

# Paradigms: Plain's \item-s extended

**Kees van der Laan**

Hunzeweg 57,  
9893 PB Garnwerd, The Netherlands  
cgl@rc.service.rug.nl

## 1 A new series

Hi folks. After having given birth to BLUE's Format—yes YAF, yet another format, to paraphrase YACC—I considered it of general interest to spread gems to the world outside via MAPS and hopefully via TTN's 'Hey — It works' column.

The reason for me doing so is that apparently trivial design aspects need careful attention in this macro expansion branch of software engineering. We have to start allover from the basics—slowly and carefully—and end up with paradigms of macro expansion coding.

I intend a series of backside of the envelope contributions.

## 2 BLUE's design I

When you like plain's \item-s so much as I do then this is for you. Hang on! In practice we all like bulleted \item-s and \item-s with automatic numbering and lettering. It looks like—biased by L<sup>A</sup>T<sub>E</sub>X—that we need some \begin<tag> and \end<tag> to begin and end. Not so!

It can be done simpler, with nearly the same minimal markup as with \item. The extra is to end the list by \smallbreak, which is nearly natural.<sup>1</sup>

Remember *The T<sub>E</sub>Xbook*, 102, where Knuth states

'It is customary to put \medskip before and after a group of itemized paragraphs, and to say \noindent before any closing remarks that apply to all of the cases.'

I decided not to include \noindent because the list is set apart already.

### 2.1 Appetizer

The coding of the bulleted item reads<sup>2</sup>

```
\def\bitem{\item{\$bullet$}}
```

### 2.2 Coding AN-items

With automatic numbering and lettering we have to stop the automatism of increasing the counter and to reset the counter for subsequent use at the end of the list.

<sup>1</sup>I use \smallskip after \item-s for setting the list slightly apart from what follows. When a header follows, or you just like to end the list, say \endlist which T<sub>E</sub>Xnically ends the group.

<sup>2</sup>*The T<sub>E</sub>Xbook*, exercise 14.20.

<sup>3</sup>The more I come to think of it the more ways of doing boil up. How to decide which one is best?

In \item nothing special had to be done. Ending the paragraph via a blank line (or \par) was enough. We cannot modify \par locally because \par starts the replacement text of \item (and \itemitem as well). So the natural markup to let a blank line (or \par) end the list is not possible.

I could not work along the remark made in *The T<sub>E</sub>Xbook* exercise 14.29 either, because this goes wrong with nesting, read with the use of \itemitem.

My solution is a mixture of coding borrowed from \item p355, \beginchapter p418, and of \danger p419 of *The T<sub>E</sub>Xbook*.<sup>3</sup>

```
\newcount\itemno
\def\nitem{\bgroup
  \def\nitem{\advance\itemno1
    \item{\number\itemno.}}
  \def\smallbreak{\endgraf\egroup
    \smallbreak}
  \let\smallskip\smallbreak
  \nitem}
\def\aitem{\bgroup\itemno96!ftn!ftntxt
  \def\aitem{\advance\itemno1
    \item{\char\itemno.}}
  \def\smallbreak{\endgraf\egroup
    \smallbreak}
  \let\smallskip\smallbreak
  \aitem}
\def\endlist{\endgraf\egroup}
```

We not only have to end the paragraph(s) but also end the scope!

Example of use

```
Text preceding\\next line
\nitem first numbered item\\next line
\itemitem{--} sublist\\next line
\nitem second numbered item\\next line
\itemitem{--} sublist\\next line
\smallbreak
Text in between\\next line
\aitem first lettered item\\next line
\aitem second lettered item\\next line
\smallbreak
Text after\\next line.
```

with result

Text preceding  
next line

1. first numbered item  
next line

– sublist  
next line

2. second numbered item  
next line

– sublist  
next line

Text in between  
next line

a. first lettered item  
next line

b. second lettered item  
next line

Text after  
next line.

Have fun, and all the best.