The `outlines` package

Charles Pecheur

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Abstract

The `outlines` package defines the `outline` environment, that allows outline-style indented lists with freely mixed levels up to four levels deep. It replaces the nested `begin`/`end` pairs by different item tags `\1` to `\4` for each nesting level. This is very convenient in cases where nested lists are used a lot, such as for to-do lists or presentation slides.

1   Example

```
\begin{outline}
  \1 This is a first item.
  \1[!!!] This is a second, with a custom label.
    \2 A level-2 item.
      \3 A level 3.
        \4 Deepest is level 4.
    \2 Back to level 2.
\0 A normal paragraph in the middle.
  \1 A couple more
    \2 items.
\end{outline}
```

Produces:

- This is a first item.

!!! This is a second, with a custom label.

  - A level-2 item.
    * A level 3.
      · Deepest is level 4.
  - Back to level 2.

A normal paragraph in the middle.

- A couple more
  - items.

2 Usage

In the preamble:

- `\usepackage{outlines}`

  loads this package (no options supported).

In the document:

- `\begin{outline}`[*style*] *body* `\end{outline}`

  produces an *outline* region, with a hierarchy of items up to four levels deep. The outline is formatted according to *style*, which must be the name of a LaTeX list environment. The default is `itemize`. All levels use the same style.

Inside *body*:

- `\1[`*lbl*`]`, `\2[`*lbl*`]`, `\3[`*lbl*`]`, `\4[`*lbl*`]`

  introduce outline items at the four nesting levels. They are used the same way as `\item[`*lbl*`]` in list environments, where *lbl* is an optional custom item label.

- `\0`

  introduces a normal, non-itemized paragraph.

3 Limitations

LaTeX list environments cannot begin with a nested list. In outlines, that means that a level-n item may only follow an item of level $n-1$ or higher. For example, the following produces two "`missing \item`" errors:

```
\begin{outline}
    \2 Missing level 1,
        \4 missing level 3.
\end{outline}
```

Do not use outlines inside other outlines or other list environments. Nested lists in outlines should work and be consistent with the current level of the outline (e.g. a nested list following a level-2 outline item will look as a level-3 list). The four-level limit applies overall.

4   Implementation Notes

The package is implemented in LaTeX (no plain TeX); it should be easy to understand and customize even to a non-TeX-pert. The main programming trick is a set of commands `\ol@toz`, ..., `\ol@toiiii` which are dynamically modiified to contain the necessary list openings or closings to reach outline levels 0 to 4 from the current level.

Outlines expand to the corresponding hierarchy of nested lists of the selected style. All custom list formatting and user-provided list styles should be compatible with `outline` environments, as long as they keep the `\item` syntax.

5   Credits

This package was developed by Charles Pecheur at Université catholique de Louvain, Belgium. It is free for anyone to use, modify and re-distribute as long as credit to the original author is preserved. Charles Pecheur can be contacted at `pecheur@info.ucl.ac.be`.

This package is independent from similar packages `outline.sty` and `outliner.sty`, available on the CTAN archive.