Exercise Sheet 0

for the lecture on

Advanced Programming and Algorithms

—no submission—
Discussion in the exercise classes on 14th and 18th October, 2024.

Problem 1: *Install and set up your Python environment*

If you are familiar with python and know what to do with the requirements and `spec-file.txt` in ILIAS, you may skip some or all steps of the following.

a) Install Anaconda:

You can, e.g., proceed as follows.

- Download `Anaconda` from the official website `https://www.anaconda.com/products/individual`
- Depending on your operation system, follow the instructions, e.g., here: `https://docs.anaconda.com/anaconda/install/`

b) Set up your environment:

- Deactivate the automatic activation of the base environment

```
1    $ conda config --set auto_activate_base false
```

- Download the file `spec-file.txt` from ILIAS.
- Create an environment for this course, e.g., with the name `apalg` and activate it.

```
2    $ conda create --name APAlg --file spec-file.txt
3    $ conda activate APAlg
```

Your terminal lines should now start with (`APAlg`).

- In order to leave the environment later, you can deactivate it.

```
4    $ conda deactivate
```

c) Try out a jupyter notebook.

```
5    $ jupyter notebook
```

You should now be able to work in your browser (`http://localhost:8888/`) on files with the extension `.ipynb` in your file system. You can, e.g., start with the notebook `lecture01_basics.ipynb` from Lecture 1.

Problem 2 for discussion: *Different Approaches to the Same Problem*

tba

Problem 3 for discussion: *Learning Sheet*

Starting from the beginning and continuing throughout the course, you are invited to create a *learning sheet.* This can have any format, digital or handwritten. It can be helpful to extend the sheet as a summary regularly, e.g., after each learning session (lecture, exercise group, self study, etc.):

- What did I find most surprising to learn today?

- What algorithmic fact do I want to remember?

- What Python syntax do I want to be able to look up quickly in a few weeks?

- What haven't I understood, yet, or want to learn in more detail?

Try to be as concise as possible. Of course, it can be extended or updated throughout the learning process as you revisit earlier contents.

Hint: In the final exam (after the summer course) two double-sided DIN-A4 paper pages are allowed to bring with you.