Lab week 1 – Setup and Introduction

The practical exercises 1-7 are **optional** and will not be graded, they are however part of the exam material and preparation for the graded final assignment 8 and therefore strongly **recommended**.

Every lab assignment consists of several programming and insight exercises/questions. Practicing these assignments, both through programming and answering insight questions, will lead to deepening your knowledge and prepares you for the exam.

For all lab exercises we provide weekly **support and feedback** during the **shared lab sessions.** Follow the exercises in the notebooks either on your own or with a fellow student. The answers to these exercises will not be provided.

The exercises are written in Python 3 and provided in Jupyter Notebooks. **Lab 1** helps you to install all necessary software and introduces you to Python and Numpy.

We advise you to first download and install conda, the package manager. Visit the conda website and choose either Anaconda or Miniconda (read about the differences here). The main difference is that Anaconda contains everything you need and more (including a gui), and will therefore take up more space than strictly necessary. Miniconda is the bare-bones variant of Anaconda and will take up less space on your system, but you will need to do more tweaking to get things up and running. We recommend Anaconda, as you will be able to get started more easily.

Follow the regular installation steps for your operating system. Python 3 is included with both Anaconda3 and Miniconda3.

If you choose Anaconda, Jupyter Notebook and Numpy are automatically included.

If you choose Miniconda, you must install Jupyter Notebook and Numpy through the console:

```
$ conda install jupyter notebook

$ conda install numpy
```

Now you can run Jupyter Notebook to open the assignment files from Brightspace. You can start Jupyter from the Anaconda Prompt, by running the following command:

```
$ jupyter notebook
```

This will start a jupyter notebook server with the current directory (in your console) as the root folder. If you want to open your folder with assignments with jupyter directly, you can change directories before you run the command:

```
$ cd /path/to/assignments/lab1/

$ jupyter notebook
```

For more information on running code in Jupyter Notebook, read here.