

# The pagerange Package

Version 0.2

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## 1 Introduction

This package emerged from my desire to resolve page ranges in the **draftmark** package, but it may be useful to other L<sup>A</sup>T<sub>E</sub>X enthusiasts.

## 2 Usage

When a given page range `xx-yy` (simple/plain characters) or `\pages` (control sequence, e.g., `\def\pages{xx-yy}`) is submitted to the macro `\pagerange` (e.g., `\pagerange{xx-yy}` or `\pagerange\pages`), this package splits the range as `xx` in the macro `\pagestart` and `yy` in `\pageend`. The counter equivalents of these are `\prg@cmta` and `\prg@cmtb`. The control sequence containing the page range (e.g., `\pages`) is fully expanded before the page range is split.

If you specify a range consisting of a hyphen (or any tie) but with one or two empty page numbers, the following will happen:

- a) a range of the form “-34” is taken to mean pages 1 to 34;
- b) a range of the form “12-” is taken to mean page 12 to last page;
- c) a range of the form “-” (i.e., only hyphen and no pages) is taken to mean page 1 to the last page.

An empty or blank page range (i.e., containing no argument and no hyphen/tie) is taken to mean the range 1-1 or it may prompt a fatal error, depending on whether the boolean `acceptempty` is set true or false (respectively).

Page ranges containing more than one hyphen/tie cause fatal error.

If the upper limit of the page range is smaller than the lower limit, a fatal error is flagged.

The tie between the pages in the page range can be any single non-active character; its default is the hyphen character “-”. It can be changed in the call to the package (e.g., `\usepackage[tie=*]{pagerange}`) or at any moment through `\pagerangeoptions{tie=*}`. Of course, active characters can’t be used as ties. The package easily terminates with a warning when an active character is passed as `tie`.

Because of the need for the last page of the document, at least 2 runs/passes are needed to obtain the correct last page.

This package has been tested with the `hyperref` package, which redefines the label used by the `lastpage` package. By default, the last page is not hyperlinked. If you want the last page to be hyperlinked, you should set the boolean option `hyperlink=true` in `\usepackage{pagerange}` or in `\pagerangeoptions`.

### 3 Package options

The package has only three options, namely,

Option	Default	Meaning
<code>tie</code>	hyphen (-)	The tie that show the breakpoint for the page range.
<code>acceptempty</code>	false	The boolean option that specifies if empty page ranges (i.e., no page numbers and no tie) submitted to the package should be accepted. If <code>true</code> , the page range is assumed to be from page 1 to the last page.
<code>hyperlink</code>	false	The boolean switch that determines if the last page (of the page range) should be hyperlinked.

### 4 Examples

#### Example 4.1

The following

```

1 \pagerange{123-456}
2 Pages~\pagestart\space to\space\pageend

```

produces Pages 123 to 456.

#### Example 4.2

The following

```

3 \pagerange{12345-67890}

```

produces Pages 12345 to 67890.

#### Example 4.3

The following

```
4 \pagerange{123-4567}
```

produces Pages 123 to 4567.

#### Example 4.4

The following

```
5 \pagerange{600-601}
```

produces Pages 600 to 601.

#### Example 4.5

The following

```
6 \pagerange{-34}
```

produces Pages 1 to 34.

#### Example 4.6 Hyperlinking of last page

The package was loaded as

```
\usepackage[acceptempty,hyperlink]{pagerange},
```

in which both `acceptempty` and `hyperlink` are `true`. They can, of course, both be reversed (i.e., set as `false`). Since the prevailing value of `hyperlink` is `true`, we see that

```
7 \pagerange{1-}
```

yields Pages 1 to 6.

#### Example 4.7 No hyperlinking of last page

In the following the value of `hyperlink` is `false`:

```
8 \pagerangeoptions{hyperlink=false}  
9 \pagerange{1-}
```

which produces Pages 1 to 6.

#### Example 4.8 No page numbers given

The following

```
10 \pagerangeoptions{hyperlink=true}  
11 \pagerange{-}
```

produces Pages 1 to 6.

#### Example 4.9

The following logs a warning message or issues fatal error, depending on the status of `acceptempty` option:

```
12 \pagerange{}
```

#### Example 4.10

The following fails because of multiple hyphens (ties):

```
13 \pagerange{123-456-789}
```

#### Example 4.11

The following fails because `\pagestart` is larger than `\pageend`:

```
14 \pagerange{34-12}
```

#### Example 4.12

The following fails because `tie` can't be active character:

```
15 \pagerangeoptions{tie=~}
```

#### Example 4.13

For the same reason (i.e., the use of active character as `tie`), the following fails—although nested commands are permitted:

```
16 \def\Xone{~}  
17 \def\Xtwo{\Xone}  
18 \pagerangeoptions{tie=\Xtwo}
```

#### Example 4.14

The following works because the `\pagerange` is fully expanded before splitting:

```
19 \def\Xone{-}  
20 \def\Xtwo{\Xone}  
21 \pagerange{22\Xtwo 23}
```

This produces Pages 22 to 23.

#### Example 4.15

The following also works because the `\pagerange` is fully expanded before splitting:

```
22 \def\X{-}
23 \def\Y{2222}
24 \def\Z{3333}
25 \pagerange{\Y\X\Z}
```

This produces Pages 2222 to 3333.

#### Example 4.16

The following also works because the `\pagerange` and `tie` are fully expanded before splitting page range:

```
26 \def\X{-}
27 \pagerangeoptions{tie=\X}
28 \pagerange{123\X 234}
```

This produces Pages 123 to 234.

#### Example 4.17

The following works because infinite nesting of `tie` and `\pagerange` are permitted:

```
29 \def\Xone{-}
30 \def\Xtwo{\Xone}
31 \pagerangeoptions{tie=\Xtwo}
32 \pagerange{444\Xtwo 555}
```

This yields Pages 444 to 555.

#### Example 4.18

The following gives incorrect (in fact, weird) result because the prevailing `tie` is not a star:

```
33 \pagerange{33*44}
```

#### Example 4.19

The `tie` can be changed to a star (or any non-active character) as follows:

```
34 \pagerangeoptions{tie=*}
35 \pagerange{2233*3344}
```

This correctly produces Pages 2233 to 3344.

#### Example 4.20

In the following the `tie` is changed to letter “T”:

```
36 \pagerangeoptions{tie=T}  
37 \pagerange{1234T1235}
```

It produces Pages 1234 to 1235.

#### Example 4.21

The following

```
38 \pagerangeoptions{tie=X}  
39 \pagerange{2034X2135}
```

correctly yields Pages 2034 to 2135.

## 5 To-do

To provide for calls such as in `\pagerange{\pageref{page:label}-200}`.