

The `showexpl` package*

Rolf Niepraschk (Rolf.Niepraschk@gmx.de)

2020/10/08

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

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

`LTXexample` The syntax of the environment `LTXexample` is given by

```
\begin{LTXexample}[\langle key val list \rangle]\dots\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` v0.3r, dated 2020/10/08.

- explpreset** A *⟨key val list⟩* 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`, `l`, `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 `l`.
- 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 non-empty 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 *⟨dimen⟩* 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}{%
2   \PassOptionsToPackage{\CurrentOption}{graphicx}%
3   \PassOptionsToPackage{\CurrentOption}{listings}%
4 }%
5 \DeclareOption{draft}{%
6   \PassOptionsToPackage{\CurrentOption}{graphicx}%
7   \PassOptionsToPackage{\CurrentOption}{listings}%
8 }%

9 \DeclareOption{attachfiles}{%
10  \AtBeginDocument{\IfFileExists{attachfile.sty}%
11    {\RequirePackage{attachfile}}{\def\SX@attachfile{}}}
12 }%
13 \DeclareOption*{\PassOptionsToPackage{\CurrentOption}{listings}}
14 \ProcessOptions\relax
15 \RequirePackage{refcount,listings,graphicx,varwidth,float}

```

We must activate code from package listings for writing files.

```

16 \lst@RequireAspects{writefile}

\SX@defaultWD Parameter #2 is a length or a number. Parameter #1 is a macro. After a call of
\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 \lst@Key{scaled}{?}[!]{\def\SX@scaled{#1}}

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 \lst@Key{attachfile}f[t]{\lstKV@SetIf{#1}\if@SX@attachfile}
41 \newcommand*\SX@graphicname{}%
42 \newcommand*\SX@graphicparam{}%

```

```

43 \lst@Key{graphic}{ } [] {%
44   \lstKV@OptArg[width=\linewidth]{#1}{%
45     \edef\SX@graphicparam{##1}\edef\SX@graphicname{##2}%
46   }%
47 }%
48 \newbox\SX@ResBox
49 \newcommand\ResultBox{} \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}

```

`\SX@@preset` Contains some redefinitions of L^AT_EX macros and environments to do nothing. `\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{%
64   \renewcommand\documentclass[2] [] {\SX@eat@version}%
65   \renewcommand\usepackage[2] [] {\SX@eat@version}%
66   \renewenvironment{document}{ } {%}
67   \renewcommand\cite[1] [] {%}
68   \let\tableofcontents\relax \let\listoffigures\relax
69   \let\listoftables\relax \let\printindex\relax
70   \let\listfiles\relax \let\nofiles\relax
71   \let\index\@gobble \let\label\@gobble
72   \let\refstepcounter=\stepcounter
73   \let\bibliography\@gobble
74   \let\pagestyle\@gobble \let\thispagestyle\@gobble
75   %%\let\immediate\relax \let\write\@gobbletwo
76   %%\let\closeout\@gobble \let\@input\@gobble
77   \renewcommand\marginpar[2] [] {%}
78   \renewcommand\footnote[2] [] {%}
79   \let\@footnotetext\@gobble
80   %%\abovedisplayskip=\z@
81   %%\abovedisplayshortskip=\z@
82 }
83 \newcommand*\SX@eat@version[1] [] {}

```

`\isSX@odd` Parameter #1 is executed on odd pages, parameter #2 on even pages.

```

84 \newif\ifSX@wasodd
85 \if@twoside
86   \newcommand*\isSX@odd{%
87     \begingroup
88       \ifodd\getpagerefnnumber{\SX@IDENT}%
89       \aftergroup\SX@wasoddttrue

```

```

90     \else
91       \aftergroup\SX@wasoddfalse
92     \fi
93   \endgroup
94   \ifSX@wasodd
95     \expandafter\@firstoftwo
96   \else
97     \expandafter\@secondoftwo
98   \fi
99 }
100 \else
101   \SX@wasodddtrue
102   \newcommand*\isSX@odd[2]{#1}
103 \fi

```

The call of `\isSX@odd` sets also `\ifSX@wasodd` to true or false. If it's clear that no page break occurs, `\ifSX@wasodd` can be used.

```

104 \newcounter{ltxexample}
105 \newcommand*\SX@IDENT}{SX@\number\value{ltxexample}}

```

`\SX@attachfile`

```

106 \newcommand*\SX@attachfile{%
107   \if@SX@attachfile
108     \attachfile[mimetype=text/plain,subject={example \theltxexample}]%
109     {\SX@codefile}{}%
110   \fi
111 }

```

`\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 innner side. Parameter #1 is the width of the result.

```

112 \newcommand*\SX@put@t[3]{%
113   \SX@ResultArea{\linewidth}{#2}\endgraf\pagebreak[2]%
114   \@tempdima=\dimexpr\SX@vsep\vskip\@tempdima
115   \SX@CodeArea{\linewidth}{#3}%
116 }
117 \newcommand*\SX@put@b[3]{%
118   \SX@CodeArea{\linewidth}{#3}\endgraf\pagebreak[2]%
119   \@tempdima=\dimexpr\SX@vsep\vskip\@tempdima
120   \SX@ResultArea{\linewidth}{#2}%
121 }
122 \newcommand*\SX@put@l[3]{%
123   \@tempdimc=\dimexpr\linewidth-#1-\SX@hsep %
124   \SX@ResultArea{#1}{#2}\hfill\SX@CodeArea{\@tempdimc}{#3}%
125 }
126 \newcommand*\SX@put@r[3]{%
127   \@tempdimc=\dimexpr\linewidth-#1-\SX@hsep %
128   \SX@CodeArea{\@tempdimc}{#3}\hfill\SX@ResultArea{#1}{#2}%
129 }
130 \newcommand*\SX@put@o[3]{%
131   \@nameuse{SX@put@\ifSX@wasodd r\else l\fi}{#1}{#2}{#3}%
132 }
133 \newcommand*\SX@put@i[3]{%
134   \@nameuse{SX@put@\ifSX@wasodd l\else r\fi}{#1}{#2}{#3}%

```

```

135 }
136 \newcommand\SX@ResultArea[2]{%
137   \SX@justification\@tempdima=\dimexpr #1 %
138   \parbox\@tempdima{#2}%
139 }
140 \newcommand\SX@CodeArea[2]{%
141   \@tempdima=\dimexpr #1 %
142   \sbox\@tempboxa{\parbox\@tempdima{#2}}%
143   \@tempdima=\dp\@tempboxa\usebox\@tempboxa
144   \rlap{\raisebox{-\@tempdima}[Opt][Opt]{\SX@attachfile}}%
145 }
146 \newcommand*\SX@KillAboveCaptionskip{%
147   \ifx\lst@caption\@empty\else
148     \lst@ifsubstring t\lst@captionpos
149     {\vskip-\abovecaptionskip}{}%
150   \fi
151 }
152 \newcommand*\SX@KillBelowCaptionskip{%
153   \ifx\lst@caption\@empty\else
154     \lst@ifsubstring b\lst@captionpos
155     {\vskip-\belowcaptionskip}{}%
156   \fi
157 }

```

LTXexample

```

158 \lstnewenvironment{LTXexample}[1][]{%
159   \@temptokena{#1}%
160   \begingroup

```

For "codefile=..."/"graphic=..." if \theltxexample or \thelstlisting is part of the filename.

```

161   \advance\c@ltxexample\@ne \advance\c@lstlisting\@ne
162   \expandafter\lstset\expandafter{\SX@explpreset,#1}%
163   \edef\x{\endgroup
164     \def\noexpand\SX@codefile{\SX@codefile}%
165     \def\noexpand\SX@graphicname{\SX@graphicname}%
166     \def\noexpand\SX@graphicparam{\SX@graphicparam}}%
167   \x
168   \xdef\SX@@explpreset{\the\@temptokena,codefile=\SX@codefile,%
169     graphic={[\SX@graphicparam]{\SX@graphicname}}}%
170   \setbox\@tempboxa=\hbox\bgroup
171   \lst@BeginWriteFile{\SX@codefile}%
172 }
173 {%
174   \lst@EndWriteFile\egroup
175   \SX@put@code@result
176 }

```

\SX@put@code@result

```

177 \newcommand*\SX@put@code@result{%
178   \begingroup
179   \expandafter\lstset\expandafter{\SX@explpreset}%
180   \expandafter\lstset\expandafter{\SX@@explpreset}%

```

Use listings floating procedure if necessary.

```
181 \ifx\lst@float\relax\else
182 \edef\@tempa{\noexpand\lst@beginfloat{lstlisting}[\lst@float]}
183 \expandafter\@tempa
184 \fi
185 \ifx\lst@caption\empty
186 \lstset{no1ol=true}%
187 \fi
188 \if@SX@wide\def\SX@overhang{\marginparwidth+\marginparsep}\fi
189 \trivlist\item\relax
190 \stepcounter{ltexample}\label{\SX@IDENT}%
```

Make \SX@width a real dimension if the unit is missing.

```
191 \SX@defaultWD\SX@width{\SX@width}%
```

Set the default width if necessary.

```
192 \ifdim\SX@width<\z@
193 \@tempswtrue
194 \def\@tempa{t}%
195 \ifx\@tempa\SX@pos\@tempswfalse\fi
196 \def\@tempa{b}%
197 \ifx\@tempa\SX@pos\@tempswfalse\fi
198 \@tempdima=\dimexpr\linewidth+\SX@overhang %
199 \if@tempswa\@tempdima=.5\@tempdima\fi%
200 \edef\SX@width{\the\@tempdima}%
201 \fi
```

Correct \SX@width if a frame is requested.

```
202 \ifx\SX@rframe\empty
203 \long\def\SX@frame##1{##1}%
204 \else
205 \let\SX@frame\ResultBox
206 \@tempdima=\dimexpr\SX@width-2\ResultBoxSep-2\ResultBoxRule %
207 \edef\SX@width{\the\@tempdima}%
208 \fi
209 \isSX@odd{\def\@tempa{l}}{\def\@tempa{r}}%
210 \makebox[\linewidth][\@tempa]{%
211 \parbox{\dimexpr\linewidth+\SX@overhang}{%
```

\SX@codefile (\jobname.tmp) is not necessary for the filelist.

```
212 \let\@addtofilelist\@gobble
213 \let\lst@ifdisplaystyle=\iftrue
214 \SX@KillAboveCaptionskip\lst@MakeCaption{t}%
```

Use the “natural” width of the result code if “varwidth” is true. .

```
215 \setbox\SX@ResBox\hbox{%
216 \fboxsep=\ResultBoxSep
217 \fboxrule=\ResultBoxRule
218 \SX@frame{%
219 \@nameuse{\if@SX@varwidth varwidth\else minipage}\fi}%
220 \SX@width\relax
221 \begingroup
222 \SX@resultInput
223 \endgroup
224 \@nameuse{end\if@SX@varwidth varwidth\else minipage}\fi}}%
225 \edef\SX@width{\the\wd\SX@ResBox}%
```

```

226         \@ifundefined{SX@put@SX@pos}%
227         {\@latex@error{Parameter ‘SX@pos’ undefined}\@ehd}%
228         {\@nameuse{SX@put@SX@pos}%
229         {\SX@width}{\box\SX@ResBox}{\SX@codeInput}}}%
230         \lst@MakeCaption{b}\SX@KillBelowCaptionskip
231     }%
232 }%
233 \endtrivlist
234 \ifx\lst@float\relax\else\expandafter\lst@endfloat\fi
235 \gdef\SX@@explpreset{}%
236 \endgroup
237 }

238 \newcommand\SX@SkipToFirst{%
239 \ifeof\@inputcheck\else
240 \ifnum \lst@lineno=\lst@firstline\else
241 \readline\@inputcheck to\SX@tempa
242 \typeout{IGNORE (\the\lst@lineno)}%
243 \global\advance\lst@lineno\@ne
244 \SX@SkipToFirst
245 \fi
246 \fi
247 }

248 \newcommand\SX@ProcessResult{%
249 \ifeof\@inputcheck
250 \let\SX@tempb\relax
251 \else
252 \let\SX@tempb\SX@ProcessResult
253 \ifnum \lst@lineno>\lst@lastline\relax
254 \ifx\lst@linerange\@empty
255 \let\SX@tempb\relax
256 \else
257 \lst@GetLineInterval
258 \SX@SkipToFirst
259 \fi
260 \else
261 \readline\@inputcheck to\SX@tempa
262 \typeout{READ (\the\lst@lineno)}%
263 \expandafter\g@addto@macro
264 \expandafter\SX@lines\expandafter{\SX@tempa^^J}%
265 \global\advance\lst@lineno\@ne
266 \fi
267 \fi
268 \SX@tempb
269 }

\SX@input

270 \newcommand\SX@input[1]{%
271 \begingroup
272 \IfFileExists{#1}{}%
273 {%
274 \filename@parse{#1}%
275 \ifx\filename@ext\relax \def\filename@ext{tex}\fi
276 \@latexerr{File

```



```

277     ‘\filename@area\filename@base.\filename@ext’ not found.^^J^^J}\@ehd%
278 }%
279 \openin\@inputcheck#1
280 \lsthk@PreSet\let\lst@linerange\@empty\global\lst@lineno\@ne
281 \expandafter\lstset\expandafter{\SX@@explpreset}%
282 \ifx\lst@linerange\@empty
283   \edef\lst@linerange{{\lst@firstline}-{\lst@lastline}},}%
284 \fi
285 \lst@GetLineInterval
286 \SX@Info
287 \newlinechar=‘^^J\relax
288 \SX@SkipToFirst\let\SX@lines\@empty
289 \SX@ProcessResult
290 \closein\@inputcheck
291 \scantokens\expandafter{\SX@lines}%
292 \endgroup
293 }

294 \newcommand*\SX@Info{%
295   \typeout{-----}%
296   \typeout{pos=\SX@pos}%
297   \typeout{width=\SX@width}%
298   \typeout{hsep=\SX@hsep}%
299   \typeout{vsep=\SX@vsep}%
300   \typeout{overhang=\SX@overhang}%
301   \typeout{rframe=\SX@rframe}%
302   \typeout{codefile=\SX@codefile}%
303   \@ifundefined{lst@firstline}{}%
304     {\typeout{\string\lst@firstline=\lst@firstline}}%
305   \@ifundefined{lst@lastline}{}%
306     {\typeout{\string\lst@lastline=\lst@lastline}}%
307   \@ifundefined{lst@linerange}{}%
308     {\typeout{\string\lst@linerange=\lst@linerange}}%
309   \typeout{\string\if@SX@wide=\if@SX@wide TRUE\else FALSE\fi}%
310   \typeout{\string\if@SX@rangeaccept=\if@SX@rangeaccept TRUE\else FALSE\fi}%
311   \typeout{\string\if@SX@varwidth=\if@SX@varwidth TRUE\else FALSE\fi}%
312   \typeout{graphicfile=\SX@graphicname, graphicparameter=[\SX@graphicparam]}%
313   \typeout{-----}%
314 }
315 \providecommand*\MakePercentIgnore{\catcode‘\%9\relax}
316 \providecommand*\MakePercentComment{\catcode‘\%14\relax}

```

\SX@resultInput

```

317 \newcommand*\SX@resultInput{%
318   \ifx\SX@graphicname\@empty
319     \begingroup
320       \MakePercentComment\makeatother\catcode‘^^M=5\relax
321       \SX@@preset\SX@preset
322       \if@SX@rangeaccept
323         \let\SX@tempa=\SX@input
324       \else
325         \let\SX@tempa=\input
326       \fi
327       \if\SX@scaled ?%

```

```

328     \let\SX@tempb=\@firstofone
329   \else
330     \if\SX@scaled !%
331     \def\SX@tempb##1{\resizebox{\SX@width}{!}{##1}}%
332   \else
333     \def\SX@tempb##1{\scalebox{\SX@scaled}{##1}}%
334   \fi
335 \fi
336 \let\SX@lst@Init=\lst@Init

```

Prevents float environments from floating. This is not enough for floating listing environments! Why?

```

337 \def\@xfloat##1[##2]{%
338   \def\@capttype{##1}%
339   \@namedef{the\@capttype}{0}%
340   \@float@HH{##1}[H]}%

```

Special handling of floating listing environments.

```

341 \def\lst@Init{%
342   \let\lst@float=\relax
343   \setcounter\@capttype{-1}%
344   \SX@lst@Init
345 }

```

Typeset the Code.

```

346 \SX@tempb{\SX@tempa{\SX@codefile}}\par
347 \endgroup
348 \else
349 \expandafter\includegraphics\expandafter[\SX@graphicparam]%
350   {\SX@graphicname}%
351 \fi
352 }

```

`\SX@codeInput`

```

353 \newcommand*\SX@codeInput{%
354   Without a caption entry the command \lstinputlisting adds the filename to
355   the “list of listings” (lol). This should be avoided.
356   \begingroup
357   The default parameters for all examples.
358   \expandafter\lstset\expandafter{\SX@explpreset}%
359   If ”numbers=none” then margin dimensions should be zero.
360   \expandafter\lstset\expandafter{\SX@@explpreset}%
361   \ifx\lst@PlaceNumber\@empty
362     \g@addto@macro\SX@@explpreset{,xleftmargin=0pt,xrightmargin=0pt}%
363   \fi
364   \SX@Info
365   \expandafter\lstinputlisting\expandafter[\SX@@explpreset,nolol=true,%
366     caption={},belowskip=\z@,aboveskip=\z@,float=false]{\SX@codefile}%
367 \endgroup
368 }%

```

```

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

All the default values.
368 \lstset{explpreset={numbers=left,numberstyle=\tiny,numbersep=.3em,
Negative width means defaults.
369 xleftmargin=1em,columns=flexible,language=[LaTeX]TEX},pos=1,width=-99pt,
370 overhang=0pt,hsep=\columnsep,vsep=\bigskipamount,rframe=single}

.
371 \AtBeginDocument{%
372   \def\theHlstnumber{\theHlstlisting.\arabic{lstnumber}.\lst@neglisting}%
373 }

Changing the defaults possible in showexpl.cfg.
374 \InputIfFileExists{showexpl.cfg}{-}{-}

```

Change History

v0.1a	General: “rangeaccept” added (RN).	3
	General: “hpos” and “vpos” added, “pos” removed (RN). . .	3
	Initial version	1
v0.1b	\SX@put@t/b/l/r/o/i: Positioning the captions more independent of the result and code area (RN).	5
	\SX@put@t/b/l/r/o/i: Change [a]bove to [t]op (RN).	5
	General: Some bug corrections (RN).	3
	General: “graphic” added (RN). . .	3
v0.1c	\SX@put@t/b/l/r/o/i: Commands \SX@KillAboveCaptionskip and \SX@KillBelowCaptionskip added (RN).	5
	General: Problem related to \label/\ref solved (RN). . . .	6
	General: “varwidth” and “justification” added (RN). . . .	3
	“varwidth” package used (RN). . .	6
v0.1f	General: “lstpreset” added. (RN). . .	3
v0.1h	General: “codefile” added. (RN). . .	3
	“lstpreset” renamed to “explpreset” (RN).	3
	New macro \LTXinputExample (RN).	10
	Renamed from “example” to “LTXexample” (RN).	6
v0.1i	General: Better caption positioning and correct distance between the parts (RN).	6
	\SX@resultInput: Input of result code now inside a group; \makeatother added (RN). . . .	9
v0.1j	\SX@input: For ranges of lines (RN).	8
	\SX@resultInput: Wrong catcode for newline char corrected (RN).	9

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

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	\@gobbletwo 74	\arabic 370
\% 314, 315	\@inputcheck 238, 240,	\attachfile 107
\@input 75	248, 260, 278, 289	
\@SX@attachfilefalse 36	\@latex@error 226	B
\@SX@orangeacceptfalse 33	\@latexerr 275	\belowcaptionskip . 154
\@SX@varwidthfalse . 34	\@secondoftwo 96	\bibliography 72
\@SX@widefalse 35	\@temptokena .. 158, 167	\bigskipamount 368
\@addtofilelist . . . 211	\@xfloat .. 335, 337, 343	\box 228
\@ehd 226, 276	\^ 286, 319	
\@firstofone 327	A	C
\@firstoftwo 94	\abovecaptionskip . 148	\c@lstlisting 160
\@float@HH 337	\abovedisplayskip . 80	\c@ltxexample 160
\@footnotetext 78	\abovedisplayshortskip . 79	\cite 67
\@gobble	\aftergroup 88, 90	\closein 289
. 71–73, 75, 78, 211		\closeout 75
		\columnsep 368

<p>D</p> <p><code>\dimexpr</code> .. 113, 118, 122, 126, 136, 140, 197, 205, 210</p> <p>E</p> <p><code>\endgraf</code> 112, 117</p> <p>environments: <code>LTXexample</code> ... <i>1</i>, <u>157</u></p> <p>F</p> <p><code>\fbox</code> 49</p> <p><code>\fboxrule</code> 51, 216</p> <p><code>\fboxsep</code> 50, 215</p> <p><code>\filename@area</code> 276</p> <p><code>\filename@base</code> 276</p> <p><code>\filename@ext</code> . 274, 276</p> <p><code>\filename@parse</code> ... 273</p> <p><code>\footnote</code> 77</p> <p>G</p> <p><code>\g@addto@macro</code> 262, 356, 364</p> <p><code>\getpagerefnumber</code> . 87</p> <p>I</p> <p><code>\if@SX@attachfile</code> 36, 40, 106</p> <p><code>\if@SX@rangeaccept</code> . .. 33, 37, 309, 321</p> <p><code>\if@SX@varwidth</code> ... 34, 38, 218, 223, 310</p> <p><code>\if@SX@wide</code> 26, 35, 187, 308</p> <p><code>\if@twoside</code> 84</p> <p><code>\ifeof</code> 238, 248</p> <p><code>\ifFileExists</code> .. 10, 271</p> <p><code>\ifSX@wasodd</code> 83, 93, 130, 133</p> <p><code>\immediate</code> 74</p> <p><code>\includegraphics</code> .. 347</p> <p><code>\index</code> 71</p> <p><code>\isSX@odd</code> <u>83</u>, 208</p> <p>L</p> <p><code>\label</code> 71, 189</p> <p><code>\listoffigures</code> 68</p> <p><code>\listoftables</code> 69</p> <p><code>\lst@beginfloat</code> ... 181</p> <p><code>\lst@BeginWriteFile</code> 170</p> <p><code>\lst@caption</code> 146, 152, 184</p> <p><code>\lst@captionpos</code> 147, 153</p> <p><code>\lst@endfloat</code> 233</p> <p><code>\lst@EndWriteFile</code> . 173</p>	<p><code>\lst@firstline</code> 239, 282, 303</p> <p><code>\lst@float</code> 180, 181, 233, 339</p> <p><code>\lst@GetLineInterval</code> 256, 284</p> <p><code>\lst@ifdisplaystyle</code> 212</p> <p><code>\lst@ifSubstring</code> 147, 153</p> <p><code>\lst@Init</code> . 336, 338, 344</p> <p><code>\lst@Key</code> 21–28, 30–32, 37–40, 43</p> <p><code>\lst@lastline</code> 252, 282, 305</p> <p><code>\lst@lineno</code> 239, 241, 242, 252, 261, 264, 279</p> <p><code>\lst@linerange</code> 253, 279, 281, 282, 307</p> <p><code>\lst@MakeCaption</code> 213, 229</p> <p><code>\lst@neglisting</code> ... 370</p> <p><code>\lst@PlaceNumber</code> .. 355</p> <p><code>\lst@RequireAspects</code> 16</p> <p><code>\lsthk@PreSet</code> 279</p> <p><code>\lstinputlisting</code> .. 359</p> <p><code>\lstKV@OptArg</code> 44</p> <p><code>\lstKV@SetIf</code> 26, 37, 38, 40</p> <p><code>\lstnewenvironment</code> . 157</p> <p><code>\lstset</code> 161, 178, 179, 185, 280, 353, 354, 366</p> <p><code>LTXexample</code> (environ- ment) <i>1</i>, <u>157</u></p> <p><code>LTXinputExample</code> <i>1</i>, 363</p> <p>M</p> <p><code>\makeatother</code> 319</p> <p><code>\makebox</code> 209</p> <p><code>\MakePercentComment</code> 315, 319</p> <p><code>\MakePercentIgnore</code> . 314</p> <p><code>\marginpar</code> 76</p> <p><code>\marginparsep</code> 187</p> <p><code>\marginparwidth</code> ... 187</p> <p>N</p> <p><code>\newbox</code> 48</p> <p><code>\newdimen</code> 50, 51</p> <p><code>\newlinechar</code> 286</p> <p>O</p> <p><code>\openin</code> 278</p>	<p>P</p> <p><code>\pagebreak</code> ... 112, 117</p> <p><code>\pagestyle</code> 73</p> <p><code>\printindex</code> 69</p> <p>R</p> <p><code>\raggedright</code> 62</p> <p><code>\raisebox</code> 143</p> <p><code>\readline</code> 240, 260</p> <p><code>\resizebox</code> 330</p> <p><code>\ResultBox</code> 49, 204</p> <p><code>\ResultBoxRule</code> 51, 205, 216</p> <p><code>\ResultBoxSep</code> 50, 205, 215</p> <p><code>\rlap</code> 143</p> <p>S</p> <p><code>\sbox</code> 141</p> <p><code>\scalebox</code> 332</p> <p><code>\scantokens</code> 290</p> <p><code>\stepcounter</code> 189</p> <p><code>\string</code> 303, 305, 307–310</p> <p><code>\SX@@explpreset</code> 60, 167, 179, 234, 280, 354, 356, 359, 364</p> <p><code>\SX@preset</code> <u>63</u>, 320</p> <p><code>\SX@attachfile</code> 11, <u>105</u>, 143</p> <p><code>\SX@CodeArea</code> .. 114, 117, 123, 127, 139</p> <p><code>\SX@codefile</code> . 32, 61, 108, 163, 167, 170, 301, 342, 360</p> <p><code>\SX@codeInput</code> . 228, <u>351</u></p> <p><code>\SX@def@WD</code> 18–20</p> <p><code>\SX@defaultWD</code> .. <u>17</u>, 190</p> <p><code>\SX@eat@version</code> 64, 65, 82</p> <p><code>\SX@explpreset</code> 31, 59, 161, 178, 353</p> <p><code>\SX@frame</code> . 202, 204, 217</p> <p><code>\SX@graphicname</code> 41, 45, 164, 168, 311, 317, 348</p> <p><code>\SX@graphicparam</code> 42, 45, 165, 168, 311, 347</p> <p><code>\SX@hsep</code> 23, 54, 122, 126, 297</p> <p><code>\SX@IDENT</code> . 87, 104, 189</p> <p><code>\SX@Info</code> .. 285, 293, 358</p> <p><code>\SX@input</code> <u>269</u>, 322</p>
--	---	---

<code>\SX@justification</code> .	<code>\SX@put@t/b/l/r/o/i</code> <u>111</u>	<code>\SX@wasoddfalse</code> ... 90
..... 39, 62, 136	<code>\SX@ResBox</code>	<code>\SX@wasoddtype</code> . 88, 100
<code>\SX@KillAboveCaptionskip</code>	. 48, 214, 224, 228	<code>\SX@width</code> ... 22, 53,
..... 145, 213	<code>\SX@ResultArea</code> 112,	190, 191, 199,
<code>\SX@KillBelowCaptionskip</code>	119, 123, 127, 135	205, 206, 219,
..... 151, 229	<code>\SX@resultInput</code> 221, <u>316</u>	224, 228, 296, 330
<code>\SX@lines</code> . 263, 287, 290	<code>\SX@rframe</code>	<code>\SX@xfloat</code> ... 335, 343
<code>\SX@lst@Init</code> 27, 57, 201, 300	
.... 336, 340, 344	<code>\SX@scaled</code>	T
<code>\SX@overhang</code> . 25, 56,	29, 30, 326, 329, 332	<code>\theHlstnumber</code> 370
187, 197, 210, 299	<code>\SX@SkipToFirst</code> ...	<code>\thelstlisting</code> 370
<code>\SX@pos</code> . 21, 52, 194,	. 237, 243, 257, 287	<code>\theltxexample</code> 107
196, 225–227, 295	<code>\SX@tempa</code> . 240, 260,	<code>\thispagestyle</code> 73
<code>\SX@preset</code> . 28, 58, 320	263, 322, 324, 342	
<code>\SX@ProcessResult</code> .	<code>\SX@tempb</code> 249,	U
.... 247, 251, 288	251, 254, 267,	<code>\usebox</code> 142
<code>\SX@put@code@result</code>	327, 330, 332, 342	
.... 174, <u>176</u> , 365	<code>\SX@vsep</code>	W
<code>\SX@put@t</code>	24, 55, 113, 118, 298	<code>\write</code> 74