

### Introduction.

1. Network credentials: `Laboratorium-IoT` /
2. Github repository - [github.com/tocet/prog\\_devices](https://github.com/tocet/prog_devices)

**Ex 1.** Introduction to plotting - `pd_ex03_plot.zip`. Required libraries:

- *matplotlib* - [matplotlib.org](https://matplotlib.org)
- *seaborn* - [seaborn.pydata.org](https://seaborn.pydata.org)
- *bokeh* - [bokeh.org](https://bokeh.org)
- *tensorflow*

**Ex 2.** How to work with files - `pd_ex03_files.zip`.

**Task 3.** Application with graphical user interface for displaying data from csv files:

- (0.1 points) all descriptions on the interface should be configurable in the json configuration file;
- (0.1 points) displaying data from a user-specified csv file on a chart;
- (0.1 points) ability to load axis descriptions, units, chart title and data from a json file;
- (0.1 points) ability to select the chart type (at least 5 options);
- (0.2 points) buttons to move a marker in the chart;
- (0.1 points) display marker coordinates;
- (0.1 points) display marker coordinates on a chart next to the marker;
- (0.2 points) adding and removing points on the chart from the user interface

**For those interested:**

1. Benefits of Bokeh over Python visualization libraries like Seaborn, Matplotlib & Plotly:

[holypython.com/benefits-of-bokeh-over-python-visualization-libraries-like-seaborn-matplotlib-plotly-2/?utm\\_content=cmp-true](https://holypython.com/benefits-of-bokeh-over-python-visualization-libraries-like-seaborn-matplotlib-plotly-2/?utm_content=cmp-true)

2. Introducing Plotly AI:

[plotly.com](https://plotly.com)

3. Data Visualization in Python with matplotlib, Seaborn, and Bokeh:

[machinelearningmastery.com/data-visualization-in-python-with-matplotlib-seaborn-and-bokeh/](https://machinelearningmastery.com/data-visualization-in-python-with-matplotlib-seaborn-and-bokeh/)