legend.
3. Use the long data to create a bar plot to show the mortality rate for all age groups for the years 1900, 1950 and 2000. Provide an appropriate title and rotate the x-axes labels by 45 degrees.
4. Use the long data to create a histogram that shows the frequency of the death rates using 15 bins.
5. Use the long data to create a density plot that shows the distribution of the death rates the year 1980. Include a title and grids in the plot to make the diagram easier to read.
6. Use the long data to create a pie plot that shows the sum of the death rates for the years 1900, 1925, 1950, 1975 and 2000.
7. Create a plot with four subplots in two rows and two columns. The subplots should be horizontal bar charts that show the child mortality rates for each age group for the years 1900, 1925, 1950, 1975 and 2000.

Questions 8 to the end are all Seaborn plots.

8. Create a vertical bar plot that shows the death rates for all age groups in the years 1900, 1950, and 2000. Set the aspect ratio to 1.8.
9. Use the same data you used for Question 8 but create a subplot for the years displayed in a single column.

10. Use a specific method to draw a line plot for the data in the 15 to 19 age group. Include and appropriate title and change the y-axis label to “Deaths per 100000 of population”.
11. Create a line plot that shows that death rates by age group for the years 1950 to 2000.
12. Create a scatter plot ta uses the same data as Question 11.
13. Create a plot that contains four bar subplots that display the death rates by age group for the years 1900, 1925, 1950, 1975 and 2000. Display two subplots in two rows. Add a title to the plot and set the y-axis label to “Deaths per 100000”. Save the plot to a file named Question13.png in the same folder a the notebook file.

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