BITL1

Lab 1

4 January 2022

Introduction to Visualization

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1. Get Python on your computer. Some interactive Python suggestions:
   (a) Google Colab: `colab.research.google.com`
   (b) Jupyter: `jupyter.org`

2. Open the files on ORTUS in Python:
   (a) `csv` file with headers
   (b) `csv` file without headers
   (c) `numpy` array
   (d) `pandas` dataframe

3. Plot the four files in a single image using `matplotlib`, following the template `ipynb` file. Use `subplots` to arrange the plots in one row, four columns.
   (a) Plot the `csv` file with headers using `plot`, with the first column on the horizontal axis. Include the `label` key and the legend, using the headers of the second, third and fourth columns.
   (b) Plot the `csv` file without headers using `scatter`.
   (c) Plot the `numpy` array using `hist` (a histogram).
   (d) Plot the `pandas` dataframe using `bar`. For each column in the dataframe, darw two bars, one showing the maximum value, and one showing the average value.
   (e) Submit the resulting image in ORTUS.