

The dtnlists package

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1 Introduction

The default L^AT_EX formatting of bullet lists (`itemize` environment) and numbered lists (`enumerate` environment) indents them from the left margin. `dtnlists` moves them flush left with the text margin.

`dtnlists` also adjusts page break penalties to prevent page breaks at the beginning of a list. This is because it is usually preferable to keep the initial list item with the line leading into the list.

2 Usage

The package is loaded with the command:

```
\usepackage[⟨width⟩]{dtnlists}
```

The `width` determines how much space is allocated for list item numbers in numbered lists (`enumerate` environment). The value represents the maximum number of characters in list item numbers. Put another way, it is the number of characters in the number of the last list item. For short lists – with fewer than 10 items – the `width` value would be 1:

```
\usepackage[width=1]{dtnlists}
```

Since most document lists tend to be short this is actually the default `width` value, meaning that in those cases the package can be loaded with:

```
\usepackage{dtnlists}
```

If most lists in a document will contain up to 99 items the value 2 would be used:

```
\usepackage[width=2]{dtnlists}
```

As lists increase in size, increment the `width` value for each increase in magnitude of list size.

2.1 Overriding the package for individual lists

The `dtnlists` package uses the `width` option value to adjust the `enumerate` environment's `labelwidth` option. To override this value for a single list – if, for example,

a document contained multiple short lists and one long list of more than 9 items – override the `labelwidth` option of the long list:

```
\begin{enumerate}[labelwidth=\widthof{00}]
```

Note that rather than providing the magnitude of the largest list item number as an integer, it is necessary to take a string of zeroes as long as the largest list item number and pass it to the `calc` package’s `\widthof` macro to calculate the width value.

3 Implementation

```
1 \DeclareCurrentRelease{v0.1}{2023-07-09}
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{dtnlists}
```

`\dtn@opt@width` Process the package’s only option: `width`. It defaults to 1 if not supplied and is available only in the preamble. The option value is stored in the `\dtn@opt@width` macro.

```
4 \DeclareKeys{
5   width.store = \dtn@opt@width,
6   width.usage = preamble
7 }
8 \SetKeys{
9   width = 1
10 }
11 \ProcessKeyOptions
```

Uses packages `enumitem` (for its `\setlist` command) and `calc` (for its `\widthof` command).

```
12 \RequirePackage{enumitem}
13 \RequirePackage{calc}
```

First customise bulleted lists to flush left and not break at the beginning.

```
14 \setlist[itemize]{%
15   leftmargin = *,
16   beginpenalty = 10000
17 }%
```

Then customise numbered lists to flush left. This requires using the `width` option value to calculate a length to allocate for item numbers. The somewhat clumsy method used to do this starts with building a string of `width` zeroes. (The technique of appending to a macro using `\expandafter` was taken from <https://tex.stackexchange.com/a/102383>.)

```
18 \newcommand{\dtn@string}{}
19 \newcount\loopcount
20 \loop
21   \advance\loopcount by 1\relax
```

```

22 \expandafter\renewcommand\expandafter\dtncstring\expandafter{\dtncstring 0}
23 \ifnum\loopcount<\dtncopt@width
24 \repeat

```

The `calc` package's `\widthof` command is used to get the length of this string.

```

25 \newcommand{\dtncwidth}{\widthof{\dtncstring}}

```

This string length is then used as the `enumerate` environment's default `labelwidth`.

```

26 \setlist[enumerate]{%
27     labelindent = *,
28     labelwidth = \dtncwidth,
29     label = \arabic*.,
30     itemindent = *,
31     leftmargin = !,
32     beginpenalty = 10000
33 }%

```