The showexpl package*

Rolf Niepraschk (Rolf.Niepraschk@gmx.de) 2020/05/06

1 Introduction

The documentation of a LATEX package is by far more readable if there are examples of the commands' and environments' usage. The best way to do that is to give a comparison of the LATEX code and the formatted output. showexpl is a package for doing that comparison, it is based on the package listings which provides a good typesetted source code with emphasised keywords and so on.

2 Usage

You can use showexpl like every other package by putting the line

\usepackage{showexpl}

in your source code. showexpl doesn't know any options by itself, but all options for the underlying packages (listings and graphicx) will be passed to the respective packages.

showexpl provides one command and one environment:

- \LTXinputExample and
- LTXexample

\LTXinputExample

The syntax of \LTXinputExample is given by

 $\texttt{\LTXinputExample[$\langle key\ val\ list\rangle$] \{$\langle file\rangle$}$

LTXexample

The syntax of the environment LTXexample is given by

 $\verb|\begin{LTXexample}| [\langle key\ val\ list \rangle] ... \verb|\end{LTXexample}|$

The set of options represented by $\langle key \ val \ list \rangle$ is the same for both the command and the environment, the options are described in the following:

attachfile Boolean valued key, default value: false. If set to true the sourcecode will be attached to the .pdf file—presumed that the document is processed by pdflatex.

codefile Name of the (temporary) file that contains the code which will be formatted as source code. The default value is \jobname.tmp.

^{*}This document corresponds to showexpl v0.3q, dated 2020/05/06.

- **exploreset** A $\langle key\ val\ list \rangle$ which serves for presetting the properties of the formatting of the source code, for values see the documentation of the listings package. The default value is
- **graphic** Name of a (graphic) file. This file—if present—will be included and displayed instead of the formatted code. The default value is empty.
- hsep Defines the horizontal distance between the source code and the formatted text.
- **justification** Defines the justification of the formatted text: reasonable values are \raggedleft, \raggedright, \centering. The default value is \raggedright.
- **overhang** A *dimen*-value that defines the amount by which the formatted text and the source code can overlap the print space. The default value is 0 pt.
- pos: Defines the relative position of the formatted text relating to the source code. Allowed values are t, b, 1, r, o, and i for top, bottom, left, right, outer, and inner. The last values give sense only for two-sided printing, where there are outer and inner margins of a page. The default value is 1.
- **preset** Any TEX code executed before the sample code but not visible in the listings area.
- rangeaccept Boolean valued key, default value is false. If set to true, one can define ranges of lines that will be excerpted from the source code.
- **rframe** Defines the form of the frame around the formatted text. With a nonempty value (e.g. "single") a simple frame will be drawn. In the future more kinds of frames will be supported. The default value is empty (no frame).
- varwidth Boolean valued key, default value is false. If set to true, the formatted text is set with its "natural" width instead of a fixed width as given by the value of the option width.
- vsep Defines the vertical distance between the source code and the formatted text.
- wide Boolean valued key, default value is false. If set to true, the source code and the formatted text overlap the print space and the margin area.
- width A $\langle dimen \rangle$ value that defines the width of the formatted text. The default value depends of the relative positions of the source code and the formatted text.
- scaled Without a value the formatted text will be scaled to fit the given width of the result area. With a number as value the formatted text will be scaled by this number.

In addition to these options the kind of the result box (default: \fbox) can be changed. For example:

\renewcommand\ResultBox{\fcolorbox{green}{lightgray}}
\setlength\ResultBoxSep{5mm}% default: \fboxsep
\setlength\ResultBoxRule{2mm}% default: \fboxrule

3 Implementation

```
1 \DeclareOption{final}{%
                   \PassOptionsToPackage{\CurrentOption}{graphicx}%
                   \PassOptionsToPackage{\CurrentOption}{listings}%
                4 }%
                5 \DeclareOption{draft}{%
                   \PassOptionsToPackage{\CurrentOption}{graphicx}%
                   \PassOptionsToPackage{\CurrentOption}{listings}%
                8 }%
                9 \DeclareOption{attachfiles}{%
                  \AtBeginDocument{\IfFileExists{attachfile.sty}%
                      {\RequirePackage{attachfile}}{\def\SX@attachfile{}}}
               11
               12 }%
               13 \DeclareOption*{\PassOptionsToPackage{\CurrentOption}{listings}}
               14 \ProcessOptions\relax
               15 \RequirePackage{refcount, listings, graphicx, varwidth, float}
               We must aktivate code from package listings for writing files.
               16 \lst@RequireAspects{writefile}
               Parameter #2 is a length or a number. Parameter #1 is a macro. After a call of
\SX@defaultWD
               \SX@defaultWD this macro contains the value of the length or the value of the
               number multiplied by \linewidth.
               17 \newcommand*\SX@defaultWD[2]{%
               18 \afterassignment\SX@def@WD\dimen@#2\linewidth\relax{#1}}
               19 \newcommand*\SX@def@WD{}
               20 \def\SX@def@WD#1\relax#2{\edef#2{\the\dimen@}}
               Additional keys.
               21 \lst@Key{pos}\relax{\def\SX@pos{#1}}
               22 \lst@Key{width}\relax{\def\SX@width{#1}}
               23 \lst@Key{hsep}\relax{\@tempdima=#1\relax\edef\SX@hsep{\the\@tempdima}}
               24 \lst@Key{vsep}\relax{\@tempdima=#1\relax\edef\SX@vsep{\the\@tempdima}}
               25 \lst@Key{overhang}\relax{\def\SX@overhang{#1}}
               26 \lst@Key{wide}f[t]{\lstKV@SetIf{#1}\if@SX@wide}
               27 \lst@Key{rframe}\relax{\def\SX@rframe{#1}}
               28 \lst@Key{preset}\relax{\def\SX@preset{#1}}
               29 \newcommand*\SX@scaled{}
               30 \lower = 30 \end{41}
               31 \lst@Key{explpreset}\relax{\def\SX@explpreset{#1}}
               32 \lst@Key{codefile}\relax{\def\SX@codefile{#1}}
               33 \newif\if@SX@rangeaccept \@SX@rangeacceptfalse
               34 \newif\if@SX@varwidth \@SX@varwidthfalse
               35 \newif\if@SX@wide \@SX@widefalse
               36 \newif\if@SX@attachfile \@SX@attachfilefalse
               37 \lst@Key{rangeaccept}f[t]{\lstKV@SetIf{#1}\if@SX@rangeaccept}
               38 \lst@Key{varwidth}f[t]{\lstKV@SetIf{#1}\if@SX@varwidth}
               39 \lst@Key{justification}\relax{\def\SX@justification{#1}}
               40 \t \ensuremath{\texttt{MSKV@SetIf}{\#1}} if \ensuremath{\texttt{QSX@attachfile}} \\
               41 \newcommand*\SX@graphicname{}%
               42 \newcommand*\SX@graphicparam{}%
```

```
43 \text{ st@Key{graphic}{}[]{%}
                 \lstKV@OptArg[width=\linewidth]{#1}{%
                   \edef\SX@graphicparam{##1}\edef\SX@graphicname{##2}%
             45
             46
                }%
             47 }%
             48 \newbox\SX@ResBox
             49 \mbox{let\ResultBox=\fbox} \
             50 \newdimen\ResultBoxSep \ResultBoxSep=\fboxsep
             51 \newdimen\ResultBoxRule \ResultBoxRule=\fboxrule
             52 \newcommand*\SX@pos{}
             53 \newcommand*\SX@width{}
             54 \newcommand*\SX@hsep{}
             55 \newcommand*\SX@vsep{}
             56 \newcommand*\SX@overhang{}
             57 \newcommand*\SX@rframe{}
             58 \newcommand\SX@preset{}
             59 \newcommand*\SX@explpreset{}
             60 \newcommand*\SX@@explpreset{}
             61 \newcommand*\SX@codefile{}\edef\SX@codefile{\jobname.tmp}
             62 \newcommand*\SX@justification{\raggedright}
             Contains some redefinitions of IATEX macros and environments to do nothing.
\SX@@preset
             \SX@@preset will be called just before typesetting the result of the example code.
             More can be added with the user key "preset=...".
             63 \newcommand*\SX@@preset{%
                 \renewcommand\documentclass[2][]{\SX@eat@version}%
                 \renewcommand\usepackage[2][]{\SX@eat@version}%
             65
                 \renewenvironment{document}{}{}%
             66
             67
                 \renewcommand\cite[1][]{}%
                \let\tableofcontens\relax \let\listoffigures\relax
             68
                \let\listoftables\relax \let\printindex\relax
             69
                \let\listfiles\relax \let\nofiles\relax
             70
             71
                \let\index\@gobble \let\label\@gobble
             72 \let\bibliography\@gobble
             73 \let\pagestyle\@gobble \let\thispagestyle\@gobble
             74 %%\let\immediate\relax \let\write\@gobbletwo
             75 %%\let\closeout\@gobble \let\@@input\@gobble
                \renewcommand\marginpar[2][]{}%
             77 \renewcommand\footnote[2][]{}%
                \let\@footnotetext\@gobble
             78
             79
                 %%\abovedisplayskip=\z@
                 %%\abovedisplayshortskip=\z@
             80
             81 }
             82 \newcommand*\SX@eat@version[1][]{}
 \isSX@odd Parameter #1 is executed on odd pages, parameter #2 on even pages.
             83 \newif\ifSX@wasodd
             84 \if@twoside
             85 \newcommand*\isSX@odd{%
                   \begingroup
             86
                     \ifodd\getpagerefnumber{\SX@IDENT}%
             87
                       \aftergroup\SX@wasoddtrue
             88
             89
                     \else
```

```
\aftergroup\SX@wasoddfalse
                     90
                             \fi
                     91
                           \endgroup
                     92
                            \ifSX@wasodd
                     93
                              \expandafter\@firstoftwo
                     94
                     95
                              \expandafter\@secondoftwo
                     96
                     97
                     98
                         }
                     99 \else
                         \SX@wasoddtrue
                    100
                          \newcommand*\isSX@odd[2]{#1}
                    101
                    102 \fi
                     The call of \scalebox{1}{is}X@odd sets also \scalebox{1}{if}SX@wasodd to true or false. If it's clear that
                     no page break occurs, \ifSX@wasodd can be used.
                    103 \newcounter{ltxexample}
                    104 \newcommand*{\SX@IDENT}{SX@\number\value{ltxexample}}
     \SX@attachfile
                    105 \newcommand*\SX@attachfile{%
                         \if@SX@attachfile
                            \attachfile[mimetype=text/plain,subject={example \theltxexample}]%
                    107
                              {\SX@codefile}{}%
                    108
                    109
                         \fi
                    110 }
\SX@put@t/b/l/r/o/i
                     Six macros for positioning #2 (result) and #3 (code). The result can be above,
                     below, left or right of the code area or on the outer or inner side. Parameter #1 is
                     the width of the result.
                    111 \newcommand*\SX@put@t[3]{%
                          \SX@ResultArea{\linewidth}{#2}\endgraf\pagebreak[2]%
                    112
                          \@tempdima=\dimexpr\SX@vsep\vskip\@tempdima
                    113
                    114
                          \SX@CodeArea{\linewidth}{#3}%
                    115 }
                    116 \newcommand*\SX@put@b[3]{%
                         \SX@CodeArea{\linewidth}{#3}\endgraf\pagebreak[2]%
                    117
                         \@tempdima=\dimexpr\SX@vsep\vskip\@tempdima
                    118
                          \SX@ResultArea{\linewidth}{#2}%
                    119
                    120 }
                    121 \newcommand*\SX@put@1[3]{%
                         \@tempdimc=\dimexpr\linewidth-#1-\SX@hsep %
                    122
                          123
                    124 }
                    125 \newcommand*\SX@put@r[3]{%
                    126
                          \@tempdimc=\dimexpr\linewidth-#1-\SX@hsep %
                          \SX@CodeArea{\@tempdimc}{#3}\hfill\SX@ResultArea{#1}{#2}%
                    127
                    128 }
                    129 \newcommand*\SX@put@o[3]{%
                          130
                    131 }
                    132 \newcommand*\SX@put@i[3]{%
                         \label{lem:condition} $$\operatorname{SX@put@\ifSX@wasodd l\else r\fi}_{\#1}_{\#2}_{\#3}_{\%}$
                    133
                    134 }
```

```
135 \newcommand\SX@ResultArea[2]{%
                         \SX@justification\@tempdima=\dimexpr #1 %
                         \parbox\@tempdima{#2}%
                    137
                    138 }
                    139 \newcommand\SX@CodeArea[2]{%
                         \@tempdima=\dimexpr #1 %
                         \sbox\@tempboxa{\parbox\@tempdima{#2}}%
                         \@tempdima=\dp\@tempboxa\usebox\@tempboxa
                    142
                         143
                    144 }
                    145 \newcommand*\SX@KillAboveCaptionskip{%
                         \ifx\lst@caption\@empty\else
                    146
                            \lst@IfSubstring t\lst@captionpos
                    147
                              {\vskip-\abovecaptionskip}{}%
                    148
                    149
                         \fi
                    150 }
                    151 \newcommand*\SX@KillBelowCaptionskip{%
                         \ifx\lst@caption\@empty\else
                    153
                            \lst@IfSubstring b\lst@captionpos
                    154
                              {\vskip-\belowcaptionskip}{}%
                         \fi
                    155
                    156 }
        LTXexample
                    157 \lstnewenvironment{LTXexample}[1][]{%
                         \@temptokena{#1}%
                         \begingroup
                     For "codefile=..."/"graphic=..." if \theltxexample or \thelstlisting is part of
                     the filename.
                    160
                         \advance\c@ltxexample\@ne \advance\c@lstlisting\@ne
                         \verb|\expandafter| lstset| expandafter{\SX@explpreset, #1}% |
                    161
                         \edef\x{\endgroup
                    162
                            \def\noexpand\SX@codefile{\SX@codefile}%
                    163
                            \def\noexpand\SX@graphicname{\SX@graphicname}%
                    164
                           \def\noexpand\SX@graphicparam{\SX@graphicparam}}%
                    165
                         \x
                    166
                    167
                         \xdef\SX@@explpreset{\the\@temptokena,codefile=\SX@codefile,%
                           graphic={[\SX@graphicparam]{\SX@graphicname}}}%
                    168
                    169
                         \setbox\@tempboxa=\hbox\bgroup
                         \lst@BeginWriteFile{\SX@codefile}%
                    170
                    171 }
                    172 {%
                         \lst@EndWriteFile\egroup
                    173
                    174
                         \SX@put@code@result
                    175 }
\SX@put@code@result
                    176 \newcommand*\SX@put@code@result{%
                    177
                         \begingroup
                            \expandafter\lstset\expandafter{\SX@explpreset}%
                    178
                    179
                            \expandafter\lstset\expandafter{\SX@@explpreset}%
```

```
Use listings floating procedure if necessary.
                \ifx\lst@float\relax\else
180
                     \edef\@tempa{\noexpand\lst@beginfloat{lstlisting}[\lst@float]}
181
                     \expandafter\@tempa
182
183
184
                \ifx\lst@caption\@empty
185
                     \lstset{nolol=true}%
186
                \fi
                187
188
                \trivlist\item\relax
                     \stepcounter{ltxexample}\label{\SX@IDENT}%
189
 Make \SX@width a real dimension if the unit is missing.
                     \SX@defaultWD\SX@width{\SX@width}%
 Set the default width if necessary.
191
                    \ifdim\SX@width<\z@
192
                         \@tempswatrue
193
                         \def\@tempa{t}%
194
                         \ifx\@tempa\SX@pos\@tempswafalse\fi
195
                         \def\@tempa{b}%
196
                         \ifx\@tempa\SX@pos\@tempswafalse\fi
                         \@tempdima=\dimexpr\linewidth+\SX@overhang %
197
                         \if@tempswa\@tempdima=.5\@tempdima\fi%
198
                         \edef\SX@width{\the\@tempdima}%
199
                    \fi
200
 Correct \SX@width if a frame is requested.
                    \ifx\SX@rframe\@empty
201
                         \label{longdef} $$ \prod_{m=0}^{4}1{\#1}%
202
203
                     \else
                         \let\SX@frame\ResultBox
204
205
                         \@tempdima=\dimexpr\SX@width-2\ResultBoxSep-2\ResultBoxRule %
206
                         \edef\SX@width{\the\@tempdima}%
207
                     \label{lem:lempa} $$ \s X @ odd $$ \left( e^{\theta - \theta_1} \right) $$ (\en pa_{r}) $$ (\en
208
209
                     \makebox[\linewidth][\@tempa]{%
                         \parbox{\dimexpr\linewidth+\SX@overhang}{%
210
  \SX@codefile (\jobname.tmp) is not nessesary for the filelist.
                              \let\@addtofilelist\@gobble
211
212
                              \let\lst@ifdisplaystyle=\iftrue
                              \SX@KillAboveCaptionskip\lst@MakeCaption{t}%
 Use the "natural" width of the result code if "varwidth" is true. .
                              \setbox\SX@ResBox\hbox{%
214
                                  \fboxsep=\ResultBoxSep
215
                                  \fboxrule=\ResultBoxRule
216
217
                                  \SX@frame{%
218
                                      \@nameuse{\if@SX@varwidth varwidth\else minipage\fi}%
219
                                               \SX@width\relax
220
                                           \begingroup
                                                \SX@resultInput
221
222
                                           \endgroup
223
                                       \Onameuse{end\if@SX@varwidth varwidth\else minipage\fi}}}%
                              \edef\SX@width{\the\wd\SX@ResBox}%
224
```

```
{\@latex@error{Parameter '\SX@pos' undefined}\@ehd}%
          226
                        {\@nameuse{SX@put@\SX@pos}%
          227
                          {\SX@width}{\box\SX@ResBox}{\SX@codeInput}}%
          228
                        \lst@MakeCaption{b}\SX@KillBelowCaptionskip
          229
          230
                      }%
          231
                    }%
          232
                  \endtrivlist
                  \ifx\lst@float\relax\else\expandafter\lst@endfloat\fi
          233
                  \gdef\SX@@explpreset{}%
          234
                \endgroup
          235
          236 }
          237 \newcommand\SX@SkipToFirst{%
                \ifeof\@inputcheck\else
          238
                  \ifnum \lst@lineno=\lst@firstline\else
          239
          240
                    \readline\@inputcheck to\SX@tempa
          241
                    \typeout{IGNORE (\the\lst@lineno)}%
          242
                    \global\advance\lst@lineno\@ne
          243
                    \SX@SkipToFirst
          244
                  \fi
               \fi
          245
          246 }
          247 \newcommand\SX@ProcessResult{%
                \ifeof\@inputcheck
          248
                  \let\SX@tempb\relax
          249
                \else
          250
                  \let\SX@tempb\SX@ProcessResult
          251
          252
                  \ifnum \lst@lineno>\lst@lastline\relax
          253
                    \ifx\lst@linerange\@empty
                      \let\SX@tempb\relax
          254
                    \else
          255
                      \lst@GetLineInterval
          256
                      \SX@SkipToFirst
          257
                    \fi
          258
          259
                  \else
                    \readline\@inputcheck to\SX@tempa
          260
          261
                    \typeout{READ (\the\lst@lineno)}%
          262
                    \expandafter\g@addto@macro
                      \expandafter\SX@lines\expandafter{\SX@tempa^^J}%
          263
          264
                    \global\advance\lst@lineno\@ne
                  \fi
          265
                \fi
          266
          267
                \SX@tempb
          268 }
\SX@input
          269 \newcommand\SX@input[1]{%
          270
               \begingroup
                  \IfFileExists{#1}{}%
          271
          272
          273
                    \filename@parse{#1}%
          274
                    \ifx\filename@ext\relax \def\filename@ext{tex}\fi
                    \@latexerr{File
          275
```

\@ifundefined{SX@put@\SX@pos}%

225

```
}%
                277
                       \openin\@inputcheck#1
                278
                        \lsthk@PreSet\let\lst@linerange\@empty\global\lst@lineno\@ne
                279
                        \expandafter\lstset\expandafter{\SX@@explpreset}%
                280
                        \ifx\lst@linerange\@empty
                281
                          \edef\lst@linerange{{\lst@firstline}-{\lst@lastline},}%
                282
                283
                       \fi
                       \lst@GetLineInterval
                284
                       \SX@Info
                285
                       \newlinechar='\^^J\relax
                286
                       \SX@SkipToFirst\let\SX@lines\@empty
                287
                       \SX@ProcessResult
                288
                       \closein\@inputcheck
                289
                       \scantokens\expandafter{\SX@lines}%
                290
                291
                     \endgroup
                292 }
                293 \newcommand*\SX@Info{%
                     \typeout{-----
                                                 -----}%
                     \typeout{pos=\SX@pos}%
                296
                     \typeout{width=\SX@width}%
                     \typeout{hsep=\SX@hsep}%
                297
                     \typeout{vsep=\SX@vsep}%
                298
                     \typeout{overhang=\SX@overhang}%
                299
                     \typeout{rframe=\SX@rframe}%
                300
                     \typeout{codefile=\SX@codefile}%
                301
                302
                     \@ifundefined{lst@firstline}{}%
                303
                       {\typeout{\string\lst@firstline=\lst@firstline}}%
                304
                     \@ifundefined{lst@lastline}{}%
                305
                       {\typeout{\string\lst@lastline=\lst@lastline}}%
                306
                     \@ifundefined{lst@linerange}{}%
                       {\typeout{\string\lst@linerange=\lst@linerange}}%
                307
                     \typeout{\string\if@SX@wide=\if@SX@wide TRUE\else FALSE\fi}%
                308
                     \typeout{\string\if@SX@rangeaccept=\if@SX@rangeaccept TRUE\else FALSE\fi}%
                309
                     \typeout{\string\if@SX@varwidth=\if@SX@varwidth TRUE\else FALSE\fi}%
                310
                     \typeout{graphicfile=\SX@graphicname, graphicparameter=[\SX@graphicparam]}%
                311
                     \typeout{-----}%
                312
                313 }
                314 \providecommand*\MakePercentIgnore{\catcode'\%9\relax}
                315 \providecommand*\MakePercentComment{\catcode'\%14\relax}
\SX@resultInput
                316 \newcommand*\SX@resultInput{%
                     \ifx\SX@graphicname\@empty
                317
                        \begingroup
                318
                          \MakePercentComment\makeatother\catcode'\^^M=5\relax
                319
                          \SX@@preset\SX@preset
                320
                          \if@SX@rangeaccept
                321
                322
                           \let\SX@tempa=\SX@input
                323
                          \else
                           \let\SX@tempa=\input
                324
                325
                          \fi
                         \if\SX@scaled ?%
                326
```

276

 $\label{lem:condition} $$ '\theta = \alpha \theta - \beta . \filename@ext' not found.^^J^^J}\ehd'' $$$

```
\let\SX@tempb=\@firstofone
327
                          \else
328
                               \if\SX@scaled !%
329
                                     \def\SX@tempb##1{\resizebox{\SX@width}{!}{##1}}%
330
331
                               \else
                                     \def\SX@tempb##1{\scalebox{\SX@scaled}{##1}}%
332
                               \fi
333
334
                         \fi
                          \let\SX@lst@Init=\lst@Init
335
  Prevents float environments from floating. This is not enough for floating listing
  environments! Why?
                          \edef\SX@save@cnt{\arabic\@captype}%
336
337
                          \def\@xfloat##1[##2]{%
338
                               \def\@captype{##1}%
339
                               \setcounter\@captype{-1}%
                               \@float@HH{##1}[H]}%
340
  Special handling of floating listing environments.
341
                         \def\lst@Init{%
342
                               \let\lst@float=\relax
343
                               \setcounter\@captype{-1}%
344
                               \SX@lst@Init
345
  Typeset the Code.
                         \SX@tempb{\SX@tempa{\SX@codefile}}\par
  Restore the regular numbering of floats outside of 'LTXexample'.
                          \setcounter\@captype{\SX@save@cnt}%
347
348
                    \endgroup
349
              \else
                    \expandafter\includegraphics\expandafter[\SX@graphicparam]%
350
                          {\SX@graphicname}%
351
352
              \fi
353 }
354 \newcommand*\SX@codeInput{%
  Without a caption entry the command \lstinputlisting adds the filename to
   the "list of listings" (lol). This should be avoided.
              \begingroup
  The default parameters for all examples.
              \expandafter\lstset\expandafter{\SX@explpreset}%
  If "numbers=none" then margin dimensions should be zero.
357
                    \expandafter\lstset\expandafter{\SX@@explpreset}%
358
                    \ifx\lst@PlaceNumber\@empty
359
                          \g@addto@macro\SX@@explpreset{,xleftmargin=0pt,xrightmargin=0pt}%
                    \fi
360
                    \SX@Info
361
                    \expandafter\lstinputlisting\expandafter[\SX@@explpreset,nolol=true,%
362
                         \verb|caption={}|, \verb|belowskip=\z0|, \verb|aboveskip=\z0|, \verb|float=false|| {\SX@codefile}|, \verb|caption={}| {\SX@codefile}|, \verb|caption={}|, \verb|belowskip=\z0|, \verb|aboveskip=\z0|, \verb|float=false||, \verb|caption={}|, \verb
363
364
              \endgroup
```

\SX@codeInput

365 }%

```
366 \newcommand*\LTXinputExample[2][]{%
367 \g@addto@macro\SX@@explpreset{#1,codefile=#2}%
368 \SX@put@code@result}%

All the default values.
369 \lstset{explpreset={numbers=left,numberstyle=\tiny,numbersep=.3em,}
Negative width means defaults.
370 xleftmargin=1em,columns=flexible,language=[LaTeX]TEX},pos=l,width=-99pt,
371 overhang=0pt,hsep=\columnsep,vsep=\bigskipamount,rframe=single}
.
372 \AtBeginDocument{%
373 \def\theHlstnumber{\thelstlisting.\arabic{lstnumber}.\lst@neglisting}%
374 }
Changing the defaults possible in showexpl.cfg.
375 \InputIfFileExists{showexpl.cfg}{}}
```

Change History

v0.1a	General: "rangeaccept" added
General: "hpos" and "vpos"	(RN)
added, "pos" removed (RN) 3	v0.1k
Initial version 1	\SX@put@t/b/l/r/o/i: Change
v0.1b	[a]bove to [t]op (RN). $\dots 5$
\SX@put@t/b/l/r/o/i: Positioning	General: Some bug corrections
the captions more independend	(RN) 3
of the result and code area	v0.1l
$(RN). \dots \dots$	General: "graphic" added (RN) 3
v0.1c	v0.1m
\SX@put@t/b/l/r/o/i: Commands	General: Problem related to
\SX@KillAboveCaptionskip	$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $
and	v0.2a
\SX@KillBelowCaptionskip	General: "varwidth" and
added (RN) 5	"justification" added (RN) 3
v0.1f	"varwidth" package used (RN) 6
General: "lstpreset" added. (RN). 3	v0.2b
v0.1h	General: Check if \SX@put@? is
General: "codefile" added. (RN) 3	defined (RN). $\dots 6$
"lstpreset" renamed to	v0.3a
"explpreset" (RN) 3	\SX@attachfile: Attach file
New macro \LTXinputExample	functionality (with pdfTEX)
(RN)	added (RN) 5
Renamed from "example" to	General: "attachfile" added (RN). 3
"LTXexample' (RN) 6	v0.3b
v0.1i	\SX@resultInput: Input of result
General: Better caption positioning	code now inside a group;
and correct distance between	\makeatother added (RN) 9
the parts (RN) 6	v0.3c
v0.1j	\SX@resultInput: Wrong catcode
\SX@input: For ranges of lines	for newline char corrected
(RN) 8	$(RN). \dots 9$

v0.3d	v0.3l
\SX@resultInput: Missing \par	\SX@resultInput: Code for
added (RN) 9	"scaled" option (RN) 9
v0.3e	General: Option "scaled" and
\SX@@preset: More redefinitions	\SX@scaled added (RN) 3
added (RN) 4	v0.3m
v0.3g	\SX@put@code@result: Wrong
General: \SX@ProcessResult is	assignement for
now working correctly using	\lst@belowskip (RN) 7
\readline and \scantokens.	v0.3n
Thanks to Ulrich Diez for help	\SX@put@code@result: Use
(RN) 8	\ResultBox 7
Missing \newcommand for	General: Define \ResultBox etc 3
\SX@@explpreset added (RN). 4	Prevent utf8 encoding errors 6
v0.3h	v0.3p
General: New Option 'attachfiles'	\SX@@preset: Remove extra
(RN) 3	treatment of 'figure'/'table'
v0.3j	(RN). $\dots \dots \dots$
\SX@put@code@result: Setting	\SX@put@code@result: Let's leave
\lst@MakeCaption to was a	\lst@MakeCaption untouched
bad idea for hyperlinks. Group	(RN) 7
added to varwidth	\SX@resultInput: Better handling
environment. (Suggestions by	of floats (RN) 10
Ulrike Fischer.) 7	\isSX@odd: Replace \isodd with
v0.3k	\ifodd\getpagerefnumber
\SX@put@code@result: Setting	(remove package 'ifthen') (RN). 4
$\$ \lst@MakeCaption to \@gobble	General: Remove package 'calc'
again (prevent multiply defined	(RN)
labels; label key) 7	v0.3q
General: Definition for "hyperref"	\SX@resultInput: Floats should
(suggested by Heiko Oberdiek) 11	always be numbered 0 (RN) 10

Index

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

Symbols	\@footnotetext 78	\abovedisplayshortskip
\% 314, 315	\@gobble	80
\@@input 75	. 71–73, 75, 78, 211	\abovedisplayskip . 79
\C SX@attachfilefalse 36	\Q gobbletwo 74	\aftergroup 88, 90
\@SX@rangeacceptfalse	$\ensuremath{\verb{Qinputcheck}}\ 238,240,$	\arabic 336, 373
33	248, 260, 278, 289	\attachfile 107
$\CSX@varwidthfalse$. 34	\@latex@error 226	
$\CSX@widefalse \dots 35$	\@latexerr 275	В
\@addtofilelist 211	\c 0secondoftwo 96	$\begin{tabular}{ll} \verb&\belowcaptionskip & . 154 \\ \hline \end{tabular}$
\@captype 336,	\@temptokena 158, 167	\bibliography 72
338, 339, 343, 347	\@xfloat 337	\bigskipamount 371
\@ehd 226, 276	\^ 286, 319	\box 228
\@firstofone \dots 327		
\c 0firstoftwo 94	\mathbf{A}	${f C}$
\@float@HH 340	$\above captions kip . 148$	\c@lstlisting 160

100	\] =+ 4D = ==== 170	\
\c@ltxexample 160	\lst@BeginWriteFile 170	\newdimen 50, 51
\cite 67	\lst@caption	\newlinechar 286
\closein 289	146, 152, 184	
\closeout 75	\lst@captionpos 147, 153	0
\columnsep 371	\lst@endfloat 233	\openin 278
D	\lst@EndWriteFile . 173	_
\dimexpr . 113, 118,	\lst@firstline	P
122, 126, 136,	239, 282, 303	\pagebreak 112, 117
140, 197, 205, 210		\pagestyle 73
140, 137, 203, 210	. 180, 181, 233, 342	\printindex 69
${f E}$	\lst@GetLineInterval	
\endgraf 112, 117		\mathbf{R}
environments:	\lst@ifdisplaystyle 212	\raggedright 62
LTXexample 1, <u>157</u>	\lst@IfSubstring	\raisebox 143
21110110111p120 1, <u>101</u>		\readline 240, 260
${f F}$	\lst@Init 335, 341 \lst@Key 21-28,	\resizebox 330
\fbox 49	30-32, 37-40, 43	\ResultBox 49, 204
\fboxrule 51, 216	\lst@lastline	\ResultBoxRule
\fboxsep 50, 215		$\dots 51, 205, 216$
\filename@area 276	252, 282, 305	\ResultBoxSep
\filename@base 276	•	50, 205, 215
\filename@ext . 274, 276	. 239, 241, 242,	\rlap 143
\filename@parse 273	252, 261, 264, 279	•
\footnote 77	\lst@linerange 253,	${f S}$
•	279, 281, 282, 307	\sbox 141
\mathbf{G}	\lst@MakeCaption 213, 229	\scalebox 332
\g@addto@macro	\lst@neglisting 373	\scantokens 290
262, 359, 367	\lst@PlaceNumber 358	\setcounter 339, 343, 347
\getpagerefnumber . 87		\stepcounter 189
	\lst@RequireAspects 16 \lsthk@PreSet 279	\string 303, 305, 307-310
I	\lstinputlisting 362	\SX@@explpreset
\if@SX@attachfile .	\lstKV@OptArg 44	60, 167,
36, 40, 106	\lstKV@SetIf	179, 234, 280,
$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	26, 37, 38, 40	357, 359, 362, 367
33, 37, 309, 321	\lstnewenvironment . 157	\SX@@preset <u>63</u> , 320
\if@SX@varwidth	\lstset 161,	\SX@attachfile
34, 38, 218, 223, 310	178, 179, 185,	11, <u>105</u> , 143
\if@SX@wide	280, 356, 357, 369	\SX@CodeArea 114,
26, 35, 187, 308	LTXexample (environ-	117, 123, 127, 139
\if@twoside 84	ment) $1, 157$	
\ifeof 238, 248	\LTXinputExample 1, 366	, ,
\IfFileExists 10, 271	(E111111putE11amp16 1, 000	108, 163, 167, 170, 301, 346, 363
\ifSX@wasodd	${f M}$	170, 301, 346, 363
83, 93, 130, 133	\makeatother 319	\SX@codeInput . 228, <u>354</u>
\immediate 74	\makebox 209	\SX@def@WD 18-20
\includegraphics 350	\MakePercentComment	\SX@defaultWD <u>17</u> , 190
\index 71		\SX@eat@version
\isSX@odd \dots $\underline{83}$, 208	$\MakePercentIgnore . 314$	64, 65, 82
-	\marginpar 76	\SX@explpreset
L 71 100	\marginparsep 187	31, 59, 161, 178, 356
\label 71, 189	$\mbox{\em marginparwidth}$ 187	\SX@frame . 202, 204, 217
\listoffigures 68	3.7	\SX@graphicname
\listoftables 69	N	41, 45, 164,
\lst@beginfloat 181	\newbox 48	168, 311, 317, 351

\SX@graphicparam	\SX@ProcessResult .	251, 254, 267,
42, 45,	247, 251, 288	
165, 168, 311, 350	\SX@put@code@result	\SX@vsep
\SX@hsep	\dots 174, <u>176</u> , 368	24, 55, 113, 118, 298
23, 54, 122, 126, 297	\SX@put@t 111	\SX@wasoddfalse 90
\SX@IDENT . 87, 104, 189	\SX@put@t/b/l/r/o/i <u>111</u>	\SX@wasoddtrue . 88, 100
\SX@Info 285, 293, 361	\SX@ResBox	$\SX@width \dots 22, 53,$
\SX@input <u>269</u> , 322	. 48, 214, 224, 228	190, 191, 199,
\SX@justification .	\SX@ResultArea 112,	205, 206, 219,
39, 62, 136	119, 123, 127, 135	224, 228, 296, 330
\SX@KillAboveCaptionskip	\SX@resultInput $221, 316$	T
	\SX@rframe	T
\SX@KillBelowCaptionskip	27, 57, 201, 300	\theHlstnumber 373
151, 229	\SX@save@cnt 336, 347	\thelstlisting 373
\SX@lines . 263, 287, 290	,	\theltxexample 107
\SX@lst@Init 335, 344	29, 30, 326, 329, 332	\thispagestyle 73
\SX@overhang . 25, 56,		\mathbf{U}
	. 237, 243, 257, 287	
\SX@pos . 21, 52, 194,		\usebox 142
- · · · · · · · · · · · · · · · · · · ·	263, 322, 324, 346	W
	\SX@tempb 249,	
(DASPIESEL . 20, 30, 320	\baretempb 249,	\WIICE /4