The notebeamer Package*

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1 Introduction

The notebeamer package provides an easy way to input slides on note pages quickly for making annotations, developed by expl3 based on tikz and l3graphics. It is compatible with TeX Live 2019 or later distributions and supports compilation methods such as pdfLaTeX, XeLaTeX, and LuaLaTeX, etc.

2 Usage

To load this package, write the line

```
\usepackage{notebeamer}
```

`\includebeamer` `\includebeamer [⟨keyvals⟩] {⟨filename⟩} [⟨keyvals⟩]`

The `\includebeamer` command can create pages with note lines, and import the specific pages of the `.pdf` file on the left side of the note pages. The mandatory argument can set the `.pdf` file that will be inserted. The optional argument accepts the following keys

`color` = ⟨`string`⟩ can set the color of the note lines (Default: `black`), key's name could be omitted.

`ratio` = ⟨`fp`⟩ can set the ratio of imported slides' and empty area's width (Default: `0.5`).

`sep` = ⟨`dim`⟩ can set the vertical space between slides (Default: `2ex`).

`nup` = ⟨`int`⟩ can set the number of slides on every page (Default: `3`).

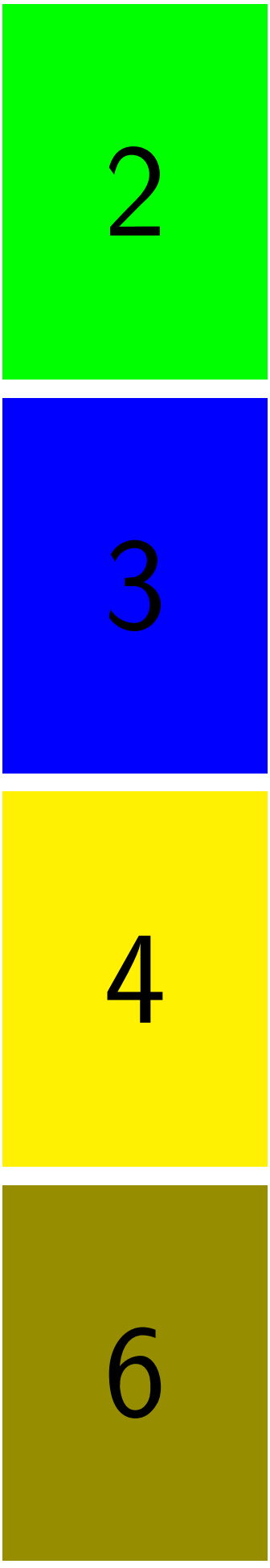
`pages` = ⟨`comma separated list`⟩ can select pages to insert. The comma separated list contains combination of (ranges of) page numbers. (Default: `1`).

`lefthead` = ⟨`string`⟩, `righthead` = ⟨`string`⟩ can set the left / right header of the pages.

Meanwhile, You can use `\newgeometry`. For instance

```
\newgeometry{margin = .75in}
\includebeamer
  [ nup = 4, pages    = {2-4, 6},  lines     = 32, ratio = .28,
    Navy,    lefthead = Chapter 1, righthead = Page~\thepage
  ] { example-image-a4-numbered.pdf }
```

*https://github.com/myhsia/notebeamer, https://ctan.org/pkg/notebeamer


2
3
4
6

3 The Source Code

```
⟨*package⟩
```

Provides the package name.

```
\ProvidesExplPackage{notebeamer}{2025/02/11}{v4.0C}
  {Package provides macros for inputting slides on note papers quickly.}
```

Load the l3graphics package to get the number of file pages, the tikz package to draw graphics, and the tikzpagenodes package to locate the text area of the physical pages.

```
\RequirePackage{l3graphics, tikz, tikzpagenodes}
```

3.1 User's Interface

`\includebeamer` Define the `\includebeamer` command.

```
\NewDocumentCommand \includebeamer { O{} m O{} }
  {
    \group_begin:
    \keys_set:nn { notebeamer / includebeamer } { #1, #3 }
    \__nb_includebm_aux:n {#2}
    \group_end:
  }
```

3.2 Keys

Define the keys for the `\includebeamer` command.

```
\keys_define:nn { notebeamer / includebeamer }
  {
    color     .tl_set:N  = \l__includebm_color_tl,
      color   .initial:n = black,
    pages     .tl_set:N  = \l__includebm_pages_tl,
      pages   .initial:n = 1,
    nup       .int_set:N = \l__includebm_nup_int,
      nup     .initial:n = 3,
    lines     .int_set:N = \l__includebm_lines_int,
    ratio     .fp_set:N  = \l__includebm_ratio_fp,
      ratio   .initial:n = .5,
    sep       .dim_set:N = \l__includebm_sep_dim,
      sep     .initial:n = 2ex,
    lefthead  .tl_set:N  = \l__includebm_lefthead_tl,
    righthead .tl_set:N  = \l__includebm_righthead_tl,
    unknown   .code:n    = \tl_if_novalue:nF {#1}
      { \tl_set_eq:NN \l__includebm_color_tl \l_keys_key_tl }
  }
```

3.3 Internal Auxiliary

\l__nb_nup_dim
\l__includebm_ratio_dim

Store the heights and widths of the logical pages in a specific nup.

```
\dim_new:N \l__nb_nup_dim
\dim_new:N \l__includebm_ratio_dim
```

(*End of definition for* `\l__nb_nup_dim` *and* `\l__includebm_ratio_dim`.)

\l__nb_pages_total_int
\l__nb_pages_residue_int

Store the number of total physical pages and residue logical pages.

```
\int_new:N \l__nb_pages_total_int
\int_new:N \l__nb_pages_residue_int
```

(*End of definition for* `\l__nb_pages_total_int` *and* `\l__nb_pages_residue_int`.)

\l__nb_tmpa_clist

Store the results of `\nb_range_to_list:nN`.

```
\clist_new:N \l__nb_tmpa_clist
```

(*End of definition for* `\l__nb_tmpa_clist`.)

__nb_includebm_aux:n

Define the auxiliary command of `\includebeamer`.

```
\cs_new_protected_nopar:Npn \__nb_includebm_aux:n #1
  {
    \graphics_get_pagecount:nN {#1} \l__includebm_filepages_int
    \dim_set:Nn \l__nb_nup_dim { \textheight/\l__includebm_nup_int }
    \dim_set:Nn \l__includebm_ratio_dim
      { \fp_use:N \l__includebm_ratio_fp \textwidth }
    \tl_if_eq:NnTF \l__includebm_pages_tl { - }
      {
        \nb_range_to_list:nN
          { 1 - \l__includebm_filepages_int } \l__nb_tmpa_clist
      }
      {
        \exp_args:NV \nb_range_to_list:nN
          { \l__includebm_pages_tl } \l__nb_tmpa_clist
      }
    \int_set:Nn \l__nb_pages_total_int
      {
        \fp_eval:n
          { ceil(\clist_count:N \l__nb_tmpa_clist/\l__includebm_nup_int,0) } - 1
      }
    \int_set:Nn \l__nb_pages_residue_int
      {
        \int_eval:n
          {
            \clist_count:N \l__nb_tmpa_clist -
            \l__includebm_nup_int * \l__nb_pages_total_int
          }
      }
    \int_step_inline:nn { \int_use:N \l__nb_pages_total_int }
```

```
      {
        \clearpage
        \__nb_empty_note_aux:
        \int_step_inline:nn { \l__includebm_nup_int }
          {
            \tikz [ remember~picture, overlay ]
              \node [ xshift = \l__includebm_ratio_dim/2,
                      yshift = \fp_eval:n { -####1 + .5 } \l__nb_nup_dim
                    ] at (current~page~text~area.north~west)
                {
                  \includegraphics
                    [ height = \dim_eval:n
                        { \l__nb_nup_dim - \l__includebm_sep_dim },
                      page = \clist_item:Nn \l__nb_tmpa_clist
                        { ####1 + \l__includebm_nup_int * ( ##1 - 1 ) }
                    ] {#1}
                };
          }
        \clearpage
      }
    \__nb_empty_note_aux:
    \int_step_inline:nn { \int_use:N \l__nb_pages_residue_int }
      {
        \tikz [ remember~picture, overlay ]
          \node [ xshift = \l__includebm_ratio_dim/2,
                  yshift = \fp_eval:n {( -##1 + .5 )} \l__nb_nup_dim
                ] at (current~page~text~area.north~west)
            {
              \includegraphics
                [ height = \dim_eval:n
                    { \l__nb_nup_dim - \l__includebm_sep_dim },
                  page = \clist_item:Nn \l__nb_tmpa_clist
                    { \l__includebm_nup_int * \l__nb_pages_total_int + ##1 }
                ] {#1}
            };
      }
    \clearpage
  }
```

(*End of definition for* `\__nb_includebm_aux:n`.)

`\__nb_empty_note_aux:` Define the auxiliary command for creating empty note line page.

```
\cs_new_protected_nopar:Nn \__nb_empty_note_aux:
  {
    \tikzpicture [ remember~picture, overlay ]
      \draw [ very~thick, \l__includebm_color_tl!80 ]
        (current~page~text~area.north~west) --
        (current~page~text~area.north~east)
```

```
      node [ at~start, above~right, font = \Large \bfseries ]
       { \l__includebm_lefthead_tl }
      node [ above~left, font = \Large \bfseries ]
       { \l__includebm_righthead_tl };
     \draw [ very~thick, \l__includebm_color_tl!80 ]
       (current~page~text~area.south~west) --
       (current~page~text~area.south~east);
     \int_step_inline:nn { \l__includebm_lines_int - 1 }
       {
         \draw [ thick, \l__includebm_color_tl!60 ]
           ([xshift = \l__includebm_ratio_dim,
             yshift = -\textheight/\l__includebm_lines_int * ##1
            ]current~page~text~area.north~west) --++
           (\dim_eval:n { \textwidth - \l__includebm_ratio_dim },0);
       }
   \endtikzpicture
   \pagestyle{empty}
 }
```

(*End of definition for* `\__nb_empty_note_aux:`.)

`\l__nb_tmpa_seq` `\l__nb_tmpb_seq` Store the results of 2D array segmentation.

```
\seq_new:N \l__nb_tmpa_seq
\seq_new:N \l__nb_tmpb_seq
```

(*End of definition for* `\l__nb_tmpa_seq` *and* `\l__nb_tmpb_seq`.)

`\nb_range_to_list:nN` Convert the combination of number and number range to a list.

```
\cs_new_protected_nopar:Npn \nb_range_to_list:nN #1#2
  {
    \clist_clear:N #2
    \seq_set_split:Nnn \l__nb_tmpa_seq { , } {#1}
    \seq_map_inline:Nn \l__nb_tmpa_seq
      {
        \tl_if_in:nnTF {##1} { - }
          {
            \seq_set_split:Nnn \l__nb_tmpb_seq { - } {##1}
            \int_step_inline:nnn
              { \seq_item:Nn \l__nb_tmpb_seq { 1 } }
              { \seq_item:Nn \l__nb_tmpb_seq { 2 } }
              { \clist_put_right:Nn #2 {####1} }
          } { \clist_put_right:Nn #2 {##1} }
      }
  }
```

(*End of definition for* `\nb_range_to_list:nN`. *This function is documented on page* ??.)

```
⟨/package⟩
```