

1. **Daily Python:** Working with arrays and dataframes.

- (a) Execute the cells in the Colab notebook to see how dataframes are created and modified.
- (b) Create two dataframes so that their `outer` merge has 5 rows and their `inner` merge has 4 rows.

2. **Main task 1:** Continuing with last week's *choropleth* maps.

- (a) Download the world map files and execute the code from the Google Colab document.
- (b) For each of the three maps (forest, pollution, population), choose a colormap that you think goes well with each data set.
 - List of colormaps: matplotlib.org
 - Each color map can be reversed by putting `_r` at the end (for example `viridis_r`).
- (c) Modify the map of Europe so that:
 - the labels on the colorbar are in millions
 - the names of four different countries are labeled
- (d) Modify the map of the Baltics so that:
 - the labels on the colorbar are in millions
 - each country has its population, in millions, labeled

Submit your plots in ORTUS.

3. **Main task 2:** Next we talk about *time series*.

- (a) Generate random data as in the Google Colab notebook.
- (b) Plot the result as a line graph.
- (c) Create a new line graph that is the average of the past 5 values.

Submit your plot in ORTUS.