

Example for pageslts

This example demonstrates the most common uses of package `pageslts`, v2.0f as of 2025-08-09 (HMM);
<https://ctan.org/pkg/pageslts>.

The used options were `pagecontinue=true`, `alphMult=ab`, `AlphMulti=AB`, `fnsymbolmult=true`, `romanMult=true`, and `RomanMulti=true` (the default ones). – For more details please see the documentation!

keys

To hide the ^{keys} use option `final` instead of `draft` with the `showkeys` package (or remove the package call from the preamble of this document).

Hyperlinks or not: If the `hyperref` package is loaded, the references are also hyperlinked: Page i (1; local: 1) of ~~iv(4) + XII(12) + 8(5) + III(13) + ac(6)~~

~~+ G(7) = 48~~ pages. If the `hyperref` package is loaded, but the hyperlinks of the

references shall be suppressed, `\pageref*{...}` and `\lastpageref*{...}` can be used:

Page i (1; local: 1) of ~~iv(4) + XII(12) + 8(5) + III(13) + ac(6) + G(7) = 48~~ pages.

Trademarks appear throughout this example without any trademark symbol; they are the property of their respective trademark owner. There is no intention of infringement; the usage is to the benefit of the trademark owner.

Tip: Use *logical page numbers* for the display of the pdf (in Adobe Acrobat Reader Continuous Release 2024.005.20320: Edit > Preferences > Categories: Page Display > Page Content and Information: Use logical page numbers)!

You want negative page numbers? Not only arabic, but even roman, Roman, alph, Alph or fnsymbol ones? No problem, e. g. just give a `\addtocounter{page}{-some number}` in the source code of this example file (or uncomment the prepared line)!

Page i (1; local: 1) of ~~iv(4) + XII(12) + 8(5) + III(13) + ac(6) + (1) + G(7) = 48~~ pages.

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1 roman

(roman page numbering was started before, because the page numbering scheme was needed to start at the first page, of course.)

First page (`\lastpageref{pagesLTS.0}`): pagesLTS.0

The page (`\thepage`): iii

Current page (`\theCurrentPage`), i.e. counted continuously from the first page): 3 You can get this also in other formats: iii, III, 3, ‡, c, C.

CurrentPageLocal (`\theCurrentPageLocal`), i.e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 3

You can get also this in other formats, too: iii, III, 3, ‡, c, C, but probably it only makes sense if page numbering scheme and format are the same, e.g.

`\Roman{pagesLTS.current.local.Roman}`

or `\Alph{pagesLTS.current.local.Alph}`. `\number\value{...}` could make sense even if combined with another page numbering scheme. And this is exactly what `\theCurrentPageLocal` does:

`\def\theCurrentPageLocal{\number\value{pagesLTS.current.local.\pagesLTS@pnc}}.`

Last roman page (`pagesLTS.roman`): pagesLTS.roman (There are pagesLTS.roman.local numbers.)

Last Roman page (`pagesLTS.Roman`): pagesLTS.Roman (There are pagesLTS.Roman.local man numbers:

3 pages in the first Roman sector (Roman pagesLTS.Roman.1
III),
5 pages in the second Roman sector (Roman2 pagesLTS.Roman.2
IV VIII), and
4 pages in the third Roman sector (Roman3 pagesLTS.Roman.3
IX XII).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```
\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%
```

Page iii (3; local: 3) of pagesLTS.roman (There are pagesLTS.roman.local numbers.)

would be necessary.

Last arabic page (pagesLTS.arabic): $\frac{\text{pagesLTS.arabic}}{8}$ (There are only $\frac{\text{pagesLTS.arabic.local}}{5}$ pages with arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (pagesLTS.fnsymbol): $\frac{\text{pagesLTS.fnsymbol}}{13}$
 (better `\lastpageref{pagesLTS.fnsymbol}` than just
`\pageref{pagesLTS.fnsymbol}!`)
 (There are 13 pages with fnsymbol numbers.)

Last alph page (pagesLTS.alph): $\frac{\text{pagesLTS.alph}}{ac}$ (There are only $\frac{\text{pagesLTS.alph.local}}{6}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Last Alph page (pagesLTS.Alph): $\frac{\text{pagesLTS.Alph}}{G}$ (There are $\frac{\text{pagesLTS.Alph.local}}{7}$ pages with Alph numbers.)

Last page's *name* (LastPage): $\frac{\text{LastPage}}{G}$

Very last page's *name* (VeryLastPage): $\frac{\text{VeryLastPage}}{G}$
 (LastPage and VeryLastPage are now identical, because both are now done
`\AddToHook{enddocument/afterlastpage}` instead of formerly
`\AtEndDocument` and `\AfterLastShipout`, which were different.)

Last page's *number* (LastPages): $\frac{\text{LastPages}}{48}$ (= total number of pages)

2 Roman

2.1 Common Roman page numbering

First page (`\lastpageref{pagesLTS.0}`): $\frac{\text{pagesLTS.0}}{1}$

The page (`\thepage`): I

Current page (`\theCurrentPage`), i. e. counted continuously from the first page): 5

CurrentPageLocal (`\theCurrentPageLocal`), i. e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 1

Last roman page (`pagesLTS.roman`): $\frac{\text{pagesLTS.roman}}{iv}$ (There are $\frac{\text{pagesLTS.roman.local}}{4}$ pages with roman numbers.)

Last Roman page (`pagesLTS.Roman`): $\frac{\text{pagesLTS.Roman}}{XII}$ (There are $\frac{\text{pagesLTS.Roman.local}}{12}$ pages with Roman numbers:

3 pages in the first Roman sector ($\frac{\text{Roman}}{I}$ $\frac{\text{pagesLTS.Roman.1}}{III}$)
 5 pages in the second Roman sector ($\frac{\text{Roman2}}{IV}$ $\frac{\text{pagesLTS.Roman.2}}{VIII}$) and
 4 pages in the third Roman sector ($\frac{\text{Roman3}}{IX}$ $\frac{\text{pagesLTS.Roman.3}}{XII}$).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```
\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+\csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+\csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%
```

would be necessary.

Last arabic page (pagesLTS.arabic): $\frac{\text{pagesLTS.arabic}}{8}$ (There are only $\frac{\text{pagesLTS.arabic.local}}{5}$ pages with arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (pagesLTS.fnsymbol): $\frac{\text{pagesLTS.fnsymbol}}{13}$
 (better `\lastpageref{pagesLTS.fnsymbol}` than just
`\pageref{pagesLTS.fnsymbol}!`)

(There are 13 pages with fnsymbol numbers.)

Last alph page (pagesLTS.alph): $\frac{\text{pagesLTS.alph}}{ac}$ (There are only $\frac{\text{pagesLTS.alph.local}}{6}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Last Alph page (pagesLTS.Alph): $\frac{\text{pagesLTS.Alph}}{G}$ (There are $\frac{\text{pagesLTS.Alph.local}}{7}$ pages with Alph numbers.)

Last page's *name* (LastPage): $\frac{\text{LastPage}}{G}$

Very last page's *name* (VeryLastPage): $\frac{\text{VeryLastPage}}{G}$
 (LastPage and VeryLastPage are now identical, because both are now done
`\AddToHook{enddocument/afterlastpage}` instead of formerly
`\AtEndDocument` and `\AfterLastShipout`, which were different.)

Last page's *number* (LastPages): $\frac{\text{LastPages}}{48}$ (= total number of pages)

2.2 Last page of first Roman sector

`\lastpageref{pagesLTS.Roman}` does **not** refer to this page (but there: XII).

When a reference to this page is wanted,

When a reference to this page is wanted, `\lastpageref{pagesLTS.Roman.1}` can be used: III.

There are 3 pages (\lastpages{Roman}{1}) in this first Roman sector.

The Roman page numbering scheme is continued later in section 5)!

3 arabic

3.1 Standard page numbering

First page (\lastpageref{pagesLTS.0}): pagesLTS.0

The page (\thepage): 1

Current page (`\theCurrentPage`), i. e. counted continuously from the first page):

CurrentPageLocal (`\theCurrentPageLocal`), i.e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false:sector`): 1

Last roman page (pagesLTS.roman): iv (There are 4 pages with roman numbers.)

Last Roman page (pagesLTS.Roman): `XII` (There are `12` pages with Roman numbers:

man numbers:

3 pages in the first Roman sector (I)	$\frac{\text{Roman}}{\text{pagesLTS.Roman.1}}$	III
5 pages in the second Roman sector (IV)	$\frac{\text{Roman2}}{\text{pagesLTS.Roman.2}}$	VIII and
4 pages in the third Roman sector (IX)	$\frac{\text{Roman3}}{\text{pagesLTS.Roman.3}}$	-XII.)

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

$$\frac{\text{the}\,\text{numexpr}\,\,\text{c@pagesLTS.Roman.1.local.cnt}}{\text{+}\,\text{c@pagesLTS.Roman.2.local.cnt}+\text{c@pagesLTS.Roman.3.local.cnt}}\,\text{relax}$$

would be necessary.

3.2 Also an empty page style is no problem for the current or total page count

First page (`\lastpageref{pagesLTS.0}`): `pagesLTS.0`

The page (`\thepage`): 3

Current page (`\theCurrentPage`), i. e. counted continuously from the first page): 10

CurrentPageLocal (`\theCurrentPageLocal`), i. e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 3

Last roman page (`pagesLTS.roman`): `pagesLTS.roman` (`pagesLTS.roman.local`
iv (There are 4 pages with roman numbers.)

Last Roman page (`pagesLTS.Roman`): `pagesLTS.Roman` (`pagesLTS.Roman.local`
XII (There are 12 pages with Roman numbers:

3 pages in the first Roman sector (`Roman` `pagesLTS.Roman.1`
I III)
5 pages in the second Roman sector (`Roman2` `pagesLTS.Roman.2`
IV V VII) and
4 pages in the third Roman sector (`Roman3` `pagesLTS.Roman.3`
IX X XI XII).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```
\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+\csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+\csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%
```

would be necessary.

Last arabic page (pagesLTS.arabic): $\frac{\text{pagesLTS.arabic}}{8}$ (There are only $\frac{\text{pagesLTS.arabic.local}}{5}$ pages with arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (pagesLTS.fnsymbol): $\frac{\text{pagesLTS.fnsymbol}}{13}$
 (better `\lastpageref{pagesLTS.fnsymbol}` than just
`\pageref{pagesLTS.fnsymbol}!`)

(There are 13 pages with fnsymbol numbers.)

Last alph page (pagesLTS.alph): $\frac{\text{pagesLTS.alph}}{ac}$ (There are only $\frac{\text{pagesLTS.alph.local}}{6}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Last Alph page (pagesLTS.Alph): $\frac{\text{pagesLTS.Alph}}{G}$ (There are $\frac{\text{pagesLTS.Alph.local}}{7}$ pages with Alph numbers.)

Last page's *name* (LastPage): $\frac{\text{LastPage}}{G}$

Very last page's *name* (VeryLastPage): $\frac{\text{VeryLastPage}}{G}$
 (LastPage and VeryLastPage are now identical, because both are now done
`\AddToHook{enddocument/afterlastpage}` instead of formerly
`\AtEndDocument` and `\AfterLastShipout`, which were different.)

Last page's *number* (LastPages): $\frac{\text{LastPages}}{48}$ (= total number of pages)

3.3 Neither `\addtocounter{page}` nor `\setcounter{page}` is a problem for the current or total page numbers

(Here is an `\addtocounter{page}{3}` in the source code.)

The page (from `\thepage` command): 8

Current page (from `\theCurrentPage` command), i.e. counted continuously from the first page): 12

CurrentPageLocal (from `\theCurrentPageLocal` command), i.e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false: sector`): 5

Last page's number (LastPages): $\frac{\text{LastPages}}{48}$ (= total number of pages)

4 fnsymbol

Without option `fnsymbolmult=true` of the `pageslts` package (and the help of the `alphalph` package), after page 9 (“††”) (and also for negative page numbers) there would just appear a

```
LaTeX Error: Counter too large
See the LaTeX manual or LaTeX Companion for explanation.
You've lost some text. Try typing <return> to proceed.
If that doesn't work, type X <return> to quit.
```

Now the page numbers after 5 (¶) are continued with the doubled “number” of the first, second, third, ... page (*, ††, ‡‡, §§, ¶¶), and after the tenth page the “number” is tripled (***, †††, ...). Page zero is named 0 and negative pages are just named like the positive ones with addition of a minus sign (−).

For testing purposes, try:

```
\documentclass{article}
\usepackage[plainpages=false,pageanchor=true,pdfpagelabels=true]{hyperref}
\usepackage{pageslts}
\pagenumbering{fnsymbol}
\begin{document}
First page.\newpage
\verb|\lastpageref{pagesLTS.0} | \lastpageref{pagesLTS.0} \par
\verb|\lastpageref{pagesLTS.0.local} | \lastpageref{pagesLTS.0.local} \par
\verb|\lastpageref{LastPage} | \lastpageref{LastPage} \par
\verb|\lastpageref{VeryLastPage} | \lastpageref{VeryLastPage} \par
\verb|\lastpageref{pagesLTS.fnsymbol.1} | \lastpageref{pagesLTS.fnsymbol.1} \par
\verb|\lastpageref{pagesLTS.fnsymbol.1.local} | \lastpageref{pagesLTS.fnsymbol.1.local} \par
\verb|\lastpageref{pagesLTS.fnsymbol} | \lastpageref{pagesLTS.fnsymbol} \par
\verb|\lastpageref{pagesLTS.fnsymbol.local} | \lastpageref{pagesLTS.fnsymbol.local} \par
\verb|\lastpageref{LastPages} | \lastpageref{LastPages} \par
\verb|\pagesLTSlastpage | \pagesLTSlastpage
\newpage
Last page.
\end{document}
```

First page (`\lastpageref{pagesLTS.0}`): $\frac{\text{pagesLTS.0}}{1}$

The page (`\thepage`): †

Current page (`\theCurrentPage`), i. e. counted continuously from the first page): 14

CurrentPageLocal (`\theCurrentPageLocal`), i. e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 2

Last roman page (`pagesLTS.roman`): $\frac{\text{pagesLTS.roman}}{\text{iv}}$ (There are $\frac{\text{pagesLTS.roman.local}}{4}$ pages with roman numbers.)

Last Roman page (`pagesLTS.Roman`): $\frac{\text{pagesLTS.Roman}}{\text{XII}}$ (There are $\frac{\text{pagesLTS.Roman.local}}{12}$ pages with Roman numbers:

3 pages in the first Roman sector ($\frac{\text{Roman}}{1}$ $\frac{\text{pagesLTS.Roman.1}}{\text{III}}$)
 5 pages in the second Roman sector ($\frac{\text{Roman2}}{\text{IV}}$ $\frac{\text{pagesLTS.Roman.2}}{\text{VIII}}$) and
 4 pages in the third Roman sector ($\frac{\text{Roman3}}{\text{IX}}$ $\frac{\text{pagesLTS.Roman.3}}{\text{XII}}$).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```
\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+\csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+\csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%
```

would be necessary.

Last arabic page (`pagesLTS.arabic`): $\frac{\text{pagesLTS.arabic}}{8}$ (There are only $\frac{\text{pagesLTS.arabic.local}}{5}$ pages with arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (`pagesLTS.fnsymbol`): $\frac{\text{pagesLTS.fnsymbol}}{13}$
 (better `\lastpageref{pagesLTS.fnsymbol}` than just
`\pageref{pagesLTS.fnsymbol}`!)

(There are 13 pages with fnsymbol numbers.)

Last alph page (`pagesLTS.alph`): $\frac{\text{pagesLTS.alph}}{\text{ac}}$ (There are only $\frac{\text{pagesLTS.alph.local}}{6}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Page † (14; local: 2) of $\frac{\text{pagesLTS.0}}{1} + \frac{\text{pagesLTS.roman}}{\text{iv}}(4) + \frac{\text{pagesLTS.Roman}}{\text{XII}}(12) + \frac{\text{pagesLTS.arabic}}{8}(5) + \frac{\text{pagesLTS.fnsymbol}}{13}(13) + \frac{\text{pagesLTS.alph}}{\text{ac}}(6) + (1) + G(7) = 48$ pages.

Last Alph page (pagesLTS.Alph): $\frac{\text{pagesLTS.Alph}}{G}$ (There are $\frac{\text{pagesLTS.Alph.local}}{7}$ pages with Alph numbers.)

Last page's *name* (LastPage): $\frac{\text{LastPage}}{G}$

Very last page's *name* (VeryLastPage): $\frac{\text{VeryLastPage}}{G}$
 (LastPage and VeryLastPage are now identical, because both are now done `\AddToHook{enddocument/afterlastpage}` instead of formerly `\AtEndDocument` and `\AfterLastShipout`, which were different.)

Last page's *number* (LastPages): $\frac{\text{LastPages}}{48}$ (= total number of pages)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim.

Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetur at, consectetur sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui. Morbi luctus, wisi viverra faucibus pretium, nibh est placerat odio, nec commodo wisi enim eget quam. Quisque libero justo, consectetur a, feugiat vitae, porttitor eu, libero. Suspendisse sed mauris vitae elit sollicitudin malesuada. Maecenas ultricies eros sit amet ante. Ut venenatis velit. Maecenas sed mi eget dui varius euismod. Phasellus aliquet volutpat odio. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit amet pede ac sem eleifend consectetur. Nullam elementum, urna vel imperdiet sodales, elit ipsum pharetra ligula, ac pretium ante justo a nulla. Curabitur tristique arcu eu metus. Vestibulum lectus. Proin mauris. Proin eu nunc eu urna hendrerit faucibus. Aliquam auctor, pede consequat laoreet varius, eros

tellus scelerisque quam, pellentesque hendrerit ipsum dolor sed augue. Nulla nec lacus.

Suspendisse vitae elit. Aliquam arcu neque, ornare in, ullamcorper quis, commodo eu, libero. Fusce sagittis erat at erat tristique mollis. Maecenas sapien libero, molestie et, lobortis in, sodales eget, dui. Morbi ultrices rutrum lorem. Nam elementum ullamcorper leo. Morbi dui. Aliquam sagittis. Nunc placerat. Pellentesque tristique sodales est. Maecenas imperdiet lacinia velit. Cras non urna. Morbi eros pede, suscipit ac, varius vel, egestas non, eros. Praesent malesuada, diam id pretium elementum, eros sem dictum tortor, vel consectetur odio sem sed wisi.

Sed feugiat. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Ut pellentesque augue sed urna. Vestibulum diam eros, fringilla et, consectetur eu, nonummy id, sapien. Nullam at lectus. In sagittis ultrices mauris. Curabitur malesuada erat sit amet massa. Fusce blandit. Aliquam erat volutpat. Aliquam euismod. Aenean vel lectus. Nunc imperdiet justo nec dolor.

Etiam euismod. Fusce facilisis lacinia dui. Suspendisse potenti. In mi erat, cursus id, nonummy sed, ullamcorper eget, sapien. Praesent pretium, magna in eleifend egestas, pede pede pretium lorem, quis consectetur tortor sapien facilisis magna. Mauris quis magna varius nulla scelerisque imperdiet. Aliquam non quam. Aliquam porttitor quam a lacus. Praesent vel arcu ut tortor cursus volutpat. In vitae pede quis diam bibendum placerat. Fusce elementum convalis neque. Sed dolor orci, scelerisque ac, dapibus nec, ultricies ut, mi. Duis nec dui quis leo sagittis commodo.

Aliquam lectus. Vivamus leo. Quisque ornare tellus ullamcorper nulla. Mauris porttitor pharetra tortor. Sed fringilla justo sed mauris. Mauris tellus. Sed non leo. Nullam elementum, magna in cursus sodales, augue est scelerisque sapien, venenatis congue nulla arcu et pede. Ut suscipit enim vel sapien. Donec congue. Maecenas urna mi, suscipit in, placerat ut, vestibulum ut, massa. Fusce ultrices nulla et nisl.

Etiam ac leo a risus tristique nonummy. Donec dignissim tincidunt nulla. Vestibulum rhoncus molestie odio. Sed lobortis, justo et pretium lobortis, mauris turpis condimentum augue, nec ultricies nibh arcu pretium enim. Nunc purus neque, placerat id, imperdiet sed, pellentesque nec, nisl. Vestibulum imperdiet neque non sem accumsan laoreet. In hac habitasse platea dictumst. Etiam condimentum facilisis libero. Suspendisse in elit quis nisl aliquam dapibus. Pellentesque auctor sapien. Sed egestas sapien nec lectus. Pellentesque vel dui vel neque bibendum viverra. Aliquam porttitor nisl nec pede. Proin mattis libero vel turpis. Donec rutrum mauris et libero. Proin euismod porta felis. Nam lobortis, metus quis elementum commodo, nunc lectus elementum mauris, eget vulputate ligula tellus eu neque. Vivamus eu dolor.

Nulla in ipsum. Praesent eros nulla, congue vitae, euismod ut, commodo a, wisi. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Aenean nonummy magna non leo. Sed felis erat, ullamcorper in, dictum non, ultricies ut, lectus. Proin vel arcu a odio lobortis euismod. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae;

Proin ut est. Aliquam odio. Pellentesque massa turpis, cursus eu, euismod nec, tempor congue, nulla. Duis viverra gravida mauris. Cras tincidunt. Curabitur eros ligula, varius ut, pulvinar in, cursus faucibus, augue.

Nulla mattis luctus nulla. Duis commodo velit at leo. Aliquam vulputate magna et leo. Nam vestibulum ullamcorper leo. Vestibulum condimentum rutrum mauris. Donec id mauris. Morbi molestie justo et pede. Vivamus eget turpis sed nisl cursus tempor. Curabitur mollis sapien condimentum nunc. In wisi nisl, malesuada at, dignissim sit amet, lobortis in, odio. Aenean consequat arcu a ante. Pellentesque porta elit sit amet orci. Etiam at turpis nec elit ultricies imperdiet. Nulla facilisi. In hac habitasse platea dictumst. Suspendisse viverra aliquam risus. Nullam pede justo, molestie nonummy, scelerisque eu, facilisis vel, arcu.

Curabitur tellus magna, porttitor a, commodo a, commodo in, tortor. Donec interdum. Praesent scelerisque. Maecenas posuere sodales odio. Vivamus metus lacus, varius quis, imperdiet quis, rhoncus a, turpis. Etiam ligula arcu, elementum a, venenatis quis, sollicitudin sed, metus. Donec nunc pede, tincidunt in, venenatis vitae, faucibus vel, nibh. Pellentesque wisi. Nullam malesuada. Morbi ut tellus ut pede tincidunt porta. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam congue neque id dolor.

Donec et nisl at wisi luctus bibendum. Nam interdum tellus ac libero. Sed sem justo, laoreet vitae, fringilla at, adipiscing ut, nibh. Maecenas non sem quis tortor eleifend fermentum. Etiam id tortor ac mauris porta vulputate. Integer porta neque vitae massa. Maecenas tempus libero a libero posuere dictum. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Aenean quis mauris sed elit commodo placerat. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Vivamus rhoncus tincidunt libero. Etiam elementum pretium justo. Vivamus est. Morbi a tellus eget pede tristique commodo. Nulla nisl. Vestibulum sed nisl eu sapien cursus rutrum.

Nulla non mauris vitae wisi posuere convallis. Sed eu nulla nec eros scelerisque pharetra. Nullam varius. Etiam dignissim elementum metus. Vestibulum faucibus, metus sit amet mattis rhoncus, sapien dui laoreet odio, nec ultricies nibh augue a enim. Fusce in ligula. Quisque at magna et nulla commodo consequat. Proin accumsan imperdiet sem. Nunc porta. Donec feugiat mi at justo. Phasellus facilisis ipsum quis ante. In ac elit eget ipsum pharetra faucibus. Maecenas viverra nulla in massa.

Nulla ac nisl. Nullam urna nulla, ullamcorper in, interdum sit amet, gravida ut, risus. Aenean ac enim. In luctus. Phasellus eu quam vitae turpis viverra pellentesque. Duis feugiat felis ut enim. Phasellus pharetra, sem id porttitor sodales, magna nunc aliquet nibh, nec blandit nisl mauris at pede. Suspendisse risus risus, lobortis eget, semper at, imperdiet sit amet, quam. Quisque scelerisque dapibus nibh. Nam enim. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc ut metus. Ut metus justo, auctor at, ultrices eu, sagittis ut, purus. Aliquam aliquam.

Etiam pede massa, dapibus vitae, rhoncus in, placerat posuere, odio. Vestibulum luctus commodo lacus. Morbi lacus dui, tempor sed, euismod eget, condi-

mentum at, tortor. Phasellus aliquet odio ac lacus tempor faucibus. Praesent sed sem. Praesent iaculis. Cras rhoncus tellus sed justo ullamcorper sagittis. Donec quis orci. Sed ut tortor quis tellus euismod tincidunt. Suspendisse congue nisl eu elit. Aliquam tortor diam, tempus id, tristique eget, sodales vel, nulla. Praesent tellus mi, condimentum sed, viverra at, consectetur quis, lectus. In auctor vehicula orci. Sed pede sapien, euismod in, suscipit in, pharetra placerat, metus. Vivamus commodo dui non odio. Donec et felis.

Etiam suscipit aliquam arcu. Aliquam sit amet est ac purus bibendum congue. Sed in eros. Morbi non orci. Pellentesque mattis lacinia elit. Fusce molestie velit in ligula. Nullam et orci vitae nibh vulputate auctor. Aliquam eget purus. Nulla auctor wisi sed ipsum. Morbi porttitor tellus ac enim. Fusce ornare. Proin ipsum enim, tincidunt in, ornare venenatis, molestie a, augue. Donec vel pede in lacus sagittis porta. Sed hendrerit ipsum quis nisl. Suspendisse quis massa ac nibh pretium cursus. Sed sodales. Nam eu neque quis pede dignissim ornare. Maecenas eu purus ac urna tincidunt congue.

Donec et nisl id sapien blandit mattis. Aenean dictum odio sit amet risus. Morbi purus. Nulla a est sit amet purus venenatis iaculis. Vivamus viverra purus vel magna. Donec in justo sed odio malesuada dapibus. Nunc ultrices aliquam nunc. Vivamus facilisis pellentesque velit. Nulla nunc velit, vulputate dapibus, vulputate id, mattis ac, justo. Nam mattis elit dapibus purus. Quisque enim risus, congue non, elementum ut, mattis quis, sem. Quisque elit.

Maecenas non massa. Vestibulum pharetra nulla at lorem. Duis quis quam id lacus dapibus interdum. Nulla lorem. Donec ut ante quis dolor bibendum condimentum. Etiam egestas tortor vitae lacus. Praesent cursus. Mauris bibendum pede at elit. Morbi et felis a lectus interdum facilisis. Sed suscipit gravida turpis. Nulla at lectus. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Praesent nonummy luctus nibh. Proin turpis nunc, congue eu, egestas ut, fringilla at, tellus. In hac habitasse platea dictumst.

Vivamus eu tellus sed tellus consequat suscipit. Nam orci orci, malesuada id, gravida nec, ultricies vitae, erat. Donec risus turpis, luctus sit amet, interdum quis, porta sed, ipsum. Suspendisse condimentum, tortor at egestas posuere, neque metus tempor orci, et tincidunt urna nunc a purus. Sed facilisis blandit tellus. Nunc risus sem, suscipit nec, eleifend quis, cursus quis, libero. Curabitur et dolor. Sed vitae sem. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Maecenas ante. Duis ullamcorper enim. Donec tristique enim eu leo. Nullam molestie elit eu dolor. Nullam bibendum, turpis vitae tristique gravida, quam sapien tempor lectus, quis pretium tellus purus ac quam. Nulla facilisi.

Duis aliquet dui in est. Donec eget est. Nunc lectus odio, varius at, fermentum in, accumsan non, enim. Aliquam erat volutpat. Proin sit amet nulla ut eros consectetur cursus. Phasellus dapibus aliquam justo. Nunc laoreet. Donec consequat placerat magna. Duis pretium tincidunt justo. Sed sollicitudin vestibulum quam. Nam quis ligula. Vivamus at metus. Etiam imperdiet imperdiet pede. Aenean turpis. Fusce augue velit, scelerisque sollicitudin, dictum vitae, tempor et, pede. Donec wisi sapien, feugiat in, fermentum ut, sollicitudin

adipiscing, metus.

Donec vel nibh ut felis consectetur laoreet. Donec pede. Sed id quam id wisi laoreet suscipit. Nulla lectus dolor, aliquam ac, fringilla eget, mollis ut, orci. In pellentesque justo in ligula. Maecenas turpis. Donec eleifend leo at felis tincidunt consequat. Aenean turpis metus, malesuada sed, condimentum sit amet, auctor a, wisi. Pellentesque sapien elit, bibendum ac, posuere et, congue eu, felis. Vestibulum mattis libero quis metus scelerisque ultrices. Sed purus.

Donec molestie, magna ut luctus ultrices, tellus arcu nonummy velit, sit amet pulvinar elit justo et mauris. In pede. Maecenas euismod elit eu erat. Aliquam augue wisi, facilisis congue, suscipit in, adipiscing et, ante. In justo. Cras lobortis neque ac ipsum. Nunc fermentum massa at ante. Donec orci tortor, egestas sit amet, ultrices eget, venenatis eget, mi. Maecenas vehicula leo semper est. Mauris vel metus. Aliquam erat volutpat. In rhoncus sapien ac tellus. Pellentesque ligula.

Cras dapibus, augue quis scelerisque ultricies, felis dolor placerat sem, id porta velit odio eu elit. Aenean interdum nibh sed wisi. Praesent sollicitudin vulputate dui. Praesent iaculis viverra augue. Quisque in libero. Aenean gravida lorem vitae sem ullamcorper cursus. Nunc adipiscing rutrum ante. Nunc ipsum massa, faucibus sit amet, viverra vel, elementum semper, orci. Cras eros sem, vulputate et, tincidunt id, ultrices eget, magna. Nulla varius ornare odio. Donec accumsan mauris sit amet augue. Sed ligula lacus, laoreet non, aliquam sit amet, iaculis tempor, lorem. Suspendisse eros. Nam porta, leo sed congue tempor, felis est ultrices eros, id mattis velit felis non metus. Curabitur vitae elit non mauris varius pretium. Aenean lacus sem, tincidunt ut, consequat quis, porta vitae, turpis. Nullam laoreet fermentum urna. Proin iaculis lectus.

Sed mattis, erat sit amet gravida malesuada, elit augue egestas diam, tempus scelerisque nunc nisl vitae libero. Sed consequat feugiat massa. Nunc porta, eros in eleifend varius, erat leo rutrum dui, non convallis lectus orci ut nibh. Sed lorem massa, nonummy quis, egestas id, condimentum at, nisl. Maecenas at nibh. Aliquam et augue at nunc pellentesque ullamcorper. Duis nisl nibh, laoreet suscipit, convallis ut, rutrum id, enim. Phasellus odio. Nulla nulla elit, molestie non, scelerisque at, vestibulum eu, nulla. Ut odio nisl, facilisis id, mollis et, scelerisque nec, enim. Aenean sem leo, pellentesque sit amet, scelerisque sit amet, vehicula pellentesque, sapien.

Sed consequat tellus et tortor. Ut tempor laoreet quam. Nullam id wisi a libero tristique semper. Nullam nisl massa, rutrum ut, egestas semper, mollis id, leo. Nulla ac massa eu risus blandit mattis. Mauris ut nunc. In hac habitasse platea dictumst. Aliquam eget tortor. Quisque dapibus pede in erat. Nunc enim. In dui nulla, commodo at, consectetur nec, malesuada nec, elit. Aliquam ornare tellus eu urna. Sed nec metus. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

Phasellus id magna. Duis malesuada interdum arcu. Integer metus. Morbi pulvinar pellentesque mi. Suspendisse sed est eu magna molestie egestas. Quisque mi lorem, pulvinar eget, egestas quis, luctus at, ante. Proin auctor vehicula purus. Fusce ac nisl aliquam ante hendrerit pellentesque. Class aptent taciti

sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Morbi wisi. Etiam arcu mauris, facilisis sed, eleifend non, nonummy ut, pede. Cras ut lacus tempor metus mollis placerat. Vivamus eu tortor vel metus interdum malesuada.

Sed eleifend, eros sit amet faucibus elementum, urna sapien consectetur mauris, quis egestas leo justo non risus. Morbi non felis ac libero vulputate fringilla. Mauris libero eros, lacinia non, sodales quis, dapibus porttitor, pede. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Morbi dapibus mauris condimentum nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Etiam sit amet erat. Nulla varius. Etiam tincidunt dui vitae turpis. Donec leo. Morbi vulputate convallis est. Integer aliquet. Pellentesque aliquet sodales urna.

Nullam eleifend justo in nisl. In hac habitasse platea dictumst. Morbi nonummy. Aliquam ut felis. In velit leo, dictum vitae, posuere id, vulputate nec, ante. Maecenas vitae pede nec dui dignissim suscipit. Morbi magna. Vestibulum id purus eget velit laoreet laoreet. Praesent sed leo vel nibh convallis blandit. Ut rutrum. Donec nibh. Donec interdum. Fusce sed pede sit amet elit rhoncus ultrices. Nullam at enim vitae pede vehicula iaculis.

Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Aenean nonummy turpis id odio. Integer euismod imperdiet turpis. Ut nec leo nec diam imperdiet lacinia. Etiam eget lacus eget mi ultricies posuere. In placerat tristique tortor. Sed porta vestibulum metus. Nulla iaculis sollicitudin pede. Fusce luctus tellus in dolor. Curabitur auctor velit a sem. Morbi sapien. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Donec adipiscing urna vehicula nunc. Sed ornare leo in leo. In rhoncus leo ut dui. Aenean dolor quam, volutpat nec, fringilla id, consectetur vel, pede.

Nulla malesuada risus ut urna. Aenean pretium velit sit amet metus. Duis iaculis. In hac habitasse platea dictumst. Nullam molestie turpis eget nisl. Duis a massa id pede dapibus ultricies. Sed eu leo. In at mauris sit amet tortor bibendum varius. Phasellus justo risus, posuere in, sagittis ac, varius vel, tortor. Quisque id enim. Phasellus consequat, libero pretium nonummy fringilla, tortor lacus vestibulum nunc, ut rhoncus ligula neque id justo. Nullam accumsan euismod nunc. Proin vitae ipsum ac metus dictum tempus. Nam ut wisi. Quisque tortor felis, interdum ac, sodales a, semper a, sem. Curabitur in velit sit amet dui tristique sodales. Vivamus mauris pede, lacinia eget, pellentesque quis, scelerisque eu, est. Aliquam risus. Quisque bibendum pede eu dolor.

Donec tempus neque vitae est. Aenean egestas odio sed risus ullamcorper ullamcorper. Sed in nulla a tortor tincidunt egestas. Nam sapien tortor, elementum sit amet, aliquam in, porttitor faucibus, enim. Nullam congue suscipit nibh. Quisque convallis. Praesent arcu nibh, vehicula eget, accumsan eu, tincidunt a, nibh. Suspendisse vulputate, tortor quis adipiscing viverra, lacus nibh dignissim tellus, eu suscipit risus ante fringilla diam. Quisque a libero vel pede imperdiet aliquet. Pellentesque nunc nibh, eleifend a, consequat consequat, hendrerit nec, diam. Sed urna. Maecenas laoreet eleifend neque. Vivamus purus odio, eleifend non, iaculis a, ultrices sit amet, urna. Mauris faucibus odio vitae risus. In nisl.

Praesent purus. Integer iaculis, sem eu egestas lacinia, lacus pede scelerisque augue, in ullamcorper dolor eros ac lacus. Nunc in libero.

Fusce suscipit cursus sem. Vivamus risus mi, egestas ac, imperdiet varius, faucibus quis, leo. Aenean tincidunt. Donec suscipit. Cras id justo quis nibh scelerisque dignissim. Aliquam sagittis elementum dolor. Aenean consectetur justo in pede. Curabitur ullamcorper ligula nec orci. Aliquam purus turpis, aliquam id, ornare vitae, porttitor non, wisi. Maecenas luctus porta lorem. Donec vitae ligula eu ante pretium varius. Proin tortor metus, convallis et, hendrerit non, scelerisque in, urna. Cras quis libero eu ligula bibendum tempor. Vivamus tellus quam, malesuada eu, tempus sed, tempus sed, velit. Donec lacinia auctor libero.

Praesent sed neque id pede mollis rutrum. Vestibulum iaculis risus. Pellentesque lacus. Ut quis nunc sed odio malesuada egestas. Duis a magna sit amet ligula tristique pretium. Ut pharetra. Vestibulum imperdiet magna nec wisi. Mauris convallis. Sed accumsan sollicitudin massa. Sed id enim. Nunc pede enim, lacinia ut, pulvinar quis, suscipit semper, elit. Cras accumsan erat vitae enim. Cras sollicitudin. Vestibulum rutrum blandit massa.

Sed gravida lectus ut purus. Morbi laoreet magna. Pellentesque eu wisi. Proin turpis. Integer sollicitudin augue nec dui. Fusce lectus. Vivamus faucibus nulla nec lacus. Integer diam. Pellentesque sodales, enim feugiat cursus volutpat, sem mauris dignissim mauris, quis consequat sem est fermentum ligula. Nullam justo lectus, condimentum sit amet, posuere a, fringilla mollis, felis. Morbi nulla nibh, pellentesque at, nonummy eu, sollicitudin nec, ipsum. Cras neque. Nunc augue. Nullam vitae quam id quam pulvinar blandit. Nunc sit amet orci. Aliquam erat elit, pharetra nec, aliquet a, gravida in, mi. Quisque urna enim, viverra quis, suscipit quis, tincidunt ut, sapien. Cras placerat consequat sem. Curabitur ac diam. Curabitur diam tortor, mollis et, viverra ac, tempus vel, metus.

Curabitur ac lorem. Vivamus non justo in dui mattis posuere. Etiam accumsan ligula id pede. Maecenas tincidunt diam nec velit. Praesent convallis sapien ac est. Aliquam ullamcorper euismod nulla. Integer mollis enim vel tortor. Nulla sodales placerat nunc. Sed tempus rutrum wisi. Duis accumsan gravida purus. Nunc nunc. Etiam facilisis dui eu sem. Vestibulum semper. Praesent eu eros. Vestibulum tellus nisl, dapibus id, vestibulum sit amet, placerat ac, mauris. Maecenas et elit ut erat placerat dictum. Nam feugiat, turpis et sodales volutpat, wisi quam rhoncus neque, vitae aliquam ipsum sapien vel enim. Maecenas suscipit cursus mi.

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mi. Nunc vel ante. Duis vitae lacus. Cras nec ipsum.

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Nunc velit. Nullam elit sapien, eleifend eu, commodo nec, semper sit amet, elit. Nulla lectus risus, condimentum ut, laoreet eget, viverra nec, odio. Proin lobortis. Curabitur dictum arcu vel wisi. Cras id nulla venenatis tortor congue ultrices. Pellentesque eget pede. Sed eleifend sagittis elit. Nam sed tellus sit amet lectus ullamcorper tristique. Mauris enim sem, tristique eu, accumsan at, scelerisque vulputate, neque. Quisque lacus. Donec et ipsum sit amet elit nonummy aliquet. Sed viverra nisl at sem. Nam diam. Mauris ut dolor. Curabitur ornare tortor cursus velit.

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5 Roman – again!

The page number starts with “I” again for option just `pagecontinue=false`, but for option `pagecontinue=true`, or with option just `pagecontinue`, or even just **without** option `pagecontinue=false` the page numbers are continued. This package remembered the 4 – 1, i. e. 3, pages already done in Roman output, and therefore continues with page “IV” in case of option `pagecontinue`. If you want to start with “I” all over again, you will have two pages with the same name, but nevertheless you can do this by using option `pagecontinue=false` or a `\setcounter{page}{1}` here (not demonstrated in this example file).

There was the question: “With option `pagecontinue=false`, how do I get the number of pages in each number block (e.g. in the first Roman section, second Roman section, third Roman section) with just one command?”

```
\makeatletter%
\theCurrentPageLocal~of~\lastpageref*{%
pagesLTS.\pagesLTS@pnc.\number\value{pagesLTS.pnc.\pagesLTS@pnc}.local}%
\makeatother%
```

provides this. Here: 4 of 8 pagesLTS.Roman.2.1.local
for `pagecontinue=true` is 4 of 8 (including 3 from the first Roman section,
4 = 3 + 1, 8 = 3 + 5)
and for `pagecontinue=false` is 1 of 5.

pagesLTS.\pagesLTS@pnc.\number\value{pagesLTS.pnc.\pagesLTS@pnc}.local
is:

- `pagesLTS` just identifies this counter to belong to the `pageslts` package.
- `\pagesLTS@pnc` is the Current Page Numbering scheme, i. e. here it would be Roman.
- `\number\value{pagesLTS.pnc.\pagesLTS@pnc}` is the value of counter `pagesLTS.pnc.\pagesLTS@pnc` printed in arabic numbers (1, 2, 3, ...) – see below.
- `local`: Local there are 5 pages with Roman numbering in this example, globally there are $3+5+4 = 12$ pages with Roman numbering in this example, and the local numbers are wanted.

The counter `pagesLTS.pnc.\pagesLTS@pnc` gives the number of the `\pagesLTS@pnc` page numbering scheme currently used, i. e. we have consecutively

Page IV (26; local: 4) of $\text{iv}(4) + \text{XII}(12) + 8(5) + \text{iii}(13) + \text{ac}(6) + (1) + \text{G}(7) = 48$ pages.

```

pagesLTS.pnc.roman      = 1
pagesLTS.pnc.Roman      = 1
pagesLTS.pnc.arabic     = 1
pagesLTS.pnc.fnsymbol   = 1
pagesLTS.pnc.Roman      = 2
pagesLTS.pnc.alph       = 1
pagesLTS.pnc.Roman      = 3
pagesLTS.pnc.Alph       = 1

```

So, `pagesLTS.pnc.Roman` changes from 1 to 2 automatically when doing the second `\pagenumbering{Roman}`, and changes from 2 to 3 for the third `\pagenumbering{Roman}`.

First page (`\lastpageref{pagesLTS.0}`): `pagesLTS.0`

The page (`\thepage`): V

Current page (`\theCurrentPage`), i. e. counted continuously from the first page): 27

CurrentPageLocal (`\theCurrentPageLocal`), i. e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 5

Last roman page (`pagesLTS.roman`): `pagesLTS.roman` (There are `pagesLTS.roman.local` numbers.)

Last Roman page (`pagesLTS.Roman`): `pagesLTS.Roman` (There are `pagesLTS.Roman.local` man numbers:

3 pages in the first Roman sector (`Roman` `pagesLTS.Roman.1`),
5 pages in the second Roman sector (`Roman2` `pagesLTS.Roman.2`), and
4 pages in the third Roman sector (`Roman3` `pagesLTS.Roman.3`).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```

\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%

```

Page V (27; local: 5) of `pagesLTS.roman` (`pagesLTS.roman.local`) = 48 pages.

would be necessary.

Last arabic page (pagesLTS.arabic): $\frac{\text{pagesLTS.arabic}}{8}$ (There are only $\frac{\text{pagesLTS.arabic.local}}{5}$ pages with arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (pagesLTS.fnsymbol): $\frac{\text{pagesLTS.fnsymbol}}{13}$
(`\lastpageref{pagesLTS.fnsymbol}` – never `\pageref{pagesLTS.fnsymbol}!`)
(There are 13 pages with fnsymbol numbers.)

Last alph page (pagesLTS.alph): $\frac{\text{pagesLTS.alph}}{6}$ (There are only $\frac{\text{pagesLTS.alph.local}}{6}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Last Alph page (pagesLTS.Alph): $\frac{\text{pagesLTS.Alph}}{7}$ (There are $\frac{\text{pagesLTS.Alph.local}}{7}$ pages with Alph numbers.)

Last page's *name* (LastPage): $\frac{\text{LastPage}}{G}$

Very last page's *name* (VeryLastPage): $\frac{\text{VeryLastPage}}{G}$
(`LastPage` and `VeryLastPage` are now identical, because both are now done `\AddToHook{enddocument/afterlastpage}` instead of formerly `\AtEndDocument` and `\AfterLastShipout`, which were different.)

Last page's *number* (LastPages): $\frac{\text{LastPages}}{48}$ (= total number of pages)

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Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa

ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

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Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

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6 alph

First page (`\lastpageref{pagesLTS.0}`): $\frac{\text{pagesLTS.0}}{1}$

The page (`\thepage`): a

Current page (`\theCurrentPage`), i. e. counted continuously from the first page): 31

CurrentPageLocal (`\theCurrentPageLocal`), i. e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 1

Last roman page (`pagesLTS.roman`): $\frac{\text{pagesLTS.roman}}{\text{iv}}$ (There are $\frac{\text{pagesLTS.roman.local}}{4}$ pages with roman numbers.)

Last Roman page (`pagesLTS.Roman`): $\frac{\text{pagesLTS.Roman}}{\text{XII}}$ (There are $\frac{\text{pagesLTS.Roman.local}}{12}$ pages with Roman numbers:

3 pages in the first Roman sector ($\frac{\text{Roman}}{\text{I}}$ $\frac{\text{pagesLTS.Roman.1}}{\text{III}}$),
 5 pages in the second Roman sector ($\frac{\text{Roman2}}{\text{IV}}$ $\frac{\text{pagesLTS.Roman.2}}{\text{VIII}}$), and
 4 pages in the third Roman sector ($\frac{\text{Roman3}}{\text{IX}}$ $\frac{\text{pagesLTS.Roman.3}}{\text{XII}}$).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```
\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%
```

would be necessary.

Last arabic page (`pagesLTS.arabic`): $\frac{\text{pagesLTS.arabic}}{8}$ (There are only $\frac{\text{pagesLTS.arabic.local}}{5}$ pages with arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (`pagesLTS.fnsymbol`): $\frac{\text{pagesLTS.fnsymbol}}{\text{tiii}}$
 (better `\lastpageref{pagesLTS.fnsymbol}` than just
`\pageref{pagesLTS.fnsymbol}!`)

(There are 13 pages with fnsymbol numbers.)

Last alph page (`pagesLTS.alph`): $\frac{\text{pagesLTS.alph}}{\text{ac}}$ (There are only $\frac{\text{pagesLTS.alph.local}}{6}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Page a (31; local: 1) of $\frac{\text{pagesLTS.roman.local}}{\text{iv}}(4) + \frac{\text{pagesLTS.Roman.local}}{\text{XII}}(12) + \frac{\text{pagesLTS.arabic.local}}{8}(5) + \frac{\text{pagesLTS.fnsymbol.local}}{\text{tiii}}(13) + \frac{\text{pagesLTS.alph.local}}{\text{ac}}(6) + (1) + G(7) = 48$ pages.

Last Alph page (pagesLTS.Alph): 6 (There are 7 pages with Alph numbers.)

Last page's *name* (LastPage): 6

Very last page's *name* (VeryLastPage): VeryLastPage
 (LastPage and VeryLastPage are now identical, because both are now done
`\AddToHook{enddocument/afterlastpage}` instead of formerly
`\AtEndDocument` and `\AfterLastShipout`, which were different.)

Last page's *number* (LastPages): $\frac{\text{LastPages}}{48}$ (= total number of pages)

Without option `alphMult=ab` of the `pageslts` (and the help of the `alphalph` package), after page “z” there would just appear a

```
LaTeX Error: Counter too large
See the LaTeX manual or LaTeX Companion for explanation.
You've lost some text. Try typing <return> to proceed.
If that doesn't work, type X <return> to quit.
```

Now the page numbers are continued aa, ab, ac,... (aa, bb, cc,... is also possible, see the `pageslts` documentation).

To demonstrate this, we add a

```
\addtocounter{page}{23}
```

in the source code here.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

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Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed

gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetur at, consectetur sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui. Morbi luctus, wisi viverra faucibus pretium, nibh est placerat odio, nec commodo wisi enim eget quam. Quisque libero justo, consectetur a, feugiat vitae, porttitor eu, libero. Suspendisse sed mauris vitae elit sollicitudin malesuada. Maecenas ultricies eros sit amet ante. Ut venenatis velit. Maecenas sed mi eget dui varius euismod. Phasellus aliquet volutpat odio. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit amet pede ac sem eleifend consectetur. Nullam elementum, urna vel imperdiet sodales, elit ipsum pharetra ligula, ac pretium ante justo a nulla. Curabitur tristique arcu eu metus. Vestibulum lectus. Proin mauris. Proin eu nunc eu

urna hendrerit faucibus. Aliquam auctor, pede consequat laoreet varius, eros tellus scelerisque quam, pellentesque hendrerit ipsum dolor sed augue. Nulla nec lacus.

Suspendisse vitae elit. Aliquam arcu neque, ornare in, ullamcorper quis, commodo eu, libero. Fusce sagittis erat at erat tristique mollis. Maecenas sapien libero, molestie et, lobortis in, sodales eget, dui. Morbi ultrices rutrum lorem. Nam elementum ullamcorper leo. Morbi dui. Aliquam sagittis. Nunc placerat. Pellentesque tristique sodales est. Maecenas imperdiet lacinia velit. Cras non urna. Morbi eros pede, suscipit ac, varius vel, egestas non, eros. Praesent malesuada, diam id pretium elementum, eros sem dictum tortor, vel consectetur odio sem sed wisi.

Sed feugiat. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Ut pellentesque augue sed urna. Vestibulum diam eros, fringilla et, consectetur eu, nonummy id, sapien. Nullam at lectus. In sagittis ultrices mauris. Curabitur malesuada erat sit amet massa. Fusce blandit. Aliquam erat volutpat. Aliquam euismod. Aenean vel lectus. Nunc imperdiet justo nec dolor.

Etiam euismod. Fusce facilisis lacinia dui. Suspendisse potenti. In mi erat, cursus id, nonummy sed, ullamcorper eget, sapien. Praesent pretium, magna in eleifend egestas, pede pede pretium lorem, quis consectetur tortor sapien facilisis magna. Mauris quis magna varius nulla scelerisque imperdiet. Aliquam non quam. Aliquam porttitor quam a lacus. Praesent vel arcu ut tortor cursus volutpat. In vitae pede quis diam bibendum placerat. Fusce elementum convallis neque. Sed dolor orci, scelerisque ac, dapibus nec, ultricies ut, mi. Duis nec dui quis leo sagittis commodo.

Aliquam lectus. Vivamus leo. Quisque ornare tellus ullamcorper nulla. Mauris porttitor pharetra tortor. Sed fringilla justo sed mauris. Mauris tellus. Sed non leo. Nullam elementum, magna in cursus sodales, augue est scelerisque sapien, venenatis congue nulla arcu et pede. Ut suscipit enim vel sapien. Donec congue. Maecenas urna mi, suscipit in, placerat ut, vestibulum ut, massa. Fusce ultrices nulla et nisl.

Etiam ac leo a risus tristique nonummy. Donec dignissim tincidunt nulla. Vestibulum rhoncus molestie odio. Sed lobortis, justo et pretium lobortis, mauris turpis condimentum augue, nec ultricies nibh arcu pretium enim. Nunc purus neque, placerat id, imperdiet sed, pellentesque nec, nisl. Vestibulum imperdiet neque non sem accumsan laoreet. In hac habitasse platea dictumst. Etiam condimentum facilisis libero. Suspendisse in elit quis nisl aliquam dapibus. Pellentesque auctor sapien. Sed egestas sapien nec lectus. Pellentesque vel dui vel neque bibendum viverra. Aliquam porttitor nisl nec pede. Proin mattis libero vel turpis. Donec rutrum mauris et libero. Proin euismod porta felis. Nam lobortis, metus quis elementum commodo, nunc lectus elementum mauris, eget vulpate ligula tellus eu neque. Vivamus eu dolor.

Nulla in ipsum. Praesent eros nulla, congue vitae, euismod ut, commodo a, wisi. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Aenean nonummy magna non leo. Sed felis erat, ullamcorper in, dictum non, ultricies ut, lectus. Proin vel arcu a odio lobortis euismod. Vestibu-

lum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Proin ut est. Aliquam odio. Pellentesque massa turpis, cursus eu, euismod nec, tempor congue, nulla. Duis viverra gravida mauris. Cras tincidunt. Curabitur eros ligula, varius ut, pulvinar in, cursus faucibus, augue.

Nulla mattis luctus nulla. Duis commodo velit at leo. Aliquam vulputate magna et leo. Nam vestibulum ullamcorper leo. Vestibulum condimentum rutrum mauris. Donec id mauris. Morbi molestie justo et pede. Vivamus eget turpis sed nisl cursus tempor. Curabitur mollis sapien condimentum nunc. In wisi nisl, malesuada at, dignissim sit amet, lobortis in, odio. Aenean consequat arcu a ante. Pellentesque porta elit sit amet orci. Etiam at turpis nec elit ultricies imperdiet. Nulla facilisi. In hac habitasse platea dictumst. Suspendisse viverra aliquam risus. Nullam pede justo, molestie nonummy, scelerisque eu, facilisis vel, arcu.

Curabitur tellus magna, porttitor a, commodo a, commodo in, tortor. Donec interdum. Praesent scelerisque. Maecenas posuere sodales odio. Vivamus metus lacus, varius quis, imperdiet quis, rhoncus a, turpis. Etiam ligula arcu, elementum a, venenatis quis, sollicitudin sed, metus. Donec nunc pede, tincidunt in, venenatis vitae, faucibus vel, nibh. Pellentesque wisi. Nullam malesuada. Morbi ut tellus ut pede tincidunt porta. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam congue neque id dolor.

Donec et nisl at wisi luctus bibendum. Nam interdum tellus ac libero. Sed sem justo, laoreet vitae, fringilla at, adipiscing ut, nibh. Maecenas non sem quis tortor eleifend fermentum. Etiam id tortor ac mauris porta vulputate. Integer porta neque vitae massa. Maecenas tempus libero a libero posuere dictum. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Aenean quis mauris sed elit commodo placerat. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Vivamus rhoncus tincidunt libero. Etiam elementum pretium justo. Vivamus est. Morbi a tellus eget pede tristique commodo. Nulla nisl. Vestibulum sed nisl eu sapien cursus rutrum.

7 Roman - third time!

The page number starts with “I” again for option just `pagecontinue=false`, but for option `pagecontinue=true`, or with option just `pagecontinue`, or even just without option `pagecontinue=false` the page numbers are continued. This package remembered the $9 - 1$, i.e. 8, pages already done in

- for `pagecontinue=false`: the preceding Roman sector,
- for `pagecontinue=true`: all Roman sectors,

and therefore continues with the appropriate page in case of option `pagecontinue`. If you want to start with “I” all over again, you will have two pages with the same name, but nevertheless you can do this by using option `pagecontinue=false` or a `\setcounter{page}{1}` here (not demonstrated in this example file).

First page (`\lastpageref{pagesLTS.0}`): pagesLTS.0

The page (`\thepage`): IX

Current page (`\theCurrentPage`), i.e. counted continuously from the first page): 37

CurrentPageLocal (`\theCurrentPageLocal`), i.e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 9

Last roman page (`pagesLTS.roman`): pagesLTS.roman pagesLTS.roman.local
iv (There are 4 pages with roman numbers.)

Last Roman page (`pagesLTS.Roman`): pagesLTS.Roman pagesLTS.Roman.local
XII (There are 12 pages with Roman numbers:

3 pages in the first Roman sector (Roman pagesLTS.Roman.1
I Roman2 pagesLTS.Roman.2
5 pages in the second Roman sector (IV Roman3 pagesLTS.Roman.3
IX Roman4 pagesLTS.Roman.4
4 pages in the third Roman sector (X Roman5 pagesLTS.Roman.5
XI Roman6 pagesLTS.Roman.6
XII Roman7 pagesLTS.Roman.7).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```
\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+\csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+\csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%
```

Page IX (37; local: 9) of iv(4) + XII(12) + 8(5) + III(13) + iv(6) + I(1) + G(7) = 48 pages.

would be necessary.

Last arabic page (pagesLTS.arabic): $\overline{8}^{\overline{\text{pagesLTS.arabic}}}$ (There are only $\overline{5}^{\overline{\text{pagesLTS.arabic.local}}}$ arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (pagesLTS.fnsymbol): $\overline{13}^{\overline{\text{pagesLTS.fnsymbol}}}$
 (better `\lastpageref{pagesLTS.fnsymbol}` than just
`\pageref{pagesLTS.fnsymbol}!`)

(There are 13 pages with fnsymbol numbers.)

Last alph page (pagesLTS.alph): $\overline{ac}^{\overline{\text{pagesLTS.alph}}}$ (There are only $\overline{6}^{\overline{\text{pagesLTS.alph.local}}}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Last Alph page (pagesLTS.Alph): $\overline{G}^{\overline{\text{pagesLTS.Alph}}}$ (There are $\overline{7}^{\overline{\text{pagesLTS.Alph.local}}}$ pages with Alph numbers.)

Last page's *name* (LastPage): $\overline{G}^{\overline{\text{LastPage}}}$

Very last page's *name* (VeryLastPage): $\overline{G}^{\overline{\text{VeryLastPage}}}$
 (LastPage and VeryLastPage are now identical, because both are now done
`\AddToHook{enddocument/afterlastpage}` instead of formerly
`\AtEndDocument` and `\AfterLastShipout`, which were different.)

Last page's *number* (LastPages): $\overline{48}^{\overline{\text{LastPages}}}$ (= total number of pages)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

~~pagesLTS.Roman~~
~~XII (\lastpageref{pagesLTS.Roman})~~ **does** refers to this page.
 Also \lastpageref{pagesLTS.Roman.3} give the right name of the page, but
 if ~~pagecontinue=false~~ was chosen, it might point to another page with the
 same name! ~~XII.~~

There are 4 pages (\lastpages{Roman}{3}) in this third Roman sector.

8 gobble

Well. You can use `gobble` as page numbering scheme. It gobbles the page numbers, i.e. there is no page number. Maybe `\thispagestyle{empty}` is more useful? Do not expect to be able to make working references to pages without page number, and do expect to get

```
pdfTeX warning (ext4): destination with the same identifier
(name{page.}) has been already used, duplicate ignored
<to be read again>
```

The page (`\thepage`): (There is a nothing between two spaces there.)

Current page (`\theCurrentPage`), i.e. counted continuously from the first page):
41

CurrentPageLocal (`\theCurrentPageLocal`), i.e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 1

There are 1 pages with gobbled numbers (i.e. without numbers).

For testing purposes, try:

```
\documentclass{article}
\usepackage[plainpages=false,pageanchor=true,pdfpagelabels=true]{hyperref}
\usepackage{pageslts}
\pagenumbering{gobble}
\begin{document}
First page.\newpage
\verb|\lastpageref{pagesLTS.0}          | \lastpageref{pagesLTS.0}          \par
\verb|\lastpageref{pagesLTS.0.local}    | \lastpageref{pagesLTS.0.local}    \par
\verb|\lastpageref{LastPage}           | \lastpageref{LastPage}           \par
\verb|\lastpageref{VeryLastPage}       | \lastpageref{VeryLastPage}       \par
\verb|\lastpageref{pagesLTS.gobble.1}   | \lastpageref{pagesLTS.gobble.1}   \par
\verb|\lastpageref{pagesLTS.gobble.1.local} | \lastpageref{pagesLTS.gobble.1.local} \par
\verb|\lastpageref{pagesLTS.gobble}     | \lastpageref{pagesLTS.gobble}     \par
\verb|\lastpageref{pagesLTS.gobble.local} | \lastpageref{pagesLTS.gobble.local} \par
\verb|\lastpageref{LastPages}          | \lastpageref{LastPages}          \par
\verb|\pagesLTSlastpage                 | \pagesLTSlastpage                 \par
\newpage
Last page.
\end{document}
```

9 Alph

First page (`\lastpageref{pagesLTS.0}`): $\frac{\text{pagesLTS.0}}{1}$

The page (`\thepage`): A

Current page (`\theCurrentPage`), i. e. counted continuously from the first page): 42

CurrentPageLocal (`\theCurrentPageLocal`), i. e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 1

Last roman page (`pagesLTS.roman`): $\frac{\text{pagesLTS.roman}}{\text{iv}}$ (There are $\frac{\text{pagesLTS.roman.local}}{4}$ pages with roman numbers.)

Last Roman page (`pagesLTS.Roman`): $\frac{\text{pagesLTS.Roman}}{\text{XII}}$ (There are $\frac{\text{pagesLTS.Roman.local}}{12}$ pages with Roman numbers:

3 pages in the first Roman sector ($\frac{\text{Roman}}{\text{I}}$ $\frac{\text{pagesLTS.Roman.1}}{\text{III}}$),
 5 pages in the second Roman sector ($\frac{\text{Roman2}}{\text{IV}}$ $\frac{\text{pagesLTS.Roman.2}}{\text{VIII}}$), and
 4 pages in the third Roman sector ($\frac{\text{Roman3}}{\text{IX}}$ $\frac{\text{pagesLTS.Roman.3}}{\text{XII}}$).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```
\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%
```

would be necessary.

Last arabic page (`pagesLTS.arabic`): $\frac{\text{pagesLTS.arabic}}{8}$ (There are only $\frac{\text{pagesLTS.arabic.local}}{5}$ pages with arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (`pagesLTS.fnsymbol`): $\frac{\text{pagesLTS.fnsymbol}}{\text{+++}}$
 (better `\lastpageref{pagesLTS.fnsymbol}` than just
`\pageref{pagesLTS.fnsymbol}`!)

(There are 13 pages with fnsymbol numbers.)

Last alph page (`pagesLTS.alph`): $\frac{\text{pagesLTS.alph}}{\text{ac}}$ (There are only $\frac{\text{pagesLTS.alph.local}}{6}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Page A (42; local: 1) of $\frac{\text{pagesLTS.roman.local}}{\text{iv}}(4) + \frac{\text{pagesLTS.Roman.local}}{\text{XII}}(12) + \frac{\text{pagesLTS.arabic.local}}{8}(5) + \frac{\text{pagesLTS.fnsymbol.local}}{\text{+++}}(13) + \frac{\text{pagesLTS.alph.local}}{\text{ac}}(6) + (1) + \text{G}(7) = 48$ pages.

Last Alph page (pagesLTS.Alph): $\overline{G}^{\overline{\text{pagesLTS.Alph}}}$ (There are $\overline{\text{pagesLTS.Alph.local}}$ 7 pages with Alph numbers.)

Last page's *name* (LastPage): $\overline{G}^{\overline{\text{LastPage}}}$

Very last page's *name* (VeryLastPage): $\overline{G}^{\overline{\text{VeryLastPage}}}$
 (LastPage and VeryLastPage are now identical, because both are now done
 $\backslash\text{AddToHook}\{\text{enddocument}/\text{afterlastpage}\}$ instead of formerly
 $\backslash\text{AtEndDocument}$ and $\backslash\text{AfterLastShipout}$, which were different.)

Last page's *number* (LastPages): $\overline{48}^{\overline{\text{LastPages}}}$ (= total number of pages)

Page B (43; local: 2) of $\overline{\text{iv}}^{\overline{\text{pagesLTS.local}}}(4) + \overline{\text{XII}}^{\overline{\text{pagesLTS.local}}}(12) + \overline{8}^{\overline{\text{pagesLTS.local}}}(5) + \overline{\text{+++}}^{\overline{\text{pagesLTS.local}}}(13) + \overline{\text{ac}}^{\overline{\text{pagesLTS.local}}}(6) + \overline{1}^{\overline{\text{pagesLTS.local}}}(1) + \overline{G}^{\overline{\text{pagesLTS.local}}}(7) = 48$ pages.

Without option `alphMulti=AB` of the `pageslts` (and the help of the `alphalph` package), after page “Z” there would just appear a

```
LaTeX Error: Counter too large
See the LaTeX manual or LaTeX Companion for explanation.
You've lost some text. Try typing <return> to proceed.
If that doesn't work, type X <return> to quit.
```

Now the page numbers are continued AA, AB, AC,... (AA, BB, CC,... is also possible, see the `pageslts` documentation).
This is not demonstrated here, but see section [6](#).

10 silly

The sillypage package, <https://ctan.org/pkg/sillypage>, provides the page-numbering scheme silly, which is not demonstrated here but works with the pageslts package, i.e. the references all show the right (page) number and link to the right page.

This is **not** demonstrated here (discussing gobbled page numbers is silly enough), but for testing purposes, try:

```
\documentclass{article}
\usepackage[plainpages=false,pageanchor=true,pdfpagelabels=true]{hyperref}
\usepackage{pageslts}
\usepackage{sillypage}
\pagenumbering{silly}
\begin{document}
First page.\newpage
\verb|\lastpageref{pagesLTS.0}| \lastpageref{pagesLTS.0} \par
\verb|\lastpageref{pagesLTS.0.local}| \lastpageref{pagesLTS.0.local} \par
\verb|\lastpageref{LastPage}| \lastpageref{LastPage} \par
\verb|\lastpageref{VeryLastPage}| \lastpageref{VeryLastPage} \par
\verb|\lastpageref{pagesLTS.silly.1}| \lastpageref{pagesLTS.silly.1} \par
\verb|\lastpageref{pagesLTS.silly.1.local}| \lastpageref{pagesLTS.silly.1.local} \par
\verb|\lastpageref{pagesLTS.silly}| \lastpageref{pagesLTS.silly} \par
\verb|\lastpageref{pagesLTS.silly.local}| \lastpageref{pagesLTS.silly.local} \par
\verb|\lastpageref{LastPages}| \lastpageref{LastPages} \par
\verb|\pagesLTSlastpage| \pagesLTSlastpage
\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage\newpage
Page \theCurrentPage : Last page.
\end{document}
```

Page D (45; local: 4) of iv(4) + XII(12) + 8(5) + ~~111~~(13) + ac(6) + I(1) + G(7) = 48 pages.

11 The End

First page (`\lastpageref{pagesLTS.0}`): $\frac{\text{pagesLTS.0}}{1}$

The page (`\thepage`): E

Current page (`\theCurrentPage`), i. e. counted continuously from the first page): 46

CurrentPageLocal (`\theCurrentPageLocal`), i. e. counted continuously from the first page of the current page numbering scheme (if option `pagecontinue=false`: sector)): 5

Last roman page (`pagesLTS.roman`): $\frac{\text{pagesLTS.roman}}{\text{iv}}$ (There are $\frac{\text{pagesLTS.roman.local}}{4}$ pages with roman numbers.)

Last Roman page (`pagesLTS.Roman`): $\frac{\text{pagesLTS.Roman}}{\text{XII}}$ (There are $\frac{\text{pagesLTS.Roman.local}}{12}$ pages with Roman numbers:

3 pages in the first Roman sector ($\frac{\text{Roman}}{\text{I}}$ $\frac{\text{pagesLTS.Roman.1}}{\text{III}}$),
 5 pages in the second Roman sector ($\frac{\text{Roman2}}{\text{IV}}$ $\frac{\text{pagesLTS.Roman.2}}{\text{VIII}}$), and
 4 pages in the third Roman sector ($\frac{\text{Roman3}}{\text{IX}}$ $\frac{\text{pagesLTS.Roman.3}}{\text{XII}}$).

When the option `pagecontinue=false` is used with the `pageslts` package, the `\lastpageref{pagesLTS.Roman}` will point to the same page as before, but this will have a lower number. And if that page number was also present in a preceding sector, the link will go to that page. (Several pages with the same number...)

The `\lastpageref{pagesLTS.Roman.local}` will refer only to the number of pages in the last sector. To get the total number of Roman pages,

```
\the\numexpr \csname c@pagesLTS.Roman.1.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.2.local.cnt\endcsname%
+ \csname c@pagesLTS.Roman.3.local.cnt\endcsname%
\relax%
```

would be necessary.

Last arabic page (`pagesLTS.arabic`): $\frac{\text{pagesLTS.arabic}}{8}$ (There are only $\frac{\text{pagesLTS.arabic.local}}{5}$ pages with arabic numbers, because an `\addtocounter{page}{3}` was used.)

Last fnsymbol page (`pagesLTS.fnsymbol`): $\frac{\text{pagesLTS.fnsymbol}}{\text{+++}}$
 (better `\lastpageref{pagesLTS.fnsymbol}` than just
`\pageref{pagesLTS.fnsymbol}!`)

(There are 13 pages with fnsymbol numbers.)

Last alph page (`pagesLTS.alph`): $\frac{\text{pagesLTS.alph}}{\text{ac}}$ (There are only $\frac{\text{pagesLTS.alph.local}}{6}$ pages with alph numbers, because an `\addtocounter{page}{23}` was used.)

Page E (46; local: 5) of $\frac{\text{pagesLTS.roman}}{\text{iv}}$ (4) + $\frac{\text{pagesLTS.Roman}}{\text{XII}}$ (12) + $\frac{\text{pagesLTS.arabic}}{8}$ (8) + $\frac{\text{pagesLTS.fnsymbol}}{\text{+++}}$ (13) + $\frac{\text{pagesLTS.alph}}{\text{ac}}$ (6) + (1) + $\frac{\text{pagesLTS.local}}{\text{I}}$ (7) = 48 pages.

Last gobble page (`pagesLTS.gobble`: ~~`pagesLTS.gobble`~~ Yes, there is neither page number nor link, because everything got gobbled. (There is 1 page with gobbled number (i. e. without number).)

Last Alph page (`pagesLTS.Alph`: ~~`pagesLTS.Alph`~~ (There are ~~`pagesLTS.Alph.local`~~ 7 pages with Alph numbers.)

Silly page numbers are possible but were not demonstrated in this example.

Last page's *name* (LastPage): G

Very last page's *name* (VeryLastPage): VeryLastPage

(LastPage and VeryLastPage are now identical, because both are now done `\AddToHook{enddocument/afterlastpage}` instead of formerly `\AtEndDocument` and `\AfterLastShipout`, which were different.)

Last page's *number* (LastPages): $\frac{\text{LastPages}}{48}$ (= total number of pages)