

7PAM2000 Applied Data Science 1

Assignment 1: Visualisation

Your task is to apply three types of visualisation methods (graphs) to extract meaningful information. Find below a link list for good sources of data, but you are welcome to find other sources. Please check the quality. Some data sets can be quite messy and are better avoided at this stage.

1. Produce a line plot showing multiple lines with proper labels and legend. Describe what conclusions you can draw from this plot.
2. Produce graphs using two other visualisation methods. Explain why you picked this type of graph and describe what conclusions you can draw.

The graphs should be produced using `pyplot` functions. Data should be read using `pandas`. The code should make good use of functions. The minimum expected would be one for each visualisation method. Best, if you write the functions in a generalised way so that they can be used more than once. Do not forget to put a short explanatory docstring at the beginning of the function (see bootcamp or <https://docs.python.org/3.10/tutorial/controlflow.html#defining-functions>).

Marks will be awarded for

- Appropriate use of visualisation techniques and quality of figures (e.g. legibility, proper labelling).
- The quality of your explanations and descriptions.
- Code quality. Follow the guidelines in the good style guide.
- Use of your repository, best repeat commitments. (How to use a repo is explained in the Lecture and in the Practical 4 video.)

What to submit?

- A word document containing the graphs and your explanations. Include a link to your data source(es).
- Your code.
- A link to your github repo or a zip file of your local repo.
- **Do not** upload the data. The link suffices.

Useful data sources

Government: <https://data.gov.uk>

MET Office: <https://www.metoffice.gov.uk/research/climate/maps-and-data/data/index>

World Bank Open Data: <https://data.worldbank.org>

WHO Global Health Observatory: <https://www.who.int/data/gho>

Google Public Data Explorer: <https://www.google.com/publicdata/directory>

FiveThirtyEight: <https://data.fivethirtyeight.com>