

Data Science and Scientific Computing  
Instructions for homework submission  
Segment 1

The goal of the homework assignments is to try to implement the methods discussed in lectures yourself. You are free to use any programming language that you are familiar with. It should allow you to handle data in an efficient manner.

**Your tasks:**

1. Understand the problems and data for the given exercises.
2. Plot the data in a tidy manner. It is crucial to properly label the axes, captions, titles (if necessary), and used symbols.
3. Comment on the insights that you gained from the accomplished task. Describe what is in the plots and interpret the result. Finish the report with some concluding insights.
4. You should submit your report as a single PDF file in Moodle. Use the following convention for naming the PDF file: “*DSSC23-XYZ-firstname\_lastname*” where “XYZ” are the sequential numbers of the homework as labelled in the notes. Each submission will contain multiple homeworks from the notes.
5. Sometimes the programmed procedures do not lead to the expected result. We ask that you upload your code with your homework (as a .zip file). This allows us to see whether the results that are different-than-expected stem from a simple oversight in the code syntax or a conceptual issue. We will not debug the code.
6. You should submit your report before the lecture on Monday next week unless communicated otherwise.

There is no need to submit a lengthy document, as long as you describe your findings clearly and completely.

We highly encourage you to implement functions needed for analysis yourself instead of using functions from libraries like NumPy / sklearn / linpack.

Science is a collaborative effort: you are encouraged to discuss the solutions with your peers. You should, however, implement the code and comment on the findings yourself.

We will discuss the solutions during the recitations. We will ask the participants to present parts of their solutions to interpret the findings. Everyone should expect to be asked to do so at least once.

Please, let us know if you find yourself under severe time constraints - we will take this into account.

You need to submit all the homework assignments.

We are available for consultation; feel free to reach out to us! We will arrange a meeting and try to sort things out. Send us an email with a brief description of your problem, so we can look into it beforehand.

TAs:

Katya: [Ekaterina.Maksimova@ist.ac.at](mailto:Ekaterina.Maksimova@ist.ac.at)

Reka: [Reka.Borbely@ist.ac.at](mailto:Reka.Borbely@ist.ac.at)