

The `alttex` package

Arno L. Trautmann*

Version 0.c 2010/01/09

This is the package `alttex` which will try to give an experimental new way to write \LaTeX ¹ code. So far it is mostly done with very dirty code and actually it's a collection of things that come into my mind during boring lectures. Maybe someone will have fun with the following code fragments.

Contents

| | | |
|-----------|--|-----------|
| I | Introduction | 2 |
| II | Implementation: <code>alttex.sty</code> | 3 |
| 1 | Textmode | 3 |
| 1.1 | no escape | 3 |
| 1.2 | tabular | 4 |
| 1.3 | excel tabulars | 4 |
| 1.4 | tabbing | 5 |
| 2 | Math stuff | 5 |
| 2.1 | braces | 5 |
| 2.2 | huge display math | 6 |
| 2.3 | unicode math | 6 |
| 2.4 | Lazy underscore and superscript | 7 |
| 2.5 | matrices | 8 |
| 3 | Lists and such things | 10 |
| 3.1 | itemize with a single character | 10 |
| 3.2 | enumerate with a single character | 12 |
| 4 | Known Bugs | 14 |

*arno.trautmann@gmx.de

¹If you don't know about \LaTeX , see the appendix.4

Part I

Introduction

The problem I have with \LaTeX ² is the antique way of typing. Because most people still use a hopelessly outdated keyboard layout («qwerty» or slightly adapted versions of that), \LaTeX doesn't make use of some cool features. I'm not talking about writing chinese or arabic text! Maybe this example will make the idea clear:

In standard \LaTeX , one has to write

This is the normal text, then comes the itemization:

```
\begin{itemize}
  \item text for first item
  \item \begin{itemize}
    \item this is an item inside an item...
    \item[$\rightarrow$] Here an item with a formula: $\int_a^b x^2 dx$
  \end{itemize}
  \item and the outer itemize goes on...
\end{itemize}
```

Using this package and having a superior keyboard layout³, you can simply write:⁴

This is the normal text, then comes the itemization:

- text for first item
- - this is an item inside an item
 - [\Rightarrow] Here an item with a formula: $\int_a^b x^2 dx$
- and the outer itemize goes on...

And your normal text goes on...

Well, actually I'm lying now because this is not fully implemented so far. But it's the aim of this package to provide this – besides many, many other funny and cool things. The aim is to offer a more „wysiwyg“ way, without loosing anything of logical markup. One still can re\define the • if he doesn't like the way his items look.

²I'll write \LaTeX instead of \XeLaTeX —saves me two keystrokes. Most of the code below *only* works with \XeLaTeX . If you need support for [utf8]inputenc or Lua \LaTeX , please contact the author.

³E. g. the ergonomic layout Neo: <http://neo-layout.org/>

⁴The lmodern font I'm using here does not have the symbol for the inner item , so we change to DejaVu Sans Mono here.

Part II

Implementation: `alttex.sty`

Ok, enough blahblah, now comes the code. We begin with preamble stuff:

```
1 \ProvidesPackage{alttex}
2 [2010/01/09 v 0.c alternative way of TeXing]
3 \RequirePackage{expl3}
4 \ExplSyntaxOn
5 \RequirePackage{amsmath}
```

Checking whether XeTeX or LuaTeX are used.

`\usepackage` Now, this is the first highlight. It is an extremely simple and stupid approach to load missing packages on-the-fly, just like MikTeX does. We re`\define` the `\usepackage` and hope, it works. Only working with `texlive`! If you're using MikTeX , put a

```
\let\usepackage\altpackage
```

into your preamble, *directly* after loading `alttex`. If this does not work, delete the following lines from your `alttex.sty`.

```
6 \cs_set_eq:NwN\alt_oldpackage:n\usepackage
7 \cs_set_eq:NwN\altusepackage:n\usepackage % to restore at document level
8 \cs_set:Npn\usepackage#1{
9   \file_if_exist:nTF{#1.sty}{
10     \alt_oldpackage:n{#1}
11   }{
12     \immediate\write18{tlmgr~install~#1}
13   }
14 }
```

So far, this code seems to be a bit buggy, but it should work anyhow.

Now load some nice packages and testing whether you're running XeLaTeX or not.

```
15 \RequirePackage{exscale}
16 \RequirePackage{hhline}
```

We need `exscale` to write really big formulae, and `ifxetex` to check whether one uses the correct engine.

1 Textmode

1.1 no escape

`\noescape` You want to write plain text. Maybe you're annoyed by always escaping characters like `_` `#` `&` `{` `}` `$` `~` and so on. `\noescape` allows you to never escape anything—except the `\`, which still might be used for `\textit{}` or so. Or maybe not... because the `{` `}` are not escaped. Have to think about this one. Maybe the `\` will be redefined to define `{` `}` by itself.

```
17 \cs_new:Npn\noescape{
18   \char_set_catcode:w\_ = 11%
19   \char_set_catcode:w\^ = 11%
```

```

20 \char_set_catcode:w\#= 11%
21 \char_set_catcode:w\&= 11%
22 %\char_set_catcode:w\{= 11%
23 %\char_set_catcode:w\}= 11%
24 \char_set_catcode:w\$= 11%
25 \char_set_catcode:w\~= 11%
26 \char_set_catcode:w\@= 11%
27 \char_set_catcode:w\%= 11
28 }

```

The `\makeatletter` is not necessary. But it fitted into this line, so I will leave it here.

`\oldescape` Of course this has to be reset when doing anything like formula, tabular etc. Maybe I will be able to change the behaviour automatically. This idea has been inspired by a discussion on the ConTeXt mailinglist.

```

29 \cs_new:Npn\oldescape{
30 \char_set_catcode:w\%= 14%
31 \char_set_catcode:w\_ = 8%
32 \char_set_catcode:w\^ = 7%
33 \char_set_catcode:w\#= 6%
34 \char_set_catcode:w\&= 4%
35 %\char_set_catcode:w\{= 1%
36 %\char_set_catcode:w\}= 2%
37 \char_set_catcode:w\$= 3%
38 \char_set_catcode:w\~= 13%
39 \makeatother%
40 }

```

1.2 tabular

The way one has to type extensive tabulars is quite complex – and the resulting code is often not easy to read. I don't have good ideas how to change this, but I'm thinking about it. Mail me any suggestions for this!

This will be the first attempt to make tabulars easier: Mostly you want an `\hline` after an `\\`. So let's try something like:

`\$ for \\ \hline` Type `\-` (an en-dash) at the end of a line, and you get an `\hline`. Type `\=` to get a double line

```

41 \cs_set:Npn\-\{\hline}
42 \cs_set:Npn\=\{\hline}

```

This is shurely not a good symbol for this purpose, but I don't have a better idea so far. At least it's a "bar", so one can guess what it should do.

1.3 excel tabulars

`\exceltabular` Often one use a program to calculate tabulars of numbers. To insert it into L^AT_EX, one has to do some work. Here we try to copy-paste the tabular from excel, Calc or any other program to a file mytabular.txt (or any other ending). Then you say `\exceltabular{mytabular}` (you do not need the ending, therefor it doesn't matter) and you get the tabular in a standard format. I will extend this to enable caption, variable number of columns, kind of rule used etc. This is just a very first test.

I will try to implement cool stuff from the `hhline`-package.

This is the definition of the command:

```
43 \cs_new:Npn\exceltabular#1{
44   \char_set_catcode:w`^^I=4\tex_relax:D
45   \alt_eolintabular:%
46   \begin{tabular}{|c|c|c|}\hline%
47   \file_input:n{#1}%
48   \end{tabular}%
49   \char_set_catcode:w`^^M=5\tex_relax:D
50 }
```

And a little helper function to make the <enter> \active. Again, thanks to the people on the mailinglists.

```
51 \cs_new:Npn\alt_linebreak:{\\hline}
52 \tex_begingroup:D
53   \tex_lccode:D`~=`^^M%
54   \tex_lowercase:D{%
55     \tex_endgroup:D
56     \cs_new:Npn\alt_eolintabular:%
57       \char_set_catcode:w`^^M=\active
58       \cs_set_eq:NwN~\alt_linebreak
59   }%
60 }
```

1.4 tabbing

This will be analog to the \exceltabular. You write your tabbing using tabs and <enter>. That's it :)

\alttabbing Not yet implemented!

2 Math stuff

2.1 braces

\newbraces Now this is something most L^AT_EX-beginners don't recognize and wonder why the
\oldbraces formula looks so ugly: The braces () do not fit to the hight of the formula. This can be achieved by putting \left and \right in front of the braces. But actually, this is annoying! In almost any case you want this behaviour, so this should be the standard. So we redefine the way braces are handled. With \newbraces the () always fit. If you prefer the normal L^AT_EX way, use \oldbraces to reset everything. This new behaviour should be extended to other characters like [{ < and so on. Maybe in some later version.

The newbraces does *not* work at the moment!

I would have never been able to implement this without the help of the mailinglist members of tex-d-l@listserv.dfn.de!

Maybe one could "temporarily hardcode" the hight of [and then use this...

The redefinition of \mathstrut is necessary when using amsmath (you will use amsmath when typesetting formulae, won't you?), because the hight of formulae is determinated by the hight of a brace. But using () as \active characters, we need another brace here. So we take [. This will probably also change. But the code is working fine for ().

```
61 \def\resetMathstrut{%
62   \setbox\z@\hbox{%
```

```

63 \mathchardef\@tempa\mathcode`\[\relax
64 \def\@tempb##1"##2##3{\the\textfont"##3\char"}%
65 \expandafter\@tempb\meaning\@tempa \relax
66 }%
67 \ht\Mathstrutbox\ht\z@ \dp\Mathstrutbox\dp\z@
68 }
69
70 {\catcode`\(\active \xdef({\left\string{}}
71 {\catcode`\)\active \xdef}{\right\string{}}
72
73 \cs_new:Npn\newbraces{
74 \char_set_mathcode:w`("8000
75 \char_set_mathcode:w`) "8000
76 }
77
78 \cs_new:Npx\oldbraces{
79 \char_set_mathcode:w`(\char_value_mathcode:w` (
80 \char_set_mathcode:w`)\char_value_mathcode:w`)
81 }

```

2.2 huge display math

`hugedisplaymath` Sometimes, especially in presentations, you might need an really big formula. Imagine two hours of struggle with transformations—and finally there is the beautiful formula. Now you can say

```
\begin{hugedisplaymath} E = mc^2 \end{hugedisplaymath}
```

There should be several steps of size, maybe.

```

82 \cs_new:Npn\hugedisplaymath{
83 \Huge
84 \begin{equation*}
85 }
86 \cs_new:Npn\endhugedisplaymath{
87 \end{equation*}
88 }

```

2.3 unicode math

Typing math in \TeX is no great fun – you have to write things like `\int` instead of `∫` and so on. Have a look at the following formula:

```
\int_{-\infty}^{\infty} \sum_a
```

The code again is stolen and I don’t understand, why it does what it does, but it does it: The first argument is the character you want to use for “unicode math“, the second one is the \TeX -command.

```

89 \ExplSyntaxOff
90 \def\altmath#1#2{%
91 \expandafter\ifx\csname cc\string#1\endcsname\relax
92 \add@special{#1}%
93 \expandafter
94 \xdef\csname cc\string#1\endcsname{\the\catcode`#1}%
95 \begingroup

```

```

96     \catcode`\~\active \lccode`\~`#1%
97     \lowercase{%
98     \global\expandafter\let
99         \csname ac\string#1\endcsname~%
100     \expandafter\gdef\expandafter~\expandafter{#2}}%
101 \endgroup
102 \global\catcode`#1\active
103 \else
104 \fi
105 }
106 \ExplSyntaxOn

```

We will make a switch to turn this stuff on or off, so it does not interfere with the unicode-math package. This list will increase by time. If you are missing a symbol, just send me the `\altmath{X}{\Xcode}`-line. I would be very thankful if anybody could send me a whole list of symbols!

```

107 \cs_new:Npn\makealtmath{
108   \altmath{\alpha}\alpha
109   \altmath{\beta}\beta
110   \altmath{\gamma}\gamma
111   \altmath{\delta}\delta
112
113   \altmath{=}\Rightarrow
114   \altmath{<}\Leftarrow
115   \altmath{<=>}\Leftrightarrow
116
117   \altmath{\int}\int
118   \altmath{\forall}\forall
119
120   \altmath{_1}_{_1}
121   \altmath{_2}_{_2}
122   \altmath{_3}_{_3}
123   \altmath{_4}_{_4}
124   \altmath{_5}_{_5}
125   \altmath{_6}_{_6}
126   \altmath{_7}_{_7}
127   \altmath{_8}_{_8}
128   \altmath{_9}_{_9}
129   \altmath{_0}_{_0}
130 }

```

There will be an `\makenormalmath`-switch as well.

2.4 Lazy underscore and superscript

An underscore at the end of an inline-formula has to be ended with `}` or `\egroup`. That is not nice...

The redefinition of `\hat` does not work because TeX uses it for definition of catcodes. There has to be a really tricky way to get around that.

Sometimes one has to make extensive use of subscripts and superscripts, e. g. when typing long formulae including tensors. Then it is a bit annoying to always write the `{}`, especially when there are only two letters in the sub/superscript. So let's try to implement the possibility to type `$F_{\mu\nu} F^{\mu\nu}$`.

First, store the actual meaning of `_` and `^` in `\oldunderscore` and `\oldhat`.

```

131 \cs_set_eq:NwN\oldunderscore\tex_relax:D
132 \cs_set_eq:NwN\oldhat^{\tex_relax:D}

```

Now set `_` as `\active` char and define it the way we want it to behave. For this, we need the space char and end-of-line char to be an egroup char. So the underscore

group is ended by space or eol and we don't need to close it explicitly. (no expl3 code here, as we are dealing with the underscore. That would mess up everything ...)

```

133 \ExplSyntaxOff
134 \catcode`\_ =13
135 \def_{%
136   \ifmmode
137     \catcode`\_ =2\relax%
138     \catcode`\^^M=2\relax%
139     \expandafter\oldunderscore\bgroup%
140   \else%
141     \textunderscore%
142   \fi%
143 }
144
145 \iffalse
146 This does not work so far...
147 \catcode`\^ =13
148 \def^{%
149   \ifmmode
150     \catcode`\_ =2\relax%
151     \catcode`\^^M=2\relax%
152     \expandafter\oldhat\bgroup%
153   \else%
154     \oldhat%
155   \fi%
156 }
157 \fi

```

To give the possibility to switch between normal and `alttex` behaviour, store the new underscore.

The newUnder does not work so far.

```

158 \let\advancedunderscore_
And the switches. By default, _ is active. Type \oldUnder to get the normal _ .
159 \def\oldUnder{
160   \global\catcode`\_ =8\relax
161 }
162 \def\newUnder{
163   \global\let_\advancedunderscore
164 }
165 \ExplSyntaxOn

```

2.5 matrices

This is a nice idea by Alexander Koch on diskussion@neo-layout.org. Using the unicode glyphs for writing matrices, we can make writing and reading of big matrices much easier. (In Neo, one can use the `compose` function to write the whole matrix by 4–5 keystrokes and then fill in the elements.) For example, say in the source:

$$\begin{pmatrix} a & b \\ c & d \\ e & f \end{pmatrix} \quad \text{or} \quad \begin{bmatrix} a & b \\ d & e \\ f & g \end{bmatrix} \quad \text{or} \quad \begin{array}{cc} [a & b] \\ [c & d] \\ [e & f] \end{array}$$

[i & j]

and the result will be a `bmatrix`, a `pmatrix` or a `\right\{ matrix \end{matrix}`, respectively. As $\text{T}_{\text{E}}\text{X}$ is assumed to read from left-top to right-bottom, the matrices must not stand in a line, i. e. the following notation is *not* possible:

$$A = \begin{pmatrix} a & b \\ c & d \\ e & f \end{pmatrix} = B$$

but rather you have to write

$$A = \begin{pmatrix} a & b \\ c & d \\ e & f \end{pmatrix} = B$$

If you have a suggestion how to enable the upper solution, please contact me, that would be an awesome thing!

One has to pay greatest attention to the different characters looking like `|` `|`. They are in fact *different* for the three matrices! (But not in every case; I just hope the following code really works.)

```

166 \char_set_catcode:w`\{13
167 \char_set_catcode:w`\}\13
168 \char_set_catcode:w`\|13
169 \char_set_catcode:w`\[13
170 \char_set_catcode:w`\]13
171 \cs_new:Npn{\begin{pmatrix}}
172 \cs_new:Npn{\}\}
173 \cs_new:Npn{\}
174 \cs_new:Npn{\end{pmatrix}}
175 \cs_new:Npn{|}\}
176
177 \catcode`\[13
178 \catcode`\]13
179 \catcode`\|13
180 \catcode`\[13
181 \catcode`\]13
182 \cs_new:Npn{|}\}
183 \cs_new:Npn[\begin{bmatrix}]
184 \cs_new:Npn[}\}
185 \cs_new:Npn[{}
186 \cs_new:Npn[\end{bmatrix}]
187
188 \catcode`\[13
189 \catcode`\]13
190 \catcode`\|13
191 \catcode`\[13
192 \catcode`\]13
193 \catcode`\}13
194 \cs_new:Npn[\left\{\begin{matrix}]
195 \cs_new:Npn[\}\}\use_none:n}
196 \cs_new:Npn[{}

```

```

197 \cs_new:Npn]{\end{matrix}\right\}}
198 \cs_new:Npn|{\use_none:n}
199 \cs_new:Npn}{\use_none:n}

```

The codepoints have to be checked very carefully! This is not what a robust solution does look like!

We need to `\use_none:n` (ignore) the next character only in this case, as the left-hand bar characters seem to be the same as the right-hand and so cause additional line breaks. This way it is robust against every strange codepoint the left-hand may have.

3 Lists and such things

3.1 itemize with a single character

- instead of `\item` Here we use an active character (mostly a unicode character bullet •) for the whole construct. And another one for nested itemizations (like a triangular bullet ▶).

This works quite fine for most \LaTeX classes, but *not for beamer*! There, the end of `itemize` has to be given explicitly. For this, just say in the preamble of your document, after loading this package: `\def\•{\end{itemize}}` and use the `\•` to end the itemization.

`\newitemi` The following ugly peace of code is written by me, defining the conditional insertion of the `\begin{itemize}`. This will be assigned to an active character using `\makeitemi` and `\makeitemii`, respectively.

```

200 \cs_new:Npn\outside{o}
201 \cs_new:Npn\inside{i}
202 \cs_set_eq:NwN\insideitemizei\outside
203 \cs_set_eq:NwN\insideitemizeii\outside

```

The end of `itemizei` and `itemizeii`:

```

204 \cs_new:Npn\altenditemize{
205   \if\altlastitem l%
206     \let\altlastitem0%
207   \else%
208     \end{itemize}%
209     \let\insideitemizei\outside%
210   \fi%
211 }

```

Dealing with the `~` char, therefore no `expl3` syntax here:

```

212 %
213 \ExplSyntaxOff
214 \begingroup
215   \lccode`\~=\^^M%
216 \lowercase{%
217   \endgroup
218   \def\makeenteractive{%
219     \catcode`\^^M=\active
220     \let~\altenditemize
221   }%
222 }
223 \ExplSyntaxOn
224
225 \cs_new:Npn\newitemi{%
226   \if_meaning:w\insideitemizei\inside%

```

```

227 \cs_set_eq:NN\altlastiteml%
228 \exp_after:wN\item%
229 \else:%
230 \begin{itemize}%
231 \cs_set_eq:NN\insideitemizei\inside%
232 \cs_set_eq:NN\altlastiteml%
233 \makeinteractive%
234 \exp_after:wN\item%
235 \fi:
236 }
237
238 \cs_new:Npn\newitemii{
239 \if_meaning:w\insideitemizeii\inside
240 \exp_after:wN\item%
241 \else:
242 \begin{itemize}
243 \cs_set_eq:NN\insideitemizeii\inside
244 \exp_after:wN\item%
245 \fi:
246 }

```

Ok, the following code is stolen from the `shortvrb` package, and I don't understand anything of it. But I keep on trying... nevertheless, it's working fine, as far as I can see.

`\makeitemi` With this macro, you can define the character you want to use for first-level
`\makeitemii` itemize. (Guess the sense of `\makeitemii`...) Default ist • for first-level and ▶ for second-level. Maybe this will be extended till fourth level. More doesn't seem to make any sense.

Again, no `expl3` due to usage of `~` here. :(

```

247 \ExplSyntaxOff
248 \makeatletter
249 \def\makeitemi#1{%
250 \expandafter\ifx\csname cc\string#1\endcsname\relax
251 \add@special{#1}%
252 \expandafter
253 \xdef\csname cc\string#1\endcsname{\the\catcode`#1}%
254 \begingroup
255 \catcode`\~\active \lccode`\~`#1%
256 \lowercase{%
257 \global\expandafter\let
258 \csname ac\string#1\endcsname~%
259 \expandafter\gdef\expandafter~\expandafter{\newitemi}%
260 \endgroup
261 \global\catcode`#1\active
262 \else
263 \fi
264 }
265
266 \def\makeitemii#1{%
267 \expandafter\ifx\csname cc\string#1\endcsname\relax
268 \add@special{#1}%
269 \expandafter
270 \xdef\csname cc\string#1\endcsname{\the\catcode`#1}%

```

```

271 \begingroup
272 \catcode`\~\active \lccode`\~`#1%
273 \lowercase{%
274 \global\expandafter\let
275 \csname ac\string#1\endcsname~%
276 \expandafter\gdef\expandafter~\expandafter{\newitemii}}%
277 \endgroup
278 \global\catcode`#1\active
279 \else
280 \fi
281 }
282 \ExplSyntaxOn

```

Now there are the two helperfunctions – no guess what they are really doing.

```

283 \cs_new:Npn\add@special#1{%
284 \rem@special{#1}%
285 \exp_after:wN\cs_gset_nopar:Npn\exp_after:wN\dospecials\exp_after:wN
286 {\dospecials \do #1}%
287 \exp_after:wN\cs_gset_nopar:Npn\exp_after:wN\@sanitize\exp_after:wN
288 {\@sanitize \@makeother #1}}
289 \cs_new:Npn\rem@special#1{%
290 \cs_set:Npn\do##1{%
291 \if_num:w`#1=`##1 \else: \exp_not:N\do\exp_not:N##1\fi:}%
292 \cs_set_nopar:Npx\dospecials{\dospecials}%
293 \tex_begingroup:D
294 \cs_set:Npn\@makeother##1{%
295 \if_num:w`#1=`##1 \else: \exp_not:N\@makeother\exp_not:N##1\fi:}%
296 \cs_set_nopar:Npx\@sanitize{\@sanitize}%
297 \tex_endgroup:D}

```

3.2 enumerate with a single character

¹, ² And we do just the same stuff with `\enumerate`. But here we take the character ¹ as first level item, the ²⁵ as second level etc. This may be confusing some way, but just try it.

For the implementation: copy-pasted the code above, nothing interesting so far.

```

298 \cs_new:Npn\^1{\end{enumerate}}
299 \cs_new:Npn\^2{\end{enumerate}}
300
301 \cs_set_eq:NN\insideenumi\outside
302 \cs_set_eq:NN\insideenumii\outside
303
304 \cs_new:Npn\newenumi{
305 \if_meaning:w\insideenumi\inside
306 \exp_after:wN\item%
307 \else:
308 \begin{enumerate}
309 \cs_set_eq:NN\insideenumi\inside
310 \exp_after:wN\item%

```

⁵Maybe this is a very stupid idea, because now the ² cannot be used as a square in mathmode. Of course there could be a test `ifmmode`, but I rather would like to find a better character for `enumerate`.

```

311 \fi:
312 }
313
314 \cs_new:Npn\newenumii{
315   \if_meaning:w\insideenumii\inside
316     \exp_after:wN\item%
317   \else:
318     \begin{enumerate}
319       \cs_set_eq:NN\insideenumii\inside
320       \exp_after:wN\item%
321   \fi:
322 }

```

We use the same methods as above, still not understanding, what they are doing. Just changing two lines of code and hoping, everything will be fine. Again, no expl3.

```

323 \ExplSyntaxOff
324 \makeatletter
325 \def\makeenumi#1{%
326   \expandafter\ifx\csname cc\string#1\endcsname\relax
327     \add@special{#1}%
328     \expandafter
329     \xdef\csname cc\string#1\endcsname{\the\catcode`#1}%
330     \begingroup
331       \catcode`\~\active \lccode`\~`#1%
332       \lowercase{%
333         \global\expandafter\let
334           \csname ac\string#1\endcsname~%
335         \expandafter\gdef\expandafter~\expandafter{\newenumi}}%
336     \endgroup
337     \global\catcode`#1\active
338   \else
339   \fi
340 }
341
342 \def\makeenumii#1{%
343   \expandafter\ifx\csname cc\string#1\endcsname\relax
344     \add@special{#1}%
345     \expandafter
346     \xdef\csname cc\string#1\endcsname{\the\catcode`#1}%
347     \begingroup
348       \catcode`\~\active \lccode`\~`#1%
349       \lowercase{%
350         \global\expandafter\let
351           \csname ac\string#1\endcsname~%
352         \expandafter\gdef\expandafter~\expandafter{\newenumii}}%
353     \endgroup
354     \global\catcode`#1\active
355   \else
356   \fi
357 }
358 \makeatother
359 \ExplSyntaxOn

```

Finally, we set the default characters for the items and enumerations:

```
360 \makeitemi•  
361 \makeitemii•  
362 \makeenumi1  
363 \makeenumii2
```

And that's it.

Happy \LaTeX ing!

4 Known Bugs

This should be a list of serious bugs. Please report any of them to me!

- Itemize does not work correctly in beamer. Use \bullet at the end of your itemize. (see section [3.1](#))
- `\exceltabular` is broken.

A very short introduction to X_YLaTeX

Everything you have to know about X_YLaTeX to use this package: Write your LaTeX file just as you are used to. But save it as utf8-encoded, and say

```
\usepackage{xltextra}
```

instead of

```
\usepackage[latin1]{inputenc} and \usepackage[T1]{fontenc}
```

This loads some files that provide all the cool stuff X_YLaTeX offers. You don't have to take care of letters TeX would not understand – X_YTeX understands every character you type. But sometimes the font may not have the symbol for this – then you can use `\fontspec{fontname}`, where `fontname` is the name of a font on your system, e.g. *Arno Pro*, *Linux Libertine*, *LT Zapfino One* etc.

Then, you compile your document with the command `xelatex file.tex`, instead of `latex file.tex` and you get a pdf as output. Mostly, your editor will not have a shortcut to start X_YLaTeX. In that case, you have to compile via the command line. If you know your editor well enough, you may be able to create a shortcut that will run `xelatex file.tex` for you. Notice that you will need an editor that is utf8-capable! One last warning: While X_YTeX is not an pdfTeX successor, you cannot use microtypographic extensions. Maybe in the future there will be an implementation that uses advanced OpenType-features, but at the moment there is no microtypography possible!

If you have any trouble using X_YLaTeX, just e-mail me!

todo

Here a section with some ideas that could be implemented.

- Use ² as square in mathmode and possibly ¹ as `\footnote`?
- Do something to enable easy tabular
- If there is only one char after an `_`, there should no space be needed.
- Maybe there could be a ConTeXt-version of this file.