This document aims to provide an overview for the usage of the `worksheet` package. The goal of the package is to simplify the creation of optically pleasing worksheets and class tests used in school environments.

Please note that the code is still in development and subject to – possibly breaking – changes.

Document header

The header of the document uses the default LATEX command `\maketitle`. However, the commands used to add information to the header vary from the defaults:

`\author`: Used to set the name of the teacher, such as "John Doe"

`\date`: Mainly used for class tests, used to add a date to the document

`\title`: The topic of the worksheet – generally, the title of the document

`\subject`: Used to set the subject of the class, for example "Mathematics"

`\class`: The name of the class, such as 9a) or BG11

All of the above arguments can be left empty.

The document header can be generated using `\maketitle`. When creating a class test, the additional command `\testheader[points]{remarks}` can be used to append a grading template to the header. The optional argument `points` can be used to specify the maximum amount of points that can be attained. In `remarks`, additional information about the test can be specified, such as available time or permitted aids.

Tasks

A key part of worksheets or class tests are the tasks. This package provides several commands for that:

`\singletask`: A task to be completed alone

`\partnertask`: A task to be done in pairs (not in groups!)

`\grouptask`: A task to be done in groups of multiple students

`\bonustask`: An additional task that can be done by fast or strong students, but doesn't have to

`\testtask`: For tasks in class tests

The only difference between the different task types is the icon generated along them.

All task commands follow the same pattern: `\tasktype[points]{title}`. The optional value provided in `points` can be used to add points to class tests, but also to add a time (or any text, for that matter) to a task.

Each task command also comes with a starred version (e.g. `\singletask*`), with the difference being that starred tasks won't be enumerated. Note that the counter also won't be incremented in that case.

Writing areas

In many cases, tasks are supposed to be completed right on the worksheet or class test paper itself. For that reason, space has to be provided for students to write or draw on. Currently, the following frequent types of writing areas are provided:

`\lines`: Basic lines spaced 1cm apart to give textual answers
`\checkered`: A checkered area for graphing, technical drawings or the like
`\boxarea`: A free-form box, usable for drawings, diagrams or anything else

All of the commands follow the pattern `\areatype[length]`. The optional parameter `length` can be used to specify the vertical length of the area. Lines will get clipped in 1cm steps and checkered areas to 5mm steps, while box areas can have any length. In case no length is provided, the default length for writing areas is 4cm. All areas span have the width of `\textwidth`.

Hints and warnings

When creating information material, it is often useful to highlight certain things. There are currently the following options for that:

`\hint`: Hints for solving tasks or helpful information. Denoted by a lightbulb icon
`\warning`: Warnings and important alerts. Denoted by an exclamation mark

Again, the commands follow the same pattern: `\command{title}{body}`. `title` will be printed in the first line next to the icon in bold text. The content of `body` is the text displayed inside of the box.

Environments specific to computer science

There is a wide spectrum of LaTeX packages for the various use cases of computer science. Although one of the paradigms of this package is to remain as minimal as possible, certain packages are included in order to add sensible defaults. The following list is supposed to show an overview of what is possible:

1. **Code listings**. The widespread package `listings`[1] provides many useful options for code listings. Certain options, such as colors, line numbers and the like are set to default values by this package in order to blend in nicely with the rest of the document.
2. **UML diagrams**. UML diagrams can be drawn with TikZ using the `pgf-umlcd`[2] package.

Environments specific to mathematics

Of course, LaTeX already has great support for mathematical expressions out of the box. This functionality can be greatly expanded by the use of packages. Again, the following list only shows excerpts of what is possible:

1. **Vector-based graphics**. Instead of using image files, it is often preferable to use well-scaling vector-based graphics. In LaTeX, this can be achieved using TikZ & PGF[3]. The base functionality can also be expanded, for example for geometry purposes using `tkz-euclide`[4].
2. **Plotting**. To create TikZ-based plots, the package `pgfplots`[5] can be used. The `worksheet` package already creates some sensible defaults for plots, but it is often necessary to adjust them. Also, the additional environment `checkeredfigure` can be used to create TikZ graphics in front of a checkered background.

Language support

Currently supported languages are german and english. The package checks for the loaded `babel` class and translates accordingly in the necessary regions. If the language is not recognized, it defaults to english.

---

[1] https://ctan.org/pkg/listings
[2] https://ctan.org/pkg/pgf-umlcd
[3] https://www.ctan.org/pkg/tikz
[4] https://www.ctan.org/pkg/tkz-euclide
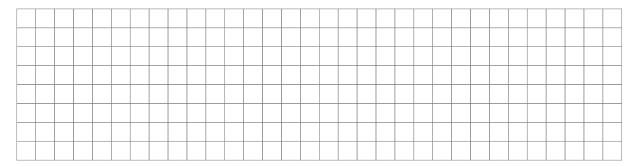[5] https://www.ctan.org/pkg/pgfplots

| **Name**: | | **Oral Grade**: |
| **Points achieved**: | / 60 | **Grade**: |

Additional information for the class test go here.
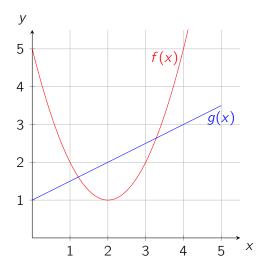
👤 Task 1: Lorem ipsum

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

👥 Task 2: Dolor sit amet

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

y

$f(x)$

$g(x)$

5

4

3

2

1

1 2 3 4 5 x

$$\int_1^3 f(x)dx = \ldots?$$

👥 Task 3: consecetuer adipiscing elit

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui

cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

⚠ **Warning: Ut purus elit, vestibulum ut**

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

👤 No task enumeration

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

⊕ Bonus task 4: An additional task

💡 **Hint**

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

⊙ **Task 5: A class test task with additional points awarded** (1+2+3 Punkte)

```
1  sum = 0
2  for i in range(0,10):
3      sum += i #this is a comment
4  print('The sum is ' + sum)
```

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

SuperClass
+attribute1: String
-attribute2: int
+operation(param1: int)

SubClass1		**SubClass2**
+attribute3: bool		+attribute4: float
+operation2()		+operation3(param1: String)