

The `lcourse-hd` class

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Abstract

This is a small class to build working sheets for the tutorial of the course on L^AT_EX in Heidelberg, 2009 and 2010. The course is held by the author.

1 Page layout

First, we define some keys for the layout so we need `xkeyval`. Options are the number of the sheet etc. and whether the solutions should be printed or not.

```
1 \RequirePackage{xkeyval,marginnote}
2 \newif\ifsolution
3 \DeclareOptionX{ausgabe}{\today}{\def\ausgabe{#1}}
4 \DeclareOptionX{rückgabe}{XXX}{\def\rückgabe{#1}}
5 \DeclareOptionX{blatt}{XXX}{\def\blattnummer{#1}}
6 \DeclareOptionX{solution}{\solutiontrue}
7 \ProcessOptionsX
```

We use `scrartcl` for the layout, `scrpage2` for headings and footers. Maybe the `\input` will be implemented in a special way, so def a synonyme for it.

```
8 \LoadClass[headinclude,ngerman]{scrartcl}
9 \RequirePackage{
10   amsmath,
11   comment,
12   moreverb,
13   shortvrb,
14   showexpl,
15   totpages,
16   ellipsis
17 }
18 \usepackage[ngerman]{babel}
19 \RequirePackage[svgnames]{xcolor}
20 \RequirePackage[ilines]{scrpage2}
21 \RequirePackage[top = 4cm,bottom = 3cm]{geometry}
22 \frenchspacing
23 \reversemarginpar
24 \let\exinput\input
25
26 \setheadtopline{2pt}
27 \setheadsepline[text]{.7pt}
28 \setfootsepline{.7pt}
29
30 \ihead{\rm Einführung in das\\ Textsatzsystem \LaTeX}
31 \chead{Übungsblatt \blattnummer}
32 \ohead{Ausgegeben: \ausgabe\\Abgabe: \rückgabe}
```

```

33 \ofoot{Seite \thepage /\ref{TotPages}}
34 \cfoot{}
35 \ifoot{\rm Heidelberg, Sommersemester 2009}
36 \pagestyle{scrheadings}
37 %%%\setmainfont[Ligatures={Rare,Common}]{Arno Pro}
38 \AtBeginDocument{
39   \MakeShortVerb{|}\vspace*{-8mm}\setcounter{section}{\blattnummer}

```

Setup for the L^AT_EX-code in the solutions:

```

40 \lstset{%
41   backgroundcolor=\color[rgb]{.9 .9 .9},
42   basicstyle=\ttfamily\small,
43   breakindent=0em,
44   breaklines=true,
45   commentstyle=,
46   keywordstyle=,
47   identifierstyle=,
48   captionpos=b,
49   numbers=none,
50   frame=tlbr,%shadowbox,
51   pos=r,
52   rframe={single},
53   explpreset={numbers=none}
54 }
55 }

```

2 macros

Macro definitions for printing the exercises. We count the number of exercises for each sheet. So they will be numbered like 1.1, 1.2 for the first sheet, 2.1, 2.2 for the second and so on. This is not a nice solution, but the only one that works with the standard `\ref` commands.

exercise

```

56 \newcounter{excount}
57 \setcounter{excount}{1}
58
59 \define@key{exercise}{abgabe}[keine Abgabe erforderlich]{\def\abgabe{#1}}
60
61 \renewcommand*{\othersectionlevelsformat}[3]{Übung #3\autodot\enskip}
62 \newenvironment{exercise}[3]{}
63 {
64   \def\abgabe{}
65   \setkeys{exercise}{#1}
66   \def\scores{#3}
67   \subsection{
68 %     Übung \blattnummer.\theexcount:
69     #2
70     \hfill
71     \scores\ Punkte
72   }
73   \label{ex:\jobname}
74   \begin{minipage}{1.0\textwidth}

```

```

75 }
76 {
77   \end{minipage}\stepcounter{excount}\bigskip\par
78   \textit{Abgabe:} \abgabe\bigskip
79 }

```

expertexercise There will be some extra exercises for the T_EXperts. Here is their environment, with the well-known dangerous bend-sign of the T_EXbook:

```

80 \font\manual=manfnt
81 \reversemarginpar
82 \newenvironment{expertexercise}[2] []
83 {
84   \begin{exercise}[#1]{#2}
85   {\it keine}\vspace*{-.8cm}
86   \marginnote{\manual\char127\quad}
87   \vspace*{.8cm}
88 }
89 {
90   \end{exercise}
91 }

```

solution Finally, the solutions to the exercises:

```

92 \newenvironment{solutionenv}
93 {\subsection*{Lösung:}\begin{minipage}{\textwidth}}
94 {\end{minipage}}
95
96 \specialcomment{solution}{\ifsolution \begin{solutionenv}\fi}{\ifsolution \end{solutionenv}\fi}
97
98 \ifsolution \else \excludcomment{solution}\fi
99
100 \def\lcode{\bigskip\\boxedverbatim}
101 \def\endcode{\endboxedverbatim\bigskip\\}
102 \def\pkg#1{\textsf{#1}}

```

The exercises are stored in a folder for each sheet. We \input them automatically right with the following def:

```

103 \def\exinput#1{
104   \input{Aufgaben_Übung\blattnummer/#1}
105 }

```

The well-known itemize-hack from the alttex-package, a bit shortened:

```

106 \def\outside{o}
107 \def\inside{i}
108 \let\insideitemizei\outside
109 \let\insideitemizeii\outside
110 \def\altenditemize{
111   \if\altlastitem 1%
112     \let\altlastitem0%
113   \else%
114     \end{itemize}%
115     \let\insideitemizei\outside%
116   \fi%
117 }
118

```

```

119 \begingroup
120 \lccode'\~='^^M%
121 \lowercase{%
122 \endgroup
123 \def\makeenteractive{%
124 \catcode'\^^M=\active
125 \let~\altenditemize
126 }%
127 }
128
129 \catcode'\13
130 \def{%
131 \ifx\insideitemizei\inside%
132 \let\altlastitem1%
133 \expandafter\item%
134 \else%
135 \begin{itemize}%
136 \let\insideitemizei\inside%
137 \let\altlastitem1%
138 \makeenteractive%
139 \expandafter\item%
140 \fi
141 }

```