

The `switchcase` package*

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February 6, 2026

1 Introduction

The `switchcase` package provides a simple interface for switch-case structures in LaTeX, built on top of the powerful `expl3` programming layer.

2 Usage

`\Switch` The `\Switch` command performs a string-based case selection.

```
\Switch{\langle string \rangle}{\langle cases \rangle}[\langle default \rangle]
```

The `\langle cases \rangle` should be provided as a sequence of alternating values and code blocks:
`\{val1\}{code1}\{val2\}{code2}\dots`.

`\IntSwitch` The `\IntSwitch` command performs an integer-based case selection.

```
\IntSwitch{\langle integer \rangle}{\langle cases \rangle}[\langle default \rangle]
```

`\SwitchEnv` The `\SwitchEnv` environment allows for a more readable switch-case structure.
Inside the environment, use `\Case` to define cases and `\Default` for the fallback.

```
\begin{SwitchEnv}{\langle string \rangle}
\Case{\langle val1 \rangle}{\langle code1 \rangle}
\Case{\langle val2 \rangle}{\langle code2 \rangle}
\Default{\langle default code \rangle}
\end{SwitchEnv}
```

`\SwitchIntEnv` The `\SwitchIntEnv` environment is the integer version of `\SwitchEnv`.

```
\begin{SwitchIntEnv}{\langle integer \rangle}
\Case{\langle val1 \rangle}{\langle code1 \rangle}
\Case{\langle val2 \rangle}{\langle code2 \rangle}
\Default{\langle default code \rangle}
\end{SwitchIntEnv}
```

*This document corresponds to `switchcase ?`, dated ?.

3 Implementation

```
1 <*package>

\Switch A LaTeX2e wrapper for \str_case:nnF.
2 \NewDocumentCommand{\Switch}{m +m +0{}){
3   \tl_set:Nn \l_switchcase_tmpa_tl {#1}
4   \tl_trim_spaces:N \l_switchcase_tmpa_tl
5   \exp_args:No \str_case:nnF { \l_switchcase_tmpa_tl } {#2} {#3}
6   \ignorespaces
7 }

\IntSwitch A LaTeX2e wrapper for \int_case:nnF.
8 \NewDocumentCommand{\IntSwitch}{m +m +0{}){
9   \tl_set:Nn \l_switchcase_tmpa_tl {#1}
10  \tl_trim_spaces:N \l_switchcase_tmpa_tl
11  \exp_args:No \int_case:nnF { \l_switchcase_tmpa_tl } {#2} {#3}
12  \ignorespaces
13 }

\Case Appends a case to the current list of cases.
14 \NewDocumentCommand{\Case}{+m +m}{
15   \tl_set:Nn \l_switchcase_tmpa_tl {#1}
16   \tl_set:Nn \l_switchcase_tmpb_tl {#2}
17   \tl_trim_spaces:N \l_switchcase_tmpa_tl
18   \tl_trim_spaces:N \l_switchcase_tmpb_tl
19   \tl_gput_right:Nx \g_switchcase_cases_tl { { \exp_not:V \l_switchcase_tmpa_tl } { \exp_not:
20   \ignorespaces
21 }

\Default Sets the default code to execute if no case matches.
22 \NewDocumentCommand{\Default}{+m}{
23   \tl_set:Nn \l_switchcase_tmpa_tl {#1}
24   \tl_trim_spaces:N \l_switchcase_tmpa_tl
25   \tl_gset:NV \g_switchcase_default_tl \l_switchcase_tmpa_tl
26   \ignorespaces
27 }

SwitchEnv Environment wrapper for a string-based switch-case selection.
28 \NewDocumentEnvironment{SwitchEnv}{+m}{
29   \tl_set:Nn \l_switchcase_saved_cases_tl { \g_switchcase_cases_tl }
30   \tl_set:Nn \l_switchcase_saved_default_tl { \g_switchcase_default_tl }
31   \tl_gclear:N \g_switchcase_cases_tl
32   \tl_gclear:N \g_switchcase_default_tl
33   \tl_set:Nn \l_switchcase_input_tl {#1}
34   \tl_trim_spaces:N \l_switchcase_input_tl
35   \vbox_set:Nw \l_switchcase_junk_box
36   \ignorespaces
37 }{
38   \vbox_set_end:
```

```

39   \exp_args:Nooo \str_case:nnF { \l_switchcase_input_tl } { \g_switchcase_cases_tl } { \g_sw
40   \tl_gset:Nn \g_switchcase_cases_tl { \l_switchcase_saved_cases_tl }
41   \tl_gset:Nn \g_switchcase_default_tl { \l_switchcase_saved_default_tl }
42   \ignorespaces
43 }

SwitchIntEnv Environment wrapper for an integer-based switch-case selection.

44 \NewDocumentEnvironment{SwitchIntEnv}{+m}{
45   \tl_set:Nn \l_switchcase_saved_cases_tl { \g_switchcase_cases_tl }
46   \tl_set:Nn \l_switchcase_saved_default_tl { \g_switchcase_default_tl }
47   \tl_gclear:N \g_switchcase_cases_tl
48   \tl_gclear:N \g_switchcase_default_tl
49   \tl_set:Nn \l_switchcase_input_tl {#1}
50   \tl_trim_spaces:N \l_switchcase_input_tl
51   \vbox_set:Nw \l_switchcase_junk_box
52   \ignorespaces
53 }{
54   \vbox_set_end:
55   \exp_args:Nooo \int_case:nnF { \l_switchcase_input_tl } { \g_switchcase_cases_tl } { \g_sw
56   \tl_gset:Nn \g_switchcase_cases_tl { \l_switchcase_saved_cases_tl }
57   \tl_gset:Nn \g_switchcase_default_tl { \l_switchcase_saved_default_tl }
58   \ignorespaces
59 }

60 </package>

```

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