ECAM
BRUSSELS ENGINEERING SCHOOL

Winter 2020
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NC301μ Introduction to Numerical Computing with SciPy

Coding 2: Presenting data

This assessment evaluates the following competencies:

- *NC101 – Understand what is numerical computing* *(+1)*
- *PP401 – Use Numpy to represent multidimensional arrays and perform operations with them (+1)*
- *PP411 – Draw a simple plot representing data with Matplotlib* *(+2)*

In this coding assessment, you have to use the *Matplotlib* module to draw a plot to visualise data. You have to use a dataset from the *The Belgian Open Data Initiative* portal (https://data.gov.be/en). For example, you may want to plot the evolution of the number of accidents in 2018 [1] with time.

To succeed the assessment, you have to:

1. Select a dataset and imagine the visualisation you want to build from it (line plot, scatter, histogram, etc.)
2. Write and test a program that reads the dataset and create the plot with Matplotlib.
3. Explain to the teacher how you designed your code and make a demonstration.

Please take care of the visual appearance of your plots and do not forget to add a title, the names of the axis, a legend, and any other element that helps to make your plot better.

Note that to open and read the dataset, you can often use an existing Python library. For example, use `csv` module to read CSV files, the `openpyxl` module to read XLS and XLSX files and the `pyexcel-ods3` module to read ODS files.

[1] Dataset available here: https://data.gov.be/en/dataset/1a96d0dd968a00ce2cacaf223f4b14493803f6e5.