

Sample Lecture · Problem Sheet 1

New macros and environments

To be handed in by Wed, 14 Dec, 12:00 in the lecture.

This document is created with the package `exercise.sty`. It provides the following macros to create a custom document header and title using `\maketitle`:

- `\setlogo{}` to choose the logo used.
- `\setlecture{}` and `\setterm{}` to specify the associated lecture.
- × `\setprof{}`, `\setstaff{}`, and `\setchair{}` to specify involved persons.
- `\setsheetnumber{}`, `\setcontents{}` to give information about the sheet.
- `\setsubmissiontime{}`, `\setsubmissiondate{}` to specify the submission.

All macros are optional. Those listed under × are intended for possible repeated use: each usage appends the corresponding content separated by commas. It is advisable to `\input` unvarying information from a separate `.tex`-file to save time and ensure consistency across the sheets. The sheet number can be retrieved automatically from the file name by `retrieve-sheetnumber.tex`, if `LuaATeX` and a naming convention like `sheet_01.tex` or `12sheet.tex` (where the only digits correspond to the sheet number) is used. Leading zeros thereby are ignored.

Furthermore, new environments are provided for problems and solutions, which are shown and explained below. The language used (English by default) can be changed to German by `\setcourselanguage{german}`. Other languages can be added by adopting lines 34 to 43 of `exercise.sty`.

Problem 1. (The problem environment)

4 points

The problem environment is invoked by

```
\begin{problem}[<points>][<description>] ... \end{problem}.
```

Both `<points>` and `<description>` are optional.

Solution. The solution environment is invoked by

```
\begin{solution} ... \end{solution}.
```

The contents of `solution` environments are only visible, if `exercise.sty` is loaded with the option `solution`. ✓

Bonus problem.

3 points

Finally there is also an environment for bonus problems, which behaves exactly like `problem` except for the numbering.