

# The `somedefs` toolkit package

Alan Jeffrey

long time ago in a different century...

This file is maintained by the L<sup>A</sup>T<sub>E</sub>X Project team.  
Bug reports can be opened (category `tools`) at  
<https://latex-project.org/bugs.html>.

## Overview

This is an example ‘programmers toolkit’ package, for use by package writers. It allows package writers to provide options which switch definitions on and off. For example, a package `fred` might define a large number of commands, including `\foo` and `\baz`, so:

```
\usepackage{fred}
```

would use a lot of memory, even if `\foo` and `\baz` were the only commands needed. However, if the author of `fred` used the `somedefs` package, then the user would be able to say:

```
\usepackage[only,foo,baz]{fred}
```

and only the commands `\foo` and `\baz` would be defined.

To use the `somedefs` package in your own packages or classes, you say:

```
\RequirePackage{somedefs}
```

You can then use four new commands:

- `\UseAllDefinitions` which says that all the commands in the file should be defined.
- `\UseSomeDefinitions` which says that only the commands specified by `\UseDefinition` should be defined.
- `\UseDefinition{(name)}` which says that the command `\name` should be defined.
- `\ProvidesDefinition{(definition)}` which provides one definition, of the form `\definingcommand{\command}...`

For example, the package `fred` could say:

```
\RequirePackage{somedefs}
\UseAllDefinitions
\DeclareOption{only}{\UseSomeDefinitions}
\DeclareOption*{\UseDefinition{\CurrentOption}}
\ProcessOptions
\ProvidesDefinition{\newcommand{\foo}{...}}
\ProvidesDefinition{\newcommand{\baz}{...}}
```

One of the commands `\UseAllDefinitions` or `\UseSomeDefinitions` should always be used. You may have some commands which need other commands, in which case you have to declare the options by hand. For example, if the command `\bar` needs the command `\foo`, you could say:

```
\DeclareOption{bar}{\UseDefinition{bar}\UseDefinition{foo}}
```

For a longer example of the use of the `somedefs` package, look at the `rawfonts` package.

## Implementation

The driver for the documentation you're now reading.

```
1 (*driver)
2 \documentclass{ltxdoc}
3 \begin{document}
4 \DocInput{somedefs.dtx}
5 \end{document}
6 
```

This is a L<sup>A</sup>T<sub>E</sub>X 2 <sub>$\varepsilon$</sub>  package.

```
7 (*package)
8 \NeedsTeXFormat{LaTeX2e}
9 \ProvidesPackage{somedefs}[1994/06/01 v0.03 Toolkit for optional definitions]
```

\UseSomeDefinitions  
  \UseAllDefinitions  
    \UseDefinition  
  \ProvidesDefinition  
  @providesdefinition  
  @provides@definition  
  @unprovided@definition

The package works by having `\UseDefinition{<name>}` define `\name` to be `\@unprovided@definition`. If `\UseSomeDefinitions` has been called, then `\ProvidesDefinition` looks to see if `\name` is `\@unprovided@definition`. If `\UseAllDefinitions` has been called, then `\ProvidesDefinition` does nothing. If neither has been called, then `\ProvidesDefinition` produces an error message.

```
10 \def\UseSomeDefinitions{%
11   \let\ProvidesDefinition\@providesdefinition
12 }
13 \def\UseAllDefinitions{%
14   \let\ProvidesDefinition\@firstofone
15 }
16 \def\UseDefinition#1{%
17   \expandafter\let\csname#1\endcsname\@unprovided@definition
18 }
19 \def\ProvidesDefinition#1{%
20   \PackageError{somedefs}%
21     {No \noexpand\UseSomeDefinitions or \string\UseAllDefinitions}%
}
```

```

22      {The package which used the 'somedefs' package has an error.}%
23 }
24 \def\@providesdefinition#1{\@provides@definition#1\relax
25   \@provides@definition}
26 \def\@provides@definition#1#2#3{\@provides@definition{%
27   \ifx#2\@unprovided@definition
28     #1#2#3%
29   \fi
30 }%
31 \def\@unprovided@definition{%
32   \PackageError{somedefs}{%
33     {Package 'somedefs' error: this command was never defined}%
34     {You have requested a command which does not exist.}%
35 }%
36 \onlypreamble\UseSomeDefinitions
37 \onlypreamble\UseAllDefinitions
38 \onlypreamble\UseDefinition
39 \onlypreamble\ProvidesDefinition
40 \onlypreamble\@providesdefinition
41 \onlypreamble\@provides@definition

That's it!
42 </package>

```