

# The `ifoption` package

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## 1 Introduction

The `ifoption` package provides an `\IfOption` command that has certain advantages over the `\ifpackagewith` command—e.g., default options specified with `\ExecuteOptions` test as true rather than false. In order for this to work properly, mutually exclusive options should be specified with `\DeclareExclusiveOptions`, another command defined by the `ifoption` package.

## 2 Implementation

### 2.1 Package info

Standard declaration of package name and date.

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{ifoption}[2002/03/04 v1.02]
```

### 2.2 Some utility functions

```
3 \let\@xp\expandafter \let\@nx\noexpand
4 \def\@True{00}
5 \def\@False{01}
```

### 2.3 Background

See the definitions of `\@onefilewithoptions` and `\@pushfilename` in the  $\text{\LaTeX}$  kernel.

When we have

```
\DeclareOption{foo}{some code}
```

in a file named `bar.sty`,  $\text{\LaTeX}$  defines `\ds@foo` to contain *some code*. Then if the package is invoked with

```
\usepackage[foo]{bar}
```

there are two consequences: `foo` is added to the options list for package `bar`, which is the control sequence `\opt@bar.sty`; and when `\ProcessOptions` is called, it executes `\ds@option-name` for each option found in the list. When it is finished running the options, `\ProcessOptions` undefines all the `\ds@whatever` for the current package, which are listed in the control sequence `\@declaredoptions`. At the end of `bar.sty`, `\@declaredoptions` is globally reset to empty. Thus subordinate packages with options cannot be loaded in the “first half” of a package that also has options, where first half means the area leading up to the `\ProcessOptions` call.

For mutually exclusive options `a`, `b`, `c`, when option `b` is invoked it should remove all of its sibling options from the options-actually-used list and add itself to the list. For this task we make use of the fact that `\ProcessOptions` ends by undefining all the declared options of the current package or documentclass.

```

6 \def\CurrentPackage{\@currname}
7 \let\CurrentClass\CurrentPackage

8 \newcommand{\IfOption}{%
9 \def\IfPackageOption{\@ifpackagewith}
10 \def\IfClassOption{\@ifclasswith}
11 \def\IfOption{%
12 \ifx\@current\@pkgextension \xp\IfPackageOption
13 \else \xp\IfClassOption
14 \fi
15 \@currname
16 }

17 \newcommand{\DeclareExclusiveOptions}[1]{%
18 \xdef\@declaredoptions{\@declaredoptions,#1}%
19 \gdef\ProcessExclusiveOptions{\relax}%
20 \@for\CurrOption:=#1\do{%
21 \xp\deo@a\csname ds@\CurrOption\exp\endcsname\xp{\CurrOption}{#1}%
22 }%
23 }
24 \def\DeclareBooleanOption{\DeclareExclusiveOptions}

25 \def\deo@a#1#2#3{%
26 \def#1{%
27 \g@addto@macro\ProcessExclusiveOptions{\OptionsFalseTrue{#3}{#2}}%
28 }%
29 }

30 \def\cull@options#1,{%
31 \xp\ifx\csname ds@#1\gobble\percentchar\empty\endcsname\@False
32 \else #1,\fi
33 \cull@options
34 }
35
36 \newcommand{\OptionsFalseTrue}[2]{%
37 \begingroup
38 \@for\CurrentOption:=#1\do{%
39 \xp\let\csname ds@\CurrentOption\endcsname\@False
40 }%
41 \let\ds@\@False
42 \xp\xdef\csname opt@\@currname.\@current\endcsname{%
43 \xp\xp\xp\cull@options\csname opt@\@currname.\@current\endcsname
44
Lacking \@secondofthree and not keen on defining it ...
44 ,\@firstoftwo\@firstoftwo,#2%
45 }%
46 \endgroup
47 }

```

The usual `\endinput` to ensure that random garbage at the end of the file doesn't get copied by `docstrip`.

```
48 \endinput
```

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Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

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