

Printing Envelopes and Labels in L^AT_EX 2_ε: *EnvLab* Package ^{*†}

Boris Veytsman

1997/07/16

Contents

1	Introduction	2
2	Identification	2
3	Preliminary code	3
3.1	Switches, etc.	3
3.2	Lengths and numbers	4
3.3	Main setting commands	5
4	Defining options	6
4.1	Envelope Sizes	6
4.2	Labels sizes	6
4.3	Optional switches	7
4.4	Unknown options	7
4.5	Default options	7
5	Configuration file	7
6	Processing options and loading packages	8
7	Document layout	8
7.1	Printer specific commands	8
7.2	Some useful counters for labels	10
7.3	Fonts	10
7.4	Return address	10
7.5	Margins, page styles, etc.	10
7.6	Printing of the addresses	12
7.7	Label setup	12

^{*}This file has version number v1.2, last revised 1997/07/16.

[†]©Boris Veytsman, 1996, 1997

7.8 Envelope setup	13
8 Printing of envelopes and labels	13
8.1 Main Command	13
8.2 Printing of one envelope	14
8.3 Printing of one label	14
8.4 Printing of return labels	14
9 Barcodes	15
9.1 Main command	15
9.2 Extraction of barcodes	15
9.3 Printing barcodes	17
10 Capitalization	18
11 Games with .aux file	20
12 Reimplementation of the \opening command	22
References	24

1 Introduction

The standard `\makelabels` command in the L^AT_EX 2_ε `letter.cls` documentclass typesets labels on Avery 5352 sheets. A typical user may want more. *EnvLab* redefines `\makelabels` in¹ a more useful and customizable way

The detailed usage of the package is described in the file `elguide.tex`. Here we just comment the macros.

2 Identification

First, we must say “Hello world.”

```
1 <*package>
2 \NeedsTeXFormat{LaTeX2e}
```

`\envlab@ok` Now let us check whether we in the letter documentclass. Actually we will accept
`\envlab@oops` any class that has `\makelabels` defined (custom letter classes, etc.)

```
3 \def\envlab@oops{%
4   \PackageError{envlab}%
5   {Envlab is used outside of \MessageBreak%
6    a letter-compatible documentclass}%
7   {You are trying to use Envelopes & Labels\MessageBreak%
8    package, but your documentclass does not\MessageBreak%
9    understand address formatting commands.\MessageBreak%
10  Try standard document class letter\MessageBreak}}
```

¹hopefully

Media	Number per page	Rotation	Return address
Envelopes	One	Settable	Yes
Labels	Several	Not rotated	No
Big Labels	Several	Not rotated	Yes

Table 1: Differences between envelopes, labels and big labels

```

11 \def\envlab@ok{%
12   \PackageInfo{envlab}%
13   {Envelopes & Labels package: found makelabels...\MessageBreak%
14   Seems everything is OK. Good luck.}}
15 \ifundefined{makelabels}{\envlab@oops}{\envlab@ok}

```

3 Preliminary code

3.1 Switches, etc.

`\if@envelope` There are three kinds of things we can print: envelopes (default) labels and big labels
`\if@biglabel` The differences are summarized in Table 1.

```

16 \newif\if@envelope
17 \@envelopetrue
18 \newif\if@biglabel
19 \@biglabelfalse

```

`\if@rotateenvelopes` Now we must determine whether we want to rotate envelopes and whether to
`\if@printreturnaddress` include return address (both yes by default).

```

20 \newif\if@rotateenvelopes
21 \@rotateenvelopetrue
22 \newif\if@printreturnaddress
23 \@printreturnaddresstrue

```

`\@envelopeposition` Now let us decide how to print envelopes. They can be either centered (default) *or* shifted to the left or to the right of the paper tray. The counter `\@envelopeposition` can be, correspondingly, either 0 or 1 or 2. The value of 3 corresponds to the “custom placing”, when the user sets `\EnvelopeLeftMargin` manually.

```

24 \newcount\@envelopeposition
25 \@envelopeposition=0\relax

```

`\if@pswait` The switches `\if@pswait` and `\if@psautotray` control optional manual feeding
`\if@psautotray` of envelopes and labels in *Postscript* printers (see Section 7.1 for details). The
`\PSEnvelopeTray` register `\PSEnvelopeTray` contains the name of the required tray.

```

26 \newif\if@pswait
27 \@pswaitfalse
28 \newif\if@psautotray
29 \@psautotrayfalse

```

```

30 \newtoks\PSEnvelopeTray
31 \PSEnvelopeTray={/otherenvelopetray }

\if@barcodes We can either print bar codes (default) or not. The second switch forces to print
\if@alwaysbarcodes barcodes even if they are not last in the address (like Pa 16801\\USA)
32 \newif\if@barcodes
33 \newif\if@alwaysbarcodes
34 \@barcodestrue
35 \@alwaysbarcodesfalse

\if@EL@redefine@opening Now let us decide whether to mess with the \opening command.
36 \newif\if@EL@redefine@opening
37 \@EL@redefine@openingfalse

\if@capitalizeaddress Also, we can either capitalize the address (default) or not.
38 \newif\if@capitalizeaddress
39 \@capitalizeaddresstrue

```

3.2 Lengths and numbers

We want all lengths to be user settable, so no @ in the names.

```

\EnvelopeWidth An envelope has four basic lengths. The first two are self-evident. The third is
\EnvelopeHeight the distance between the edge of the paper and the leading edge of the envelope.
\EnvelopeTopMargin All pre-defined envelope sizes set this to zero. The fourth is the distance between
\EnvelopeLeftMargin the left edge of the paper and the envelope. Its value depends on the value of the
\@envelopeposition variable. We will preset it to zero
40 \newlength{\EnvelopeWidth}
41 \newlength{\EnvelopeHeight}
42 \newlength{\EnvelopeTopMargin}
43 \newlength{\EnvelopeLeftMargin}
44 \setlength{\EnvelopeLeftMargin}{0pt}

```

```

\LabelWidth A label has more parameters. The first two are the same as for the envelopes.
\LabelHeight The next two define the distances from the paper edges to the beginning of the
\LabelTopMargin labels. The last one describes the distance between the labels.
\LabelLeftMargin 45 \newlength{\LabelWidth}
\LabelRightMargin 46 \newlength{\LabelHeight}
47 \newlength{\LabelTopMargin}
48 \newlength{\LabelLeftMargin}
49 \newlength{\LabelRightMargin}

```

```

\c@LabelMaxCol The following numbers define, how many labels are in each row and how many
\c@LabelMaxRow rows are on each page

```

```

50 \newcounter{LabelMaxCol}
51 \newcounter{LabelMaxRow}

```

The lengths above are *external* parameters that determine an envelope or a label. Now we will describe *internal* lengths. We define them here because the commands `\SetEnvelope` and `\SetLabel` determine them basing on the given envelope or label type.

<code>\FromAddressTopMargin</code>	The following lengths are self-evident.
<code>\FromAddressLeftMargin</code>	52 <code>\newlength{\FromAddressTopMargin}</code>
<code>\FromAddressHeight</code>	53 <code>\newlength{\FromAddressLeftMargin}</code>
<code>\FromAddressWidth</code>	54 <code>\newlength{\FromAddressHeight}</code>
<code>\ToAddressTopMargin</code>	55 <code>\newlength{\FromAddressWidth}</code>
<code>\ToAddressLeftMargin</code>	56 <code>\newlength{\ToAddressTopMargin}</code>
<code>\ToAddressWidth</code>	57 <code>\newlength{\ToAddressLeftMargin}</code>
	58 <code>\newlength{\ToAddressWidth}</code>

3.3 Main setting commands

OK, we are ready to set up envelopes and labels.

`\SetEnvelope` The command `\SetEnvelope` has three parameters: optional top Margin, width and height of the envelope.

```

59 \DeclareRobustCommand{\SetEnvelope}[3][Opt]{%
60   \@envelopetrue%
61   \@biglabelfalse%
62   \setlength{\EnvelopeTopMargin}{#1}%
63   \setlength{\EnvelopeWidth}{#2}%
64   \setlength{\EnvelopeHeight}{#3}%
65   \setlength{\FromAddressTopMargin}{0.5in}%
66   \setlength{\FromAddressLeftMargin}{0.5in}%
67   \setlength{\FromAddressHeight}{0.33\EnvelopeHeight}%
68   \setlength{\FromAddressWidth}{0.5\EnvelopeWidth}%
69   \setlength{\ToAddressTopMargin}{0.5in}%
70   \setlength{\ToAddressLeftMargin}{0.5in}%
71   \setlength{\ToAddressWidth}{3in}}

```

`\SetLabel` The command `\SetLabel` has seven parameters: five lengths and two numbers. All are mandatory:

```

72 \DeclareRobustCommand{\SetLabel}[7]{%
73   \@envelopefalse%
74   \@biglabelfalse%
75   \setlength{\LabelWidth}{#1}%
76   \setlength{\LabelHeight}{#2}%
77   \setlength{\LabelTopMargin}{#3}%
78   \setlength{\LabelLeftMargin}{#4}%
79   \setlength{\LabelRightMargin}{#5}%
80   \setcounter{LabelMaxCol}{#6}%
81   \setcounter{LabelMaxRow}{#7}%
82   \setlength{\ToAddressTopMargin}{0.1in}%
83   \setlength{\ToAddressLeftMargin}{0.2in}%
84   \setlength{\ToAddressWidth}{\LabelWidth}%
85   \addtolength{\ToAddressWidth}{-\ToAddressLeftMargin}%
86   \addtolength{\ToAddressWidth}{-\LabelRightMargin}}

```

`\SetBigLabel` The command `\SetBigLabel` has seven parameters: five lengths and two numbers. All are mandatory:

```

87 \DeclareRobustCommand{\SetBigLabel}[7]{%
88   \@envelopefalse%
89   \@biglabeltrue%
90   \setlength{\LabelWidth}{#1}%
91   \setlength{\LabelHeight}{#2}%
92   \setlength{\LabelTopMargin}{#3}%
93   \setlength{\LabelLeftMargin}{#4}%
94   \setlength{\LabelRightMargin}{#5}%
95   \setcounter{LabelMaxCol}{#6}%
96   \setcounter{LabelMaxRow}{#7}%
97   \setlength{\FromAddressTopMargin}{0.0in}%
98   \setlength{\FromAddressLeftMargin}{0.5in}%
99   \setlength{\FromAddressHeight}{0.33\LabelHeight}%
100  \setlength{\ToAddressTopMargin}{0.1in}%
101  \setlength{\ToAddressLeftMargin}{0.5in}%
102  \setlength{\ToAddressWidth}{\LabelWidth}%
103  \addtolength{\ToAddressWidth}{-\ToAddressLeftMargin}%
104  \addtolength{\ToAddressWidth}{-\LabelRightMargin}%
105  \setlength{\FromAddressWidth}{\ToAddressWidth}}

```

4 Defining options

4.1 Envelope Sizes

```

106 \DeclareOption{businessenvelope}{\SetEnvelope{9.5in}{4.125in}%
107   \PSEnvelopeTray={/com10envelopetray }}
108 \DeclareOption{executiveenvelope}{\SetEnvelope{7.5in}{3.875in}%
109   \PSEnvelopeTray={/monarcenvelopetray }}
110 \DeclareOption{bookletenvelope}{\SetEnvelope{10.5in}{7.5in}}
111 \DeclareOption{personalenvelope}{\SetEnvelope{6.5in}{3.625in}}
112 \DeclareOption{c6envelope}{\SetEnvelope{162mm}{114mm}}
113 \DeclareOption{c65envelope}{\SetEnvelope{224mm}{114mm}}
114 \DeclareOption{c5envelope}{\SetEnvelope{229mm}{162mm}%
115   \PSEnvelopeTray={/162x229cenvelopetray }}
116 \DeclareOption{dlenvelope}{\SetEnvelope{220mm}{110mm}%
117   \PSEnvelopeTray={/dlenvelopetray }}

```

4.2 Labels sizes

```

118 \DeclareOption{avery5160label}{%
119   \SetLabel{2.75in}{1in}{0.5in}{0.19in}{0.12in}{3}{10}}
120 \DeclareOption{avery5161label}{%
121   \SetLabel{4.19in}{1in}{0.5in}{0.16in}{0.19in}{2}{10}}
122 \DeclareOption{avery5162label}{%
123   \SetLabel{4.19in}{1.33in}{0.83in}{0.16in}{0.19in}{2}{7}}
124 \DeclareOption{avery5163label}{%
125   \SetLabel{4.19in}{2in}{0.5in}{0.16in}{0.19in}{2}{5}}
126 \DeclareOption{avery5164label}{%
127   \SetLabel{4.19in}{3.33in}{0.5in}{0.16in}{0.19in}{2}{3}}
128 \DeclareOption{herma4625label}{%

```

```

129 \SetLabel{105mm}{42.3mm}{0mm}{5mm}{5mm}{2}{7}}
130 \DeclareOption{avery5262label}{%
131 \SetLabel{110mm}{34mm}{21mm}{4mm}{5mm}{2}{7}}
132 \DeclareOption{avery5163biglabel}{%
133 \SetBigLabel{4.19in}{2in}{0.5in}{0.16in}{0.19in}{2}{5}%
134 \setlength{\ToAddressTopMargin}{0.1in}}%
135 \DeclareOption{avery5164biglabel}{%
136 \SetBigLabel{4.19in}{3.33in}{0.5in}{0.16in}{0.19in}{2}{3}}%

```

4.3 Optional switches

All this should be evident. . .

```

137 \DeclareOption{rotateenvelopes}{\@rotateenvelopestrue}
138 \DeclareOption{norotateenvelopes}{\@rotateenvelopesfalse}
139 \DeclareOption{centerenvelopes}{\@envelopeposition=0\relax}
140 \DeclareOption{leftenvelopes}{\@envelopeposition=1\relax}
141 \DeclareOption{rightenvelopes}{\@envelopeposition=2\relax}
142 \DeclareOption{customenvelopes}{\@envelopeposition=3\relax}
143 \DeclareOption{printbarcodes}{\@barcodestrue}
144 \DeclareOption{noprintbarcodes}{\@barcodefalse\@alwaysbarcodesfalse}
145 \DeclareOption{alwaysbarcodes}{\@alwaysbarcodestrue\@barcodestrue}
146 \DeclareOption{noalwaysbarcodes}{\@alwaysbarcodefalse}
147 \DeclareOption{capaddress}{\@capitalizeaddresstrue}
148 \DeclareOption{nocapaddress}{\@capitalizeaddressfalse}
149 \DeclareOption{printreturnaddress}{\@printreturnaddresstrue}
150 \DeclareOption{noprintreturnaddress}{\@printreturnaddressfalse}
151 \DeclareOption{pswait}{\@pswaittrue\@psautotrayfalse}
152 \DeclareOption{nopswait}{\@pswaitfalse}
153 \DeclareOption{psautotray}{\@psautotraytrue\@pswaitfalse}
154 \DeclareOption{nopsautotray}{\@psautotrayfalse}
155 \DeclareOption{re}{\@EL@redefine@openingtrue}
156 \DeclareOption{nore}{\@EL@redefine@openingfalse}

```

4.4 Unknown options

All options we did not declare above are probably the options for the `graphics` package; let us send them there.

```

157 \DeclareOption*{\PassOptionsToPackage{\CurrentOption}{graphics}}

```

4.5 Default options

```

158 \ExecuteOptions{businessenvelope,rotateenvelopes,centerenvelopes}
159 \ExecuteOptions{printbarcodes,capaddress}
160 \ExecuteOptions{nopswait,printreturnaddress,nopsautotray,nore}

```

5 Configuration file

At this point we will look for the configuration file. This file is named `envlab.cfg`. The options declared in this file will supersede the ones declared in Section 4.5,

but will be in their turn be superseded by the options explicitly defined when the package is loaded.

```
161 \InputIfFileExists{envlab.cfg}{%
162   \typeout{Loading configuration file envlab.cfg}}{%
163   \typeout{Configuration file envlab.cfg is not found}}
```

Now let us discuss the structure of the configuration file. We want it to contain default options, and therefore to be loaded before the `\ProcessOptions` command. On the other hand we want it to contain some definitions that *supersede* the ones in this package. The hook `\AtEndOfPackage` helps to do this: we will just delay all definitions until later.

OK, let's construct an example of `envlab.cfg` file. The commands here essentially repeat Section 4.5, but we want to be foolproof...

```
164 \</package>
165 \<*cfg>
166 %%
167 %% The default options go here
168 %%
169 \ExecuteOptions{businessenvelope,rotateenvelopes,centerenvelopes}
170 \ExecuteOptions{printbarcodes,capaddress}
171 \ExecuteOptions{nopswait,printreturnaddress,nopsautotray,nore}
172 %%
173 \AtEndOfPackage{\relax % Customization goes here
174 }
175 \</cfg>
176 \<*package>
```

6 Processing options and loading packages

```
177 \ProcessOptions
178 \IfFileExists{graphics.sty}{%
179   \RequirePackage{graphics}}{%
180   \PackageWarning{envlab}{%
181     You don't have the graphics package!\MessageBreak
182     Probably you will not be able to print\MessageBreak
183     envelopes sidewise. \MessageBreak}}
```

7 Document layout

7.1 Printer specific commands

`\@beginlabelshook` The command `\@beginlabelshook` is called at the beginning of the printing of envelopes and labels. We define it to be a no-op, but it is possible to introduce some printer-specific commands (like paper change).

```
184 \def\@beginlabelshook{\relax}
```

`\@beginlabelpagehook` The command `\@beginlabelpagehook` is like `\@beginlabelshook`, but is called at the beginning of each *page* of envelopes and labels.

```
185 \def\@beginlabelpagehook{\relax}
```

`\AtBeginLabels` The hooks `\AtBeginLabels` and `\AtBeginLabelPage` redefine `\@beginlabelshook`
`\AtBeginLabelPage` and `\@beginlabelpagehook`. They are built like the standard $\text{\LaTeX 2}_{\epsilon}$ hooks
`\AtBeginDocument`, `\AtBeginDvi`, etc. In the implementation we use the *internal*
 $\text{\LaTeX 2}_{\epsilon}$ command `\g@addto@macro`. In the current (June 1996) $\text{\LaTeX 2}_{\epsilon}$ release
`\g@addto@macro` it is defined as:

```
\long\def\g@addto@macro#1#2{%
  \toks@\expandafter{#1#2}%
  \xdef#1{\the\toks@}}
```

We quote this definition in case *They* change Their minds...

```
186 \def\AtBeginLabels{\g@addto@macro\@beginlabelshook}
187 \def\AtBeginLabelPage{\g@addto@macro\@beginlabelpagehook}
```

`\PSwait` *PostScript* printers can be switched to the manual feeding mode with the following
code by *William Slough* <cfwas@eiu.edu>.

```
188 \def\PSwait{\special{ps: clear grestore @manualfeed 0 0 bop}}
```

The author explains his code in the following way:

Here is a possible explanation:

The `clear` removes operands from the *PostScript* stack, which has the effect of reversing some actions from the **previous** `bop`. Unfortunately, it reverses other important actions too (such as font size), but the `grestore` seems to get these back. Then the desired `@manualfeed`, followed by the “`bop`” for the beginning of page. The pair of 0’s are used for `bop` and are completely bogus. However, from what I could detect, 0’s are as good as anything. The values that *DVIPS* provides for `bop` seem to be related to *DVI* page numbers.

I make no guarantee about the reliability of this solution, but initial tests indicate it will work for my environment.

`\PSautotray` This implements the code by *Uri Blumenthal* <uri@ibm.net>.

```
189 \edef\PSautotray{%
190   \special{ps:clear grestore
191     statusdict begin false setduplexmode
192     /manualfeed true def
193     \the\PSEnvelopeTray end 0 0 bop }}
```

The option `pswait` puts the `\PSwait` code in the beginning of each page. The option `\psautotray` puts there the `\PSautotray` code.

```
194 \if@pswait
195   \AtBeginLabels{\PSwait}%
196 \else
197   \if@psautotray
198     \AtBeginLabels{\PSautotray}%
199   \fi
200 \fi
```

7.2 Some useful counters for labels

`\c@LabelCountCol` These counters store the position of the currently printed label:
`\c@LabelCountRow` 201 `\newcounter{LabelCountCol}`
202 `\newcounter{LabelCountRow}`

`\c@LabelOffsetCol` And these counters provide the offset for the label printed on a partially used
`\c@LabelOffsetRow` sheet:
203 `\newcounter{LabelOffsetCol}`
204 `\newcounter{LabelOffsetRow}`
205 `\setcounter{LabelOffsetCol}{1}`
206 `\setcounter{LabelOffsetRow}{1}`

`\FirstLabel` The command `\FirstLabel{<Row>}{<Col>}` sets the counters `LabelOffsetRow` and `LabelOffsetCol`.
207 `\DeclareRobustCommand{\FirstLabel}[2]{%`
208 `\setcounter{LabelOffsetRow}{#1}%`
209 `\setcounter{LabelOffsetCol}{#2}}`

7.3 Fonts

`\@toaddressfont` We want the address to be printed in 12pt sans serif font. The return address
`\@fromaddressfont` will be printed in 10pt normal font.
210 `\def\@toaddressfont{%`
211 `\ifcase\@ptsize \large\or\normalsize\or\small\fi%`
212 `\sffamily\selectfont}`
213 `\def\@fromaddressfont{%`
214 `\ifcase\@ptsize \normalsize\or\small\or\footnotesize\fi%`
215 `\normalfont}`

7.4 Return address

`\returnaddress` The standard letter class defines `\returnaddress` to be null. This is sensible if we are printing labels, but not so good if we are printing *envelopes*. Therefore let us redefine it:
216 `\def\returnaddress{\fromaddress}`

7.5 Margins, page styles, etc.

`\startlabels` The command `\startlabels` is the internal command that prepares the paper for labels or envelopes, resets the internal counters and calls `\@beginlabelshook`.
217 `\def\startlabels{%`
218 `\clearpage%`
219 `\pagestyle{empty}%`
220 `\setlength{\topmargin}{-1.0in}%`
221 `\if@envelope%`
222 `\addtolength{\topmargin}{\EnvelopeTopMargin}%`
223 `\else \addtolength{\topmargin}{\LabelTopMargin}%`

```

224 \fi%
225 \setlength{\headheight}{0pt}%
226 \setlength{\headsep}{0pt}%
227 \setlength{\footskip}{0pt}%
228 \setlength{\textheight}{200in}%
229 \setlength\paperheight{\textheight}%
230 \global\vsizerelax=200in\relax%
231 \addtolength{\textheight}{-\topmargin}%
232 \addtolength{\textheight}{-1.0in}%
233 \setlength{\oddsidemargin}{-1.0in}%
234 \if@envelope\relax%
235 \else%
236 \addtolength{\oddsidemargin}{\LabelLeftMargin}%
237 \fi%
238 \setlength{\evensidemargin}{\oddsidemargin}%
239 \setlength{\textwidth}{20in}%
240 \hsize=20in%
241 \baselineskip=0pt%
242 \lineskip=0pt%
243 \parindent=0pt%
244 \if@envelope
Now we can calculate \EnvelopeLeftMargin
245 \ifcase\the\@envelopeposition%
246 \setlength{\EnvelopeLeftMargin}{\paperwidth}%
247 \if@rotateenvelopes%
248 \addtolength{\EnvelopeLeftMargin}{-\EnvelopeHeight}%
249 \else%
250 \addtolength{\EnvelopeLeftMargin}{-\EnvelopeWidth}%
251 \fi%
252 \setlength{\EnvelopeLeftMargin}{0.5\EnvelopeLeftMargin}%
253 \or%
254 \setlength{\EnvelopeLeftMargin}{0pt}%
255 \or%
256 \setlength{\EnvelopeLeftMargin}{\paperwidth}%
257 \if@rotateenvelopes%
258 \addtolength{\EnvelopeLeftMargin}{-\EnvelopeHeight}%
259 \else%
260 \addtolength{\EnvelopeLeftMargin}{-\EnvelopeWidth}%
261 \fi%
262 \else%
263 \relax%
264 \fi%
265 \else%
Initializing labels counters...
266 \setcounter{LabelCountCol}{\theLabelOffsetCol}%
267 \setcounter{LabelCountRow}{\theLabelOffsetRow}%
268 \ifnum\theLabelOffsetRow>1%
269 \null%
```

```

270     \loop \vspace*{\LabelHeight}%
271     \addtocounter{LabelOffsetRow}{-1} \ifnum\theLabelOffsetRow>1%
272     \repeat%
273   \fi%
274   \ifnum\theLabelOffsetCol>1%
275     \loop \hspace*{\LabelWidth}\nolinebreak%
276     \addtocounter{LabelOffsetCol}{-1} \ifnum\theLabelOffsetCol>1%
277     \repeat%
278   \fi%
279   \nopagebreak%
280 \fi%
281 \spaceskip0pt\relax%
282 \xspaceskip 0pt\relax%
283 \clubpenalty=0%
284 \widowpenalty=0%
285 \raggedbottom%
286 \sloppy%
287 \setlength\hfuzz{5in}%
288 \setlength\vfuzz{5in}%
289 \ignorespaces%
290 \@beginlabelshook%
291 \@beginlabelpagehook%
292 \nopagebreak}%

```

7.6 Printing of the addresses

`\PrintReturnAddress` This macro uses the text as an argument and prints it according to the conventions.

```

293 \newcommand{\PrintReturnAddress}[1]{%
294   \vspace*{\FromAddressTopMargin}
295   \null\hspace{\FromAddressLeftMargin}
296   \parbox[t][\FromAddressHeight]{\FromAddressWidth}%
297   {\@fromaddressfont \lineskip=1pt
298     \if@printreturnaddress #1\else\relax\fi}}

```

`\PrintAddress` This macro works like `\PrintReturnAddress`, with several important differences: it prints barcodes if necessary *and* capitalizes the address.

```

299 \newcommand{\PrintAddress}[1]{%
300   \vspace*{\ToAddressTopMargin}
301   \leavevmode
302   \null\hspace*{\ToAddressLeftMargin}
303   \parbox[t]{\ToAddressWidth}{%
304     \lineskip=1pt
305     \if@barcodes \PrintBarCode{#1} \fi
306     \@toaddressfont
307     \if@capitalizeaddress \@make@capitalize{#1} \else #1 \fi}}

```

7.7 Label setup

`\PrintLabel` This macro prints a label in a parbox

```

308 \newcommand{\PrintLabel}[1]{%
309   \parbox[t][\LabelHeight]{\LabelWidth}{%
310     \PrintAddress{#1}}}%

```

`\PrintBigLabel` This macro makes a minipage with addresses on it, similarly to `\PrintEnvelope` below.

```

311 \newcommand{\PrintBigLabel}[2]{%
312   \begin{minipage}[t][\LabelHeight]{\LabelWidth}%
313     \baselineskip=0pt%
314     \lineskip=0pt%
315     \parindent=0pt%
316     \begin{center}%
317       \PrintReturnAddress{#1}\\%
318       \rule{\ToAddressWidth}{0.1pt}%
319       \PrintAddress{#2}%
320     \end{center}%
321   \end{minipage}}%

```

7.8 Envelope setup

Labels include one box per label, so their setup is simple. The situation with envelopes is different: they contain several boxes, and could be rotated, centered, etc.

`\PrintEnvelope` This macro makes a minipage with addresses on it.

```

322 \newcommand{\PrintEnvelope}[2]{%
323   \begin{minipage}[t][\EnvelopeHeight]{\EnvelopeWidth}%
324     \baselineskip=0pt%
325     \lineskip=0pt%
326     \parindent=0pt%
327     \PrintReturnAddress{#1}\\%
328     \begin{center}%
329       \PrintAddress{#2}%
330     \end{center}%
331   \end{minipage}}%

```

`\@PrintEnvelope` The following macro checks for rotation:

```

332 \newcommand{\@PrintEnvelope}[2]{%
333   \if@rotateenvelopes\rotatebox{90}{\PrintEnvelope{#1}{#2}}%
334   \else\PrintEnvelope{#1}{#2}%
335   \fi}%

```

8 Printing of envelopes and labels

8.1 Main Command

`\mlabel` Now we are prepared to print actual envelopes and labels. It is done by the `\mlabel` command. It has two forms: for labels and envelopes.

```

336 \renewcommand{\mlabel}[2]{\ignorespaces%
337 \spaceskip Opt\relax%
338 \xspaceskip Opt\relax%

```

8.2 Printing of one envelope

```

339 \if@envelope%
340 \leavevmode%
341 \hspace*{\EnvelopeLeftMargin}%
342 \@PrintEnvelope{#1}{#2}%
343 \clearpage%
344 \@beginlabelpagehook%

```

8.3 Printing of one label

```

345 \else%
346 \ignorespaces%
347 \ifnum\theLabelCountCol>\theLabelMaxCol%
348 \\\nopagebreak%
349 \stepcounter{LabelCountRow}%
350 \setcounter{LabelCountCol}{1}%
351 \fi%
352 \ifnum\theLabelCountRow>\theLabelMaxRow%
353 \vfill\eject\@beginlabelpagehook%
354 \setcounter{LabelCountRow}{1}%
355 \setcounter{LabelCountCol}{1}%
356 \fi%
357 \if@biglabel%
358 \PrintBigLabel{#1}{#2}%
359 \else%
360 \PrintLabel{#2}%
361 \fi%
362 \ignorespaces\nolinebreak%
363 \stepcounter{LabelCountCol}%
364 \fi}%

```

8.4 Printing of return labels

We print only mailing addresses on labels. The user is supposed to have preprinted return labels. Here we describe a utility for printing them. This utility should be used in a separate document.

`\@numreturnlabels` The counter `\@numreturnlabels` stores the number of return labels to be printed. Note that it is a `TeX` counter, not a `LaTeX` one.

```

365 \newcount\@numreturnlabels

```

`\printreturnlabels` This macro has two parameters: the number of labels to be printed and the text that is printed. It is the same on all labels.

```

366 \newcommand{\printreturnlabels}[2]{%
367 \@numreturnlabels=#1
368 \def\@toaddressfont{\@fromaddressfont}

```

```

369 \@capitalizeaddressfalse
370 \@barcodesfalse
371 \startlabels
372 \loop \mlabel{\relax}{#2} \advance\@numreturnlabels by -1
373   \ifnum\@numreturnlabels>0\repeat}

```

9 Barcodes

9.1 Main command

The USPS Postnet codes are printed accordingly to the specifications Ref. [3]. The scanning algorithm is stolen from David Carlisle’s `enumerate` package [1].

`\PrintBarCode` First, we extract barcodes by the command `\@extractbarcode`. Then we print them by `\@printbarcode`.

```

374 \newcommand{\PrintBarCode}[1]{%
375   \@extractbarcode{#1}
376   \@printbarcode}

```

9.2 Extraction of barcodes

We define zipcode as a sequence of digits (0–9) that:

- Has no characters other than digits and dashes (-) inside it
- Has no bracketed groups inside it and is not bracketed itself
- Is the last in the address field unless `\if@alwaysbarcodes=true`

We print this sequence plus the *control character*. The latter is defined as minus sum of digits of the zip code modulo 10 (that is, the complement of the sum of digits to a multiple of 10).

`\@zipcode` First, some internal registers. The token list `\@zipcode` contains barcode found so far. The register `\@zipcodesum` first contains the sum of digits of the barcode, and then the control character. The switch `\@zipcodefound` shows whether we found zip code so far.

```

377 \newtoks\@zipcode
378 \newcount\@zipcodesum
379 \newif\if@zipcodefound

```

There are two modes for gobbling tokens:

State A: We are outside a potential zipcode sequence (`\if@zipcodefound=false`)

State B: We are inside a potential zipcode sequence (`\if@zipcodefound=true`)

`\@endaddress` • If we meet in any state the special token `\@endaddress`, we gobble it and finish the loop.

```

\@finishzipcode
380   \long\def\@finishzipcode#1{}

```

`\@firstzipcode` • If we meet a number (0–9) in state A, we initialize registers, process the token and go to state B

```

381     \long\def\@firstzipcode#1{%
382         \@zipcode{#1}
383         \@zipcodesum=#1\relax
384         \@zipcodefoundtrue
385         \@zipcodeloop}

```

`\@continuezipcode` • If we meet a number (0–9) in state B, we just process it.

```

386     \long\def\@continuezipcode#1{%
387         \@zipcode=\expandafter\the\@zipcode#1}
388         \advance\@zipcodesum by #1
389         \@zipcodeloop}

```

`\@dashzipcode` • If we meet a dash in state B, we gobble it.

```

390     \long\def\@dashzipcode#1{\@zipcodeloop}

```

`\@spacezipcode` • If we meet a space in any state, we gobble it and go to the state A. The trick is from Carlisle’s `enumerate` package.

```

391     \def\@spacezipcode{%
392         \@zipcodefoundfalse
393         \afterassignment\@zipcodeloop\let\EL@temp= }

```

`\@abortzipcode` • If we meet anything else in any mode, we gobble it and go to state A

```

394     \long\def\@abortzipcode#1{%
395         \@zipcodefoundfalse
396         \@zipcodeloop}

```

`\@zipcodeloop` This macro is simple. We just put the next token into `\EL@temp` and process it through `\@zipcodeloop@`.

```

397 \def\@zipcodeloop{\futurelet\EL@temp\@zipcodeloop@}

```

`\@zipcodeloop@` This macro performs actual processing... We put the command that gobbles the next token into `\EL@tempa`

```

398 \def\@zipcodeloop@{%
399     \ifx \endaddress\EL@temp     \def\EL@tempa{\@finishzipcode}     \else
400     \ifx 0\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
401         \else \def\EL@tempa{\@firstzipcode} \fi \else
402     \ifx 1\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
403         \else \def\EL@tempa{\@firstzipcode} \fi \else
404     \ifx 2\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
405         \else \def\EL@tempa{\@firstzipcode} \fi \else
406     \ifx 3\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
407         \else \def\EL@tempa{\@firstzipcode} \fi \else
408     \ifx 4\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
409         \else \def\EL@tempa{\@firstzipcode} \fi \else
410     \ifx 5\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}

```

```

411         \else                \def\EL@tempa{\@firstzipcode} \fi \else
412 \ifx 6\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
413         \else                \def\EL@tempa{\@firstzipcode} \fi \else
414 \ifx 7\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
415         \else                \def\EL@tempa{\@firstzipcode} \fi \else
416 \ifx 8\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
417         \else                \def\EL@tempa{\@firstzipcode} \fi \else
418 \ifx 9\EL@temp \if@zipcodefound \def\EL@tempa{\@continuezipcode}
419         \else                \def\EL@tempa{\@firstzipcode} \fi \else
420 \ifx -\EL@temp \if@zipcodefound \def\EL@tempa{\@dashzipcode}
421         \else                \def\EL@tempa{\@abortzipcode} \fi \else
422 \ifx \@sptoken\EL@temp        \def\EL@tempa{\@spacezipcode} \else
423                             \def\EL@tempa{\@abortzipcode}
424 \fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi\fi
425 \EL@tempa}

```

`\@extractbarcode` The command `\@extractbarcode` puts barcode into the `\@zipcode`, and calculates the control character (10 minus sum of the digits of the barcode).

```

426 \long\def\@extractbarcode#1{%
427   \@zipcodefoundfalse
428   \@zipcodeloop#1\@endaddress
429   \if@alwaysbarcodes \@zipcodefoundtrue \fi
430   \if@zipcodefound
431     \ifnum\the\@zipcodesum>0
432       \loop \advance \@zipcodesum by -10 \ifnum\the\@zipcodesum>0
433         \repeat
434     \fi
435     \multiply\@zipcodesum by -1
436   \fi}

```

9.3 Printing barcodes

`\@barcodewidth` First, some lengths. “L” and “S” below refer to “long” and “short” bars correspondingly.

`\@barcodeLheight`

`\@barcodeSheight`

`\@barcodeskip`

```

437 \newlength{\@barcodewidth}
438 \newlength{\@barcodeLheight}
439 \newlength{\@barcodeSheight}
440 \newlength{\@barcodeskip}
441 \setlength{\@barcodewidth}{0.020in}
442 \setlength{\@barcodeLheight}{0.125in}
443 \setlength{\@barcodeSheight}{0.050in}
444 \setlength{\@barcodeskip}{0.026in}

```

`\@barL` The following macros print long and short bars.

`\@barS`

```

445 \DeclareRobustCommand{\@barL}{%
446   \rule{\@barcodewidth}{\@barcodeLheight}\hspace{\@barcodeskip}}
447 \DeclareRobustCommand{\@barS}{%
448   \rule{\@barcodewidth}{\@barcodeSheight}\hspace{\@barcodeskip}}

```

`\@printonezip` The scanning of `\@zipcode` is simpler than the scanning of the address: the

`\@printbarcode`

only tokens we can meet are digits. Well, we will add an end marking token to the list. Let it be the letter “S” (from “Stop”).

```

449 \def\@printonezip#1{%
450   \ifx1#1\@barS\@barS\@barS\@barL\@barL\else
451   \ifx2#1\@barS\@barS\@barL\@barS\@barL\else
452   \ifx3#1\@barS\@barS\@barL\@barL\@barS\else
453   \ifx4#1\@barS\@barL\@barS\@barS\@barL\else
454   \ifx5#1\@barS\@barL\@barS\@barL\@barS\else
455   \ifx6#1\@barS\@barL\@barL\@barS\@barS\else
456   \ifx7#1\@barL\@barS\@barS\@barS\@barL\else
457   \ifx8#1\@barL\@barS\@barS\@barL\@barS\else
458   \ifx9#1\@barL\@barS\@barL\@barS\@barS\else
459   \ifx0#1\@barL\@barL\@barS\@barS\@barS\else
460   \ifx S#1\def\EL@tempa{\relax}%
461   \fi\fi\fi\fi\fi\fi\fi\fi\fi\fi%
462   \EL@tempa}
463 \def\@printbarcode{%
464   \if@zipcodefound
465     \mbox{%
466       \@barL%
467       \def\EL@tempa{\@printonezip}%
468       \expandafter\EL@tempa\the\@zipcode S%
469       \def\EL@tempa{\@printonezip}%
470       \expandafter\EL@tempa\the\@zipcodesum S%
471       \@barL}
472     \[1ex]
473   \fi}

```

10 Capitalization

These macros process the address (actually, any string) according to the USPS recommendations. Specifically, they:

- Strip dots (.) and commas (,) from the address unless they are enclosed in brackets
- Make all letters uppercase
- Add 1pt space between letters
- Add 1em space between words

An interesting question is whether we should de-accent accented letters. USPS says nothing about it. In the present version accents are *not* stripped. However due to the scanning algorithm they should be enclosed by brackets, like this: {\u S}andor {\c C}edi.

\@addr@cap We store the capitalized address in the token list \@addr@cap.

```

474 \newtoks\@addr@cap

```

The following macros process the tokens one by one.

`\@finishaddracap` If we meet the special token `\@endaddress`, we gobble it and stop.

```

475 \long\def\@finishaddracap#1{}

```

`\@dotcommaaddracap` If we meet comma or dot, we gobble it and do *not* stop. This macro is also useful for gobbling L^AT_EX 2_ε letter commands like `\voidb@x` and `\unhbox`.

```

476 \long\def\@dotcommaaddracap#1{%
477   \@addracaploop}

```

`\@newlineaddracap` If we meet `\\`, we add it to the list

```

478 \long\def\@newlineaddracap#1{%
479   \@addr@cap=\expandafter{\the\@addr@cap #1}
480   \@addracaploop}

```

`\@bgroupaddracap` If we meet `\bgroup`, we add it to the list the complete group (uppercase)

```

481 \long\def\@bgroupaddracap#1{%
482   \@addr@cap=\expandafter{\the\@addr@cap {\MakeUppercase{#1}}}
483   \@addracaploop}

```

`\@spaceaddracap` If we meet a space we gobble it (oh-oh) and add it to the list.

```

484 \def\@spaceaddracap{%
485   \@addr@cap=\expandafter{\the\@addr@cap\hspace{0.6em}}
486   \afterassignment\@addracaploop\let\EL@temp= }

```

`\@otheraddracap` And if we meet anything else, we make it uppercase and add to the list

```

487 \def\@otheraddracap#1{%
488   \@addr@cap=\expandafter{\the\@addr@cap%
489     \MakeUppercase{#1}\kern1pt\relax}
490   \@addracaploop}

```

`\@addracaploop@` This macro is simple. We just put the next token into `\EL@temp` and process it through `\@addracaploop@`.

```

491 \def\@addracaploop@{\futurelet\EL@temp\@addracaploop@}

```

`\@addracaploop@` This macro performs actual processing...

```

492 \def\@addracaploop@{%
493   \ifx \@endaddress\EL@temp      \def\EL@tempa{\@finishaddracap}   \else
494   \ifx .\EL@temp                  \def\EL@tempa{\@dotcommaaddracap}   \else
495   \ifx ,\EL@temp                  \def\EL@tempa{\@dotcommaaddracap}   \else
496   \ifx \voidb@x\EL@temp           \def\EL@tempa{\@dotcommaaddracap}   \else
497   \ifx \unhbox\EL@temp            \def\EL@tempa{\@dotcommaaddracap}   \else
498   \ifx \\ \EL@temp                \def\EL@tempa{\@newlineaddracap}     \else
499   \ifx \bgroup\EL@temp            \def\EL@tempa{\@bgroupaddracap}      \else
500   \ifx \@sptoken\EL@temp          \def\EL@tempa{\@spaceaddracap}       \else
501                                   \def\EL@tempa{\@otheraddracap}
502   \fi\fi\fi\fi\fi\fi\fi\fi
503   \EL@tempa}

```

`\@make@capitalize`

```

504 \long\def\@make@capitalize#1{%
505   \@addr@cap={\relax}
506   \@addracaploop#1\@endaddress
507   \the\@addr@cap}

```

11 Games with .aux file

The commands described in this section write something to the .aux file, and thus change the way *EnvLab* treats the labels and envelopes. Since the action is delayed till the .aux file is processed, these commands affect only the labels automatically extracted from the `letter` environment, and do not affect the labels explicitly defined by the `\mlabel` commands in the main file.

`\@@mlabel` The macro `\@@mlabel` stores the status of the `\@mlabel` as determined by `\makelabels`. It is a no-op at the start. If `\makelabels` redefines `\@mlabel`, we catch it through the `\AtEndDocument` hook. Note that since `\makelabel` is allowed only in the preamble, we are not in danger of redefining commands too early.

```
508 \let\@@mlabel=\@gobbletwo
509 \AtEndDocument{\let\@@mlabel=\@mlabel}
```

The next four commands redefine `\@mlabel` to suppress or resume printing mailing labels.

`\suppresslabels` This command suppress printing labels and envelopes until it is resumed by `\resumelabels` or similar commands.

```
510 \def\suppresslabels{\if@files\immediate\write\@auxout{%
511   \string\@suppresslabels}\fi}
```

`\@suppresslabels` This is the internal command that performs the actual processing.

```
512 \def\@suppresslabels{\let\@mlabel=\@gobbletwo}
```

`\resumelabels` These commands resume printing labels and envelopes if it was suppressed by

`\@resumelabels` `\suppresslabels` or similar commands.

```
513 \def\resumelabels{\if@files\immediate\write\@auxout{%
514   \string\@resumelabels}\fi}
515 \def\@resumelabels{\let\@mlabel=\@mlabel}
```

`\suppressonelabel` These commands suppress printing of one label or envelope. The macro `\@suppressonelabel` `\@old@mlabel` is used to store the system state.

```
\@old@mlabel 516 \def\suppressonelabel{\if@files\immediate\write\@auxout{%
517   \string\@suppressonelabel}\fi}
518 \def\@suppressonelabel{\let\@old@mlabel=\@mlabel%
519   \def\@mlabel{%
520     \let\@mlabel=\@old@mlabel%
521     \@gobbletwo}}
```

`\printonelabel` These commands resume printing for one label or envelope The macro `\@old@mlabel` `\@printonelabel` is used to store the system state.

```
522 \def\printonelabel{\if@files\immediate\write\@auxout{%
523   \string\@printonelabel}\fi}
524 \def\@printonelabel{\let\@old@mlabel=\@mlabel%
525   \def\@mlabel{%
526     \let\@mlabel=\@old@mlabel%
527     \@mlabel}}
```

`\ChangeEnvelope` This macro writes `\@SetEnvelope` to the .aux file. It has two forms: starred and
`\@ChangeEnvelope` and unstarred. In the unstarred mode it also writes `\@startlabels` to the .aux
`\@ChangeEnvelopeStar` file. In the unstarred form it does not. Since we want to treat *both* stars and
optional arguments, we introduce two internal commands that can be invoked by
the main macro.

```
528 \def\ChangeEnvelope{\@ifstar{\@ChangeEnvelopeStar}{\@ChangeEnvelope}}
529 \newcommand\@ChangeEnvelopeStar[3][0pt]{%
530   \if@files\immediate\write\@auxout{%
531     \string\@SetEnvelope{#1}{#2}{#3}}%
532   \fi}
533 \newcommand\@ChangeEnvelope[3][0pt]{%
534   \if@files\immediate\write\@auxout{%
535     \string\@SetEnvelope{#1}{#2}{#3}}
536   \immediate\write\@auxout{\string\@startlabels}
537   \fi}
```

`\@SetEnvelope` We define this command as no-op at beginning, and then redefine it before reading
the .aux file.

```
538 \def\@SetEnvelope[#1]#2#3{}
539 \AtEndDocument{\let\@SetEnvelope=\SetEnvelope}
```

`\ChangeLabel` This macro writes `\@SetLabel` to the .aux file. It has two forms: starred and
`\@ChangeLabel` and unstarred. In the unstarred mode it also writes `\@startlabels` to the .aux file.
`\@ChangeLabelStar` In the unstarred form it does not. Since we want to treat *both* stars and optional
arguments, we introduce two internal commands that can be invoked by the main
macro.

```
540 \def\ChangeLabel{\@ifstar{\@ChangeLabelStar}{\@ChangeLabel}}
541 \newcommand\@ChangeLabelStar[7]{%
542   \if@files\immediate\write\@auxout{%
543     \string\@SetLabel{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
544   \fi}
545 \newcommand\@ChangeLabel[7]{%
546   \if@files\immediate\write\@auxout{%
547     \string\@SetLabel{#1}{#2}{#3}{#4}{#5}{#6}{#7}}
548   \immediate\write\@auxout{\string\@startlabels}
549   \fi}
```

`\@SetLabel` We define this command as no-op at beginning, and then redefine it before reading
the .aux file.

```
550 \def\@SetLabel#1#2#3#4#5#6#7{}
551 \AtEndDocument{\let\@SetLabel=\SetLabel}
```

`\ChangeBigLabel` This macro writes `\@SetBigLabel` to the .aux file. It has two forms: starred and
`\@ChangeBigLabel` and unstarred. In the unstarred mode it also writes `\@startlabels` to the .aux
`\@ChangeBigLabelStar` file. In the unstarred form it does not. Since we want to treat *both* stars and
optional arguments, we introduce two internal commands that can be invoked by
the main macro.

```
552 \def\ChangeBigLabel{\@ifstar{\@ChangeBigLabelStar}{\@ChangeBigLabel}}
```

```

553 \newcommand\@ChangeBigLabelStar[7]{%
554   \if@files\immediate\write\@auxout{%
555     \string\@SetBigLabel{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
556   \fi}
557 \newcommand\@ChangeBigLabel[7]{%
558   \if@files\immediate\write\@auxout{%
559     \string\@SetBigLabel{#1}{#2}{#3}{#4}{#5}{#6}{#7}}
560     \immediate\write\@auxout{\string\@startlabels}
561   \fi}

```

`\@SetLabel` We define this command as no-op at beginning, and then redefine it before reading .aux file.

```

562 \def\@SetBigLabel#1#2#3#4#5#6#7{}
563 \AtEndDocument{\let\@SetBigLabel=\SetBigLabel}

```

12 Reimplementation of the `\opening` command

`\re` Some people like to put below the address information like

Re: our recent talk

A way to do this is to include it in the address like this:

```

\begin{letter}{%
  Dr.~Austin Tankel\\
  Some University\\
  Anytown, Pa 12345\\[1ex]
  Re: Our recent talk}
\opening{Dear Austin:}

```

However, this additional info will be put in the mailing label, which is wrong. Here we describe a macro that works like this:

```

\begin{letter}{%
  Dr.~Austin Tankel\\
  Some University\\
  Anytown, Pa 12345}
\re{Our recent talk}
\opening{Dear Austin:}

```

Now, the implementation. First, let's check whether the option `re` is chosen (otherwise we don't bother to redefine the commands):

```

564 \if@EL@redefine@opening

```

`\re` The command `\re` just defines `\recontents`. Also, we initialize `\recontents` to `\recontentents` be initially empty

```

565 \newcommand*{\re}[1]{\def\recontents{#1}}%

```

`\ReName` By default it is just plain style “Re: ” (note the space!)
566 `\def\ReName{Re: }%`

`\opening` Now we redefine the standard `\opening` command to include the `\re` info. Here is the quote from the standard `letter` class [2]:

Text is begun with the `\opening` command, whose argument generates the salutation, as in

```
\opening{Dear Henry,}
```

This should produce everything up to and including the ‘Dear Henry,’ and a `\par` command that follows. Since there’s a `\vfil` at the bottom of every page, it can add vertical fill to position a short letter. It should use the following commands:

- `\toname` : name part of ‘to’ address. Will be one line long.
- `\toaddress` : address part of ‘to’ address. The lines separated by `\\`.
- `\fromname` : name of sender.
- `\fromaddress` : argument of current `\address` declaration– null if none. Should use standard institutional address if null.
- `\fromlocation` : argument of current `\location` declaration– null if none.
- `\telephonenumber` : argument of current `\telephone` declaration– null if none.

We just `\ReName` and `\recontents` here...

```
567 \renewcommand*\opening{[1]{\ifx\@empty\fromaddress
568   \thispagestyle{firstpage}%
569   {\raggedleft\@date\par}%
570   \else % home address
571     \thispagestyle{empty}%
572     {\raggedleft\begin{tabular}{l}\ignorespaces
573       \fromaddress \\*[2\parskip]%
574       \@date \end{tabular}\par}%
575   \fi
576   \vspace{2\parskip}%
577   {\raggedright \toname \\ \toaddress \par}%
578   \ifx\@empty\recontents\relax
579   \else
580     {\raggedright \ReName \recontents \par}%
581   \fi
582   \vspace{2\parskip}%
583   #1\par\nobreak}%
```

Now we close `\if@EL@redefine@opening`:

```
584 \fi
```

And the last line:

```
585 \end{package}
```

References

- [1] David Carlisle. *The `enumerate` package*. CTAN, v2.02 edition, January 1994.
- [2] Leslie Lamport, Frank Mittelbach, and Rainer Schöpf. Standard letter document class for $\text{\LaTeX}$ version 2e. CTAN, 199c.
- [3] USPS. *Designing Business Letter Mail (Pub 25)*, August 1995.

Change History

v0.9		\mlabel: Put \@beginlabelpagehook in the envelope printing	14
General: Beta version	1	Put \@beginlabelpagehook in the label printing	14
v0.91		\PSEnvelopeTray: Added	
General: Added new option—alwaysbarcodes	1	\PSEnvelopeTray	3
v0.92		\PSwait: Put William Slough's code in a separate macro	9
General: Added \IfFileExists when loading packages	8		
v1.0			
General: First released version . . .	1		
v1.1			
\@fromaddressfont: Fixed documentation about			
\@fromaddressfont	10		
General: Added default options: nopswait, printreturnaddress	7		
Added implementation of the psautotray option	9		
Added implementation of the pswait option	9		
Added new options: printreturnaddress, noprintreturnaddress	7		
Added new options: pswait, nopswait	7		
Fixed typo in businessenvelope option	7		
Fixed typos in elold.ins	1		
Introduced new command \@beginlabelpagehook	8		
Moved \PSwait code to \@AtBeginLabelPage	9		
Moved \PSwait code to \@AtBeginLabels	9		
Replaced \@printpreamble with \@beginlabelshook	8		
Updated User Guide	1		
\@AtBeginLabelPage: Introduced			
\@AtBeginLabelPage	9		
\@AtBeginLabels: Made \@AtBeginLabels cumulative	9		
\FirstLabel: Introduced new command \FirstLabel	10		
\if@psautotray: Added \if@psautotray	3		
\if@pswait: Added \if@pswait . . .	3		
		v1.2	
		\@printonelabel: Changed	
		\mlabel to \@mlabel and deleted the \@AtBeginDocument hook	20
		\@resumelabels: Changed \mlabel to \@mlabel and deleted the \@AtBeginDocument hook	20
		\@suppresslabels: Deleted the \@AtBeginDocument hook	20
		\@suppressonelabel: Deleted the \@AtBeginDocument hook	20
		General: Added \@mlabel	20
		Added \PSEnvelopeTray to envelope options	6
		Added Big Labels—thanks to Genick Bar-Meir, meyersen@msi.umn.edu	3
		Added new option: av-ery5163biglabel	6
		Added new option: av-ery5164biglabel	6
		Added new option: av-ery5262label (thanks to Uri Blumenthal uri@ibm.net)	6
		Added new option: dlenvelope (thanks to J.P. Jansen@net.HCC.nl)	6
		Added new option: herma4625label (thanks to J.P. Jansen@net.HCC.nl)	6
		Added new options: psautotray, nopsautotray	7
		Added new options: re, nore . . .	7
		Changed \@tempa to \EL@tempa to avoid clashes with amsmath	16
		Changed \@temp to \EL@temp to avoid clashes with amsmath	16

Changed envlab.ins: made it parallel.	1	<code>\printonelabel</code> : Wrote new command	20
Deleted <code>\global</code> from capitalization commands	18	<code>\PSautotray</code> : Wrote new command	9
Deleted <code>\global</code> from zipcode extracting commands	15	<code>\re</code> : Wrote new command	22
Updated User Guide	1	<code>\recontentents</code> : Wrote new command	22
<code>\ChangeBigLabel</code> : Wrote new command	21	<code>\ReName</code> : Wrote new command ..	23
<code>\ChangeEnvelope</code> : Wrote new command	21	<code>\resumelabels</code> : Wrote new command	20
<code>\ChangeLabel</code> : Wrote new command	21	<code>\returnaddress</code> : Deleted check for <code>\if@envelope</code>	10
<code>\envlab@oops</code> : Used <code>\ifundefined</code> instead of direct check	2	<code>\SetBigLabel</code> : Wrote new command	5
<code>\if@EL@redefine@opening</code> : Wrote new command	4	<code>\SetEnvelope</code> : Added <code>\@biglabelfalse</code>	5
<code>\mlabel</code> : Added printing of big labels	14	<code>\SetLabel</code> : Added <code>\@biglabelfalse</code>	5
<code>\opening</code> : Reimplemented standard command <code>\opening</code>	23	<code>\startlabels</code> : Added <code>\clearpage</code> ..	10
<code>\PrintBigLabel</code> : Wrote new command	13	Added <code>\LabelLeftMargin</code> ...	10
<code>\PrintEnvelope</code> : Added percent signs	13	Added percent signs	10
<code>\PrintLabel</code> : Added percent signs ..	12	Moved here calculations for <code>\EnvelopeLeftMargin</code>	10
		<code>\suppresslabels</code> : Wrote new command	20
		<code>\suppressonelabel</code> : Wrote new command	20

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		
\@mlabel 20,	\@barcodeLheight . .	\@finishaddracap . . .
508, 509, 515, 527	. 17, 438, 442, 446	 19, 475, 493
\@ChangeBigLabel . . <u>552</u>	\@barcodeSheight . .	\@finishzipcode . . .
\@ChangeBigLabelStar	. 17, 439, 443, 448	 15, 380, 399
. <u>552</u>	\@barcodesfalse 144, 370	\@firstzipcode
\@ChangeEnvelope . . <u>528</u>	\@barcodeskip . . 17,	 16, 381,
\@ChangeEnvelopeStar	440, 444, 446, 448	401, 403, 405,
. <u>528</u>	\@barcodestrue	407, 409, 411,
\@ChangeLabel <u>540</u>	 34, 143, 145	413, 415, 417, 419
\@ChangeLabelStar . <u>540</u>	\@barcodewidth . 17,	\@fromaddressfont .
\@EL@redefine@openingfalse\@beginlabelpagehook	437, 441, 446, 448	 <u>210</u> , 297, 368
. 37, 156	\@beginlabelshook .	\@gobbletwo 508, 512, 521
\@EL@redefine@openingtrue	 8, 185,	\@ifstar . . 528, 540, 552
. 155	187, 291, 344, 353	\@ifundefined 15
\@PrintEnvelope <u>332</u> , 342	\@beginlabelshook .	\@make@capitalize .
\@SetBigLabel	 8, 184, 186, 290	 19, 307, 504
. 555, 559, 562, 563	\@bgroupaddracap . . .	\@mlabel 509, 512, 515,
\@SetEnvelope	 19, 481, 499	518–520, 524–526
. 531, 535, <u>538</u>	\@biglabelfalse . . .	\@newlineaddracap . .
\@SetLabel	 19, 61, 74	 19, 478, 498
. 543, 547, <u>550</u> , <u>562</u>	\@biglabeltrue 89	\@numreturnlabels 14,
\@abortzipcode	\@capitalizeaddressfalse	365, 367, 372, 373
. 16, 394, 421, 423	 148, 369	\@old@mlabel
\@addr@cap 18,	\@capitalizeaddresstrue	 <u>516</u> , 524, 526
474, 479, 482,	 39, 147	\@otheraddracap
485, 488, 505, 507	\@continuezipcode .	 19, 487, 501
\@addrcaploop . . 19,	 16, 386,	\@printbarcode
477, 480, 483,	400, 402, 404,	 17, 376, 463
486, 490, 491, 506	406, 408, 410,	\@printonelabel . . . <u>522</u>
\@addrcaploop@	412, 414, 416, 418	\@pritonezip
. 19, 491, 492	\@dashzipcode	. 17, 449, 467, 469
\@alwaysbarcodesfalse	 16, 390, 420	\@printreturnaddressfalse
. 35, 144, 146	\@date 569, 574	 150
\@alwaysbarcodestrue	\@dotcommaaddracap .	\@printreturnaddresstrue
. 145	. . 19, 476, 494–497	 23, 149
\@auxout 510, 513, 516,	\@endaddress . . . 15,	\@psautotrayfalse .
522, 530, 534,	399, 428, 493, 506	 29, 151, 154
536, 542, 546,	\@envelopefalse . 73, 88	\@psautotraytrue . . 153
548, 554, 558, 560	\@envelopeposition 3,	\@pswaitfalse
\@barL 17, 445,	24, 25, 139–142, 245	 27, 152, 153
450–459, 466, 471	\@envelopetrue . . 17, 60	\@pswaittrue 151
\@barS . 17, 447, 450–459	\@extractbarcode . .	\@resumelabels <u>513</u>
	 17, 375, 426	

<code>\@rotateenvelopesfalse</code> 138	<code>\EL@temp</code> 16, 393, 397, 399, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 486, 491, 493–500	<code>\if@envelope</code> . 3, 16, 221, 234, 244, 339
<code>\@rotateenvelopestrue</code> 21, 137	<code>\EL@tempa</code> 16, 399–423, 425, 460, 462, 467– 470, 493–501, 503	<code>\if@files</code> 510, 513, 516, 522, 530, 534, 542, 546, 554, 558
<code>\@spaceaddracap</code> 19, 484, 500	<code>\EnvelopeHeight</code> 4, 41, 64, 67, 248, 258, 323	<code>\if@printreturnaddress</code> 3, 22, 298
<code>\@spacezipcode</code> 16, 391, 422	<code>\EnvelopeLeftMargin</code> 4, 43, 44, 246, 248, 250, 252, 254, 256, 258, 260, 341	<code>\if@psautotray</code> . 26, 197
<code>\@startlabels</code> 536, 548, 560	<code>\EnvelopeTopMargin</code> 4, 42, 62, 222	<code>\if@pswait</code> 26, 194
<code>\@suppresslabels</code> 511, 512	<code>\envlab@ok</code> 3	<code>\if@rotateenvelopes</code> 3, 20, 247, 257, 333
<code>\@suppressonelabel</code> . 516	<code>\envlab@oops</code> 3	<code>\if@zipcodefound</code> 379, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 430, 464
<code>\@toaddressfont</code> 210, 306, 368	<code>\FirstLabel</code> 207	<code>\IfFileExists</code> 178
<code>\@zipcode</code> 15, 377, 382, 387, 468	<code>\FromAddressHeight</code> . . 5, 54, 67, 99, 296	<code>\immediate</code> 510, 513, 516, 522, 530, 534, 536, 542, 546, 548, 554, 558, 560
<code>\@zipcodefound</code> 15	<code>\FromAddressLeftMargin</code> . 5, 53, 66, 98, 295	
<code>\@zipcodefoundfalse</code> 392, 395, 427	<code>\FromAddressTopMargin</code> . 5, 52, 65, 97, 294	
<code>\@zipcodefoundtrue</code> 384, 429	<code>\FromAddressWidth</code> . 5, 55, 68, 105, 296	
<code>\@zipcodeloop</code> .. 16, 385, 389, 390, 393, 396, 397, 428		
<code>\@zipcodeloop@</code> 16, 397, 398		
<code>\@zipcodesum</code> ... 15, 378, 383, 388, 431, 432, 435, 470		
A	F	L
<code>\AtBeginLabelPage</code> . 186	<code>\FromAddressWidth</code> . 5, 55, 68, 105, 296	<code>\LabelHeight</code> 4, 46, 76, 91, 99, 270, 309, 312
<code>\AtBeginLabels</code> 186, 195, 198		<code>\LabelLeftMargin</code> .. . 4, 48, 78, 93, 236
C	G	<code>\LabelRightMargin</code> 4, 49, 79, 86, 94, 104
<code>\c@LabelCountCol</code> .. 10	<code>\g@addto@macro</code> 9, 186, 187	<code>\LabelTopMargin</code> 4, 47, 77, 92, 223
<code>\c@LabelCountRow</code> .. 10	I	<code>\LabelWidth</code> 4, 45, 75, 84, 90, 102, 275, 309, 312
<code>\c@LabelMaxCol</code> 4	<code>\if@alwaysbarcodes</code> 32, 429	
<code>\c@LabelMaxRow</code> 4	<code>\if@barcodes</code> ... 32, 305	M
<code>\c@LabelOffsetCol</code> . 10	<code>\if@biglabel</code> . 3, 18, 357	<code>\mlabel</code> 336, 372
<code>\c@LabelOffsetRow</code> . 10	<code>\if@capitalizeaddress</code> 38, 307	O
<code>\ChangeBigLabel</code> ... 552	<code>\if@EL@redefine@opening</code> 36, 564	<code>\opening</code> 567
<code>\ChangeEnvelope</code> ... 528		P
<code>\ChangeLabel</code> 540		<code>\PackageWarning</code> ... 180
E		<code>\parskip</code> .. 573, 576, 582
<code>\edef</code> 189		<code>\PrintAddress</code> .. 12, 299, 310, 319, 329
		<code>\PrintBarCode</code> 15, 305, 374

<code>\PrintBigLabel</code> 311 , 358	S	<code>\theLabelOffsetRow</code> .
<code>\PrintEnvelope</code>	<code>\SetBigLabel</code>	 267, 268, 271
. . . . 322 , 333 , 334	. 87 , 133 , 136 , 563	<code>\thispagestyle</code> 568 , 571
<code>\PrintLabel</code> . . . 308 , 360	<code>\SetEnvelope</code>	<code>\toaddress</code> 577
<code>\printonelabel</code> 522	. . 59 , 106 , 108 ,	<code>\ToAddressLeftMargin</code>
<code>\PrintReturnAddress</code>	110–114, 116 , 539	 5 , 57 , 70 ,
. 12 , 293 , 317 , 327	<code>\SetLabel</code> . . 72 , 119 ,	83, 85 , 101 , 103 , 302
<code>\printreturnlabels</code> .	121, 123 , 125 ,	<code>\ToAddressTopMargin</code>
. 14 , 366	127, 129 , 131 , 551	 5 , 56 ,
<code>\PSautotray</code> . . . 189 , 198	<code>\special</code> 188 , 190	69, 82 , 100 , 134 , 300
<code>\PSEnvelopeTray</code> . . .	<code>\startlabels</code> . . 217 , 371	<code>\ToAddressWidth</code> . . .
. 26 , 107 ,	<code>\string</code> 511 , 514 , 517 ,	5 , 58 , 71 , 84 – 86 ,
109 , 115 , 117 , 193	523 , 531 , 535 ,	102–105, 303 , 318
<code>\PSwait</code> 188 , 195	536 , 543 , 547 ,	<code>\toname</code> 577
	548 , 555 , 559 , 560	
R	<code>\suppresslabels</code> . . . 510	V
<code>\raggedleft</code> . . . 569 , 572	<code>\suppressonelabel</code> . 516	<code>\vfill</code> 353
<code>\re</code> 22 , 565	T	
<code>\recontentents</code> 565	<code>\theLabelCountCol</code> . 347	W
<code>\recontents</code> 565 , 578 , 580	<code>\theLabelCountRow</code> . 352	<code>\write</code> 510 , 513 , 516 ,
<code>\ReName</code> 566 , 580	<code>\theLabelMaxCol</code> . . . 347	522 , 530 , 534 ,
<code>\repeat</code> 272 , 277 , 373 , 433	<code>\theLabelMaxRow</code> . . . 352	536 , 542 , 546 ,
<code>\resumelabels</code> 513	<code>\theLabelOffsetCol</code> .	548 , 554 , 558 , 560
<code>\returnaddress</code> 216	 266, 274 , 276	
<code>\rotatebox</code> 333		