## Task description

Yours task is to read the datafile you are given into a pandas dataframe and follow the instructions.

* Read in the data into a pandas dataframe.
* Display the usual basic information (datatypes, names, non-null values for columns) about the dataframe.
* Display the dataframe.
* Find out what values occur under "Indicator Name".
* Set the name of the columns to the only value you found under „Indicator Name” (the columns and their labels remain the same!). (Apply the operation to your dataframe!)
* Create a new dataframe dfcode which contains the "Country Code" and "Country Name" columns of your original dataframe. You will continue working with your original dataframe, in what follows, though.
* Remove the "Country Code", "Indicator Name", "Indicator Code" columns. (Apply the operation to your dataframe!)
* Make the column "Country Name" the index of your dataframe. (Apply the operation to your dataframe!)
* Get rid of columns which contain no values. (Apply the operation to your dataframe!)
* Display the basic statistics by year, incl. minimal, maximal, mean, median, standard deviation values. (Make sure you display these values for all the years!)
* What can you conclude from the yearly descriptives? Answer in a markdown cell.
* Display the basic statistics by country, incl. minimal, maximal, mean, median, standard deviation values. (Make sure you display these values for all the countries!)
* Display the basic statistics of your previous by country-statistics (i.e., the mean of country means, etc.).
* Display the first thirty rows of your original dataframe after sorting by the values for the last year in descending order. (Do not apply sorting to your original dataframe, just display!)
* What are some of the conclusions you can draw from the data you displayed (e.g., about the "countries" in the data)?
* Calculate the difference between the (0-filled) values for the **years 2010 and 2000** by country, sort it in a **descending** order, and display the **first 30 rows**. What are some of the conclusions you could draw from what you see?
* Display the **mean** values by year as a percentage of the **maximal** values for that year (e.g., if the mean value for 1965 were 200, and the maximal for 1965 were 400, then for 1965, you should be displaying 50).
* Display the countries (not the subdataframe, just the countries!) where the values for all years are missing.
* Display the subdataframe with the countries whose final year's values are bigger than the **final** year values' mean.
* Load the "capital.json" file, and arrive at a dataframe capitaldf containing the **name, capital, iso2, iso3** information (these three should end up as the columns) for every country in it.
* Find the subdataframe of the dfcode dataframe you created earlier on where the "Country Code" value is not in the "iso3" column of capitaldf. Hint: look up and use the .isin pandas Series method. Store this subdataframe in the variable dfnocode. Display dfnocode and explain in a markdown cell what you see and what this could be used for.
* Now display the subdataframe of your main dataframe with the yearly data where the index (the Country Name) is **not** in the "Country Name" column of dfnocode.