

# The letterswitharrows package

Max Teegen  
tex@jnteegen.eu

Released 2024-10-31

This package provides math-mode commands for setting left and right arrows over mathematical symbols, so that the arrows dynamically scale with the symbols. Here is a sample:

$$\vec{s} \leq \vec{t} \in \vec{U}_r \quad |\overrightarrow{AB}| = |\overleftarrow{AB}| \quad A \overleftrightarrow{\text{X}} B$$

While it is possible to set arrows over longer strings of symbols, the focus lies on single characters.

Only PDF output is supported. Output to PS is implemented, but rarely tested. For a wider range of formats there is pgf-based output.

## 1 Usage

The package provides the general-purpose `\arrowoverset` command, as well as some sets of predefined shorthand commands.

### 1.1 Presets

The presets are selected by passing them as options to the `presets` package option. For instance, to define the `abc` and the `vec-cev` sets of commands you would load the package like so:

```
\usepackage[presets={abc,vec-cev}]{letterswitharrows}
```

By default, the `abc`, `ABC` and `cAcBcC` presets are loaded.

`abc` Passing `abc` to the `presets` option allows you to use the `\v<char>`, `\<char>v`, and `\v<char>v` commands for all the lower-case letters `a` through `z` except for `v`.

---

<code>\v&lt;char&gt;</code>	For the letter <code>v</code> the commands <code>\vleft</code> and <code>\vright</code> are provided.
<code>\&lt;char&gt;v</code>	
<code>\vleft</code>	$\vec{a}, \vec{b}, \vec{c}, \vec{d}, \vec{m}, F_{\vec{t}}$
<code>\vright</code>	
<code>\v&lt;char&gt;v</code>	<code>\[ \va, \vb, \vc, \dv, \vmv, F_{\tv} \]</code>

`ABC` Passing `ABC` to the `presets` option allows you to use the `\v<CHAR>`, `\<CHAR>v`, and `\v<CHAR>v` commands for all the upper-case letters `A` through `Z`.

---

`\v<CHAR>`  $\vec{A}, \vec{B}, \vec{C}, \vec{D}, \vec{E}, F_{\vec{G}}$   
`\<CHAR>v`  $\vec{A}, \vec{B}, \vec{C}, \vec{D}, \vec{E}, F_{\vec{G}}$

---

`\[ \vA, \vB, \vC, \vDv, \vEv, F_\vG \]`

`cAcBcC` Passing `cAcBcC` to the `presets` option allows you to use the `\vc<CHAR>`, `\c<CHAR>v`, and `\vc<CHAR>v` commands for all the upper-case letters A through Z to set arrows over `\mathcal`-letters.

---

`\vc<CHAR>`  $\vec{A}, \vec{B}, \vec{C}, \vec{D}, \vec{E}, F_{\vec{G}}$   
`\c<CHAR>v`  $\vec{A}, \vec{B}, \vec{C}, \vec{D}, \vec{E}, F_{\vec{G}}$

---

`\[ \vcA, \vcB, \vcC, \cDv, \vcEv, F_\cGv \]`

`vec-cev` Passing `vec-cev` to the `presets` option (re)defines the `\vec`, `\cev`, and `\vecev` commands.

---

`\vec` Unlike the other commands these do not automatically consume subsequent subscripts  
`\cev` or ' tokens.

---

$$\vec{x} := \overrightarrow{AB}$$

`\[ \vec{\mathbf{x}} := \cev{AB} \]`

## 1.2 The `\arrowoverset` command

---

`\arrowoverset` `\arrowoverset` [`<xoffset>`] [`<xscale>`] [`<yoffset>`] {`<math>`}  
`\arrowoverset*` `\arrowoverset*` [`<xoffset>`] [`<xscale>`] [`<yoffset>`] {`<math>`}

---

This command sets a right (or left if `\arrowoverset*` is used) arrow over `<math>`. The base length of the arrow is the width of the `<math>` multiplied by `<xscale>`, which must be specified as a fraction `<num>/<denom>`. The arrow is offset by `<xoffset>` to the right, which must be a math skip expression, and by `<yoffset>` to the top, which must be a skip expression.

This command consumes subsequent subscripts or up to two primes '. The former does not affect the length of the arrow.

## 1.3 Other package options

`pgf` If you specify the `pgf` option, every arrow is drawn as a `pgfpicture`. This requires the `pgf` package. Double arrows are not implemented in `pgf` mode.

**TeXhackers note:** You can set up custom arrow drawing code by redefining `\_jmt\_lwa\_arrow\_draw:nnn`. The command is expected to draw an arrow with its head at the current position. Its length should be `#1` and it should be drawn at a font size of `#2pt`. If `#3` is `-` if the arrow should point rightwards and empty otherwise.

`linewidth` Specifying `linewidth=<value>` as a package option allows you to adjust the line width of the arrows to adjust for the weight of the maths font you are using. The default value is `linewidth=0.3`.

`tweaks` Specifying the `tweaks` option applies per-letter scaling adjustments to some of the single-letter shorthands. This is enabled by default. These are specific to Latin Modern Math and subject to be changed on a whim. If you wish a more stable behaviour specify `tweaks=false`. This documentation uses `tweaks=false`.

## 2 Implementation

```

1 \NeedsTeXFormat{LaTeX2e}
2 \RequirePackage{expl3}
3 \ProvidesExplPackage {letterswitharrows} {2024/10/31} {} {Draw arrows over math letters.}
4 \RequirePackage{xparse,l3keys2e,mathtools}
5 % TODO: I just use mathtools for mathrlap; replace.
6
7 <@@=jmt_lwa>
8 \msg_new:nnn {letterswitharrows} {pdf-only} {Only-pdf-output-is-supported.}
9 \AtBeginDocument{
10   \sys_if_output_pdf:F {
11     \msg_warning:nn {letterswitharrows} {pdf-only}
12   }
13 }

```

The drawing code.

```

\__jmt_lwa_arrow_draw_special:nnn
\__jmt_lwa_arrow_draw_double:nn
\__jmt_lwa_arrow_draw_pgf:nnn
\__jmt_lwa_arrow_left:nn
\__jmt_lwa_arrow_right:nn
\__jmt_lwa_arrow_double:nn
14 \cs_new:Nn \__jmt_lwa_arrow_draw_special:nnn % length, font size, sign
15 {
16   \sys_if_output_pdf:TF {
17     \tex_special:D {pdf:~
18       q~
19       1~J~1~j~
20       1~0~0~\dim_to_decimal:n{#3#2pt/10}~0~0~cm~
21       \fp_use:c{g__jmt_lwa_line_width}~w~
22       q~
23       \dim_to_decimal:n{#3#2pt/10}~0~0~1~0~0~cm~
24       1~0~0~1~-1~0~cm~
25       0~1~m~
26       .25~0~1~0~1~0~c~
27       1~0~.25~0~0~-1~c~
28       S~
29       Q~
30       Q~
31       q~
32       0~0~m~
33       -1~0~0~1~0~0~cm~
34       \fp_use:c{g__jmt_lwa_line_width}~w~
35       \dim_to_decimal:n{#3#1}~0~1~S~
36       Q
37     }
38   } {
39     \tex_special:D {"~
40       1~setlinecap~1~setlinejoin~
41       1~0~0~\dim_to_decimal:n{#3#2pt/10}~0~0~6~array~astore~concat~
42       \fp_use:c{g__jmt_lwa_line_width}~setlinewidth~
43       gsave~

```

```

44     \dim_to_decimal:n{#3#2pt/10}-0~0~1~0~0~6~array~astore~concat~
45     1~0~0~1~-1~0~6~array~astore~concat~
46     0~1~moveto~
47     .25~0~1~0~1~0~curveto~
48     1~0~.25~0~0~-1~curveto~
49     stroke~
50     grestore~
51     0~0~moveto~
52     -1~0~0~1~0~0~6~array~astore~concat~
53     \dim_to_decimal:n{#3#1}-0~lineto~stroke
54   }
55 }
56 }
57
58
59 % TODO
60 % \tl_new:N \g__jmt_lwa_pgf_arrow_style_tl
61 % \tl_set:Nn \g__jmt_lwa_pgf_arrow_style_tl
62 % {Computer-Modern-Rightarrow[width=#2pt*2/10,length=#2pt/10,sharp]}
63
64 \cs_new:Nn \__jmt_lwa_arrow_draw_pgf:nnn {
65   \begin{pgfpicture}
66     \pgfsetlinewidth{#2pt*\fp_use:c{g__jmt_lwa_line_width}/10}
67     \pgfsetarrowsstart
68     {Computer-Modern-Rightarrow[width=#2pt*2/10,length=#2pt/10,sharp]}
69     % \pgfsetarrowsstart{\tl_use:N \g__jmt_lwa_pgf_arrow_style_tl}
70     \pgfpathmoveto{\pgfpointorigin}
71     \pgfpathlineto{\pgfpoint{-#3#1}{0cm}}
72     \pgfusepath{stroke}
73     \pgfresetboundingbox
74   \end{pgfpicture}
75 }
76
77 \cs_new_eq:NN \__jmt_lwa_arrow_draw:nnn \use_none:nnn
78
79
80 \cs_new:Nn \__jmt_lwa_arrow_draw_double:nn
81 {
82   \tex_special:D {pdf:~
83     q~
84     1~J~1~j~
85     1~0~0~\dim_to_decimal:n{#2pt/10}-0~0~cm~
86     \fp_use:c{g__jmt_lwa_line_width}~w~
87     q~
88     \dim_to_decimal:n{#2pt/10}-0~0~1~0~0~cm~
89     1~0~0~1~-1~0~cm~
90     0~1~m~
91     .25~0~1~0~1~0~c~
92     1~0~.25~0~0~-1~c~
93     S~
94     Q~
95     0~0~m~
96     -1~0~0~1~0~0~cm~
97     \dim_to_decimal:n{#1}-0~1~S~

```

```

98     \dim_to_decimal:n{#2pt/10}-0~0~1~\dim_to_decimal:n{#1}-0~cm~
99     1~0~0~1~-1~0~cm~
100    0~1~m~
101    .25~0~1~0~1~0~c~
102    1~0~.25~0~0~-1~c~
103    S~
104    Q
105  }
106 }
107
108
109 \cs_new:Nn \__jmt_lwa_arrow_right:nn {
110   \skip_horizontal:n {#1}
111   \__jmt_lwa_arrow_draw:nnn {#1} {#2} {}
112 }
113
114 \cs_new:Nn \__jmt_lwa_arrow_left:nn {
115   \__jmt_lwa_arrow_draw:nnn {#1} {#2} {-}
116   \skip_horizontal:n {#1}
117 }
118
119 \cs_new:Nn \__jmt_lwa_arrow_double:nn {
120   \skip_horizontal:n {#1}
121   \__jmt_lwa_arrow_draw_double:nn {#1} {#2}
122 }
123

```

*(End of definition for \\_\_jmt\_lwa\_arrow\_draw\_special:nnn and others.)*

The core functions.

\\_\_jmt\_lwa\_arrow\_overset\_style:Nnncnmm

\\_\_jmt\_lwa\_arrow\_overset:nmmmm

```

124 \cs_new:Npn \__jmt_lwa_arrow_overset_style:Nnncnmm #1#2#3#4#5#6#7 {
125   \hbox_set:Nn \l_tmpa_box {$\m@th#1#3$}
126   \dim_set:Nn \l_tmpa_dim {#2 pt/10}
127   \vbox:n {
128     \tex_lineskiplimit:D = \maxdimen
129     \tex_baselineskip:D = Opt
130     \tex_tabskip:D = Opt
131     \tex_lineskip:D = \dim_eval:n {\l_tmpa_dim * 3/2 + #7}
132     \tex_halign:D { ## \tex_cr:D
133       \skip_horizontal:n {\l_tmpa_dim / 2}
134       $
135       \m@th
136       #1
137       \tex_mskip:D \muskip_eval:n {#5}
138       \use:c {#4} {\dim_eval:n{\box_wd:N \l_tmpa_box * #6}} {#2}
139       $
140       \tex_cr:D
141       \box_use_drop:N \l_tmpa_box
142       \tex_cr:D
143     }
144   }
145 }
146
147 \cs_new:Nn \__jmt_lwa_arrow_overset:nmmmm { % content, direction, xoffset, scale, yoffset

```

```

148 \mathchoice {
149   \__jmt_lwa_arrow_overset_style:Nnncnnn
150   \displaystyle {\tf@size} {#1} {\__jmt_lwa_arrow_#2:nn} {#3} {#4} {#5}
151 } {
152   \__jmt_lwa_arrow_overset_style:Nnncnnn
153   \textstyle {\tf@size} {#1} {\__jmt_lwa_arrow_#2:nn} {#3} {#4} {#5}
154 } {
155   \__jmt_lwa_arrow_overset_style:Nnncnnn
156   \scriptstyle {\sf@size} {#1} {\__jmt_lwa_arrow_#2:nn} {#3} {#4} {#5}
157 } {
158   \__jmt_lwa_arrow_overset_style:Nnncnnn
159   \scriptscriptstyle {\ssf@size} {#1} {\__jmt_lwa_arrow_#2:nn} {#3} {#4} {#5}
160 }
161 }

```

(End of definition for \\_\_jmt\_lwa\_arrow\_overset\_style:Nnncnnn and \\_\_jmt\_lwa\_arrow\_overset:nnnnn.)

\\_\_jmt\_lwa\_arrow\_overset:w

**\arrowoverset**

```

162 \cs_new_protected:Npn \__jmt_lwa_arrow_overset:w {
163   \c_group_begin_token
164   \__jmt_lwa_arrow_overset_aux:w
165 }
166
167 \cs_new:Nn \__jmt_lwa_bool_convert:n {
168   \IfBooleanTF {#1} {\c_true_bool} {\c_false_bool}
169 }
170
171 % This exp_args is necessary because _ generates the wrong token in expl3 syntax
172 \exp_args:NNx \NewDocumentCommand \__jmt_lwa_arrow_overset_aux:w
173 {s s O{0mu} O{1} O{0ex} m t' e{\char_generate:nn {95}{8}} t'} {
174   \__jmt_lwa_arrow_overset:nnnnn
175   {
176     #6
177     \exp_args:Nf\bool_if:nT{\__jmt_lwa_bool_convert:n{#7} || \__jmt_lwa_bool_convert:n{#9}}
178     \c_math_superscript_token {
179       \scriptscriptstyle\IfBooleanT{#7}{\prime}\IfBooleanT{#9}{\prime}
180     }
181     } % TODO: Better positioning etc?
182   \exp_args:Nf\IfValueT{\use:n#8} {
183     \c_math_subscript_token {
184       \mathrlap{#8}
185     }
186   }
187 }
188 {\IfBooleanTF{#1}{\IfBooleanTF{#2}{double}{left}}{right}}
189 {#3} {#4} {#5}
190
191 \exp_args:Nf\IfValueTF{\use:n#8}{
192   % TODO: Better way to do this? This is all kinds of wrong.
193   \hphantom{\c_math_subscript_token{#8}}
194 } {}
195 \c_group_end_token
196 }
197 \cs_set_eq:NN \arrowoverset \__jmt_lwa_arrow_overset:w

```

Replacements for hyperref bookmarks.

```

198 \AtBeginDocument{
199   \@ifpackageloaded{hyperref}{
200     \pdfstringdefDisableCommands{
201       % Why does this only work with Expandable?
202       \DeclareExpandableDocumentCommand \__jmt_lwa_arrow_overset:w {s o o m} {
203         \ifpdfstringunicode
204           {#5 \IfBooleanTF{#1}{\unichar{"20D6}}{\unichar{"20D7}}}}
205         {#5}
206       }
207     }
208   }{}
209 }

```

(End of definition for `\__jmt_lwa_arrow_overset:w` and `\arrowoverset`. This function is documented on page 2.)

Package option handling.

```

\g__jmt_lwa_tweak_shortcuts_bool
\g__jmt_lwa_selected_presets_prop
\__jmt_lwa_arrow_draw:nnn
210 \bool_new:N \g__jmt_lwa_tweak_shortcuts_bool
211 \prop_new:N \g__jmt_lwa_selected_presets_prop
212 \keys_define:nn {letterswitharrows} {
213   mode .choice:,
214   mode / special .code:n = {
215     \cs_set_eq:NN \__jmt_lwa_arrow_draw:nnn \__jmt_lwa_arrow_draw_special:nnn
216   },
217   mode / pgf .code:n = {
218     \RequirePackage{pgf}
219     \ExplSyntaxOff\usepgflibrary{arrows.meta}\ExplSyntaxOn
220     \cs_set_eq:NN \__jmt_lwa_arrow_draw:nnn \__jmt_lwa_arrow_draw_pgf:nnn
221   },
222   mode .initial:n = {special},
223   pgf .meta:n = {mode = pgf},
224   presets .multichoices:nn = {abc, ABC, cAcBcC, vec-cev} {
225     \int_compare:nNnTF \l_keys_choice_int = 1 {
226       \prop_gclear:N \g__jmt_lwa_selected_presets_prop
227     } {}
228     \prop_gput:NVn \g__jmt_lwa_selected_presets_prop \l_keys_choice_tl {}
229   },
230   presets .initial:n = {abc, ABC, cAcBcC},
231   tweaks .bool_set:N = \g__jmt_lwa_tweak_shortcuts_bool,
232   tweaks .initial:n = {true},
233   linewidth .fp_set:N = \g__jmt_lwa_line_width,
234   linewidth .initial:n = {.3},
235 }
236 \ProcessKeysPackageOptions{letterswitharrows}

```

(End of definition for `\g__jmt_lwa_tweak_shortcuts_bool`, `\g__jmt_lwa_selected_presets_prop`, and `\__jmt_lwa_arrow_draw:nnn`.)

```

\<char>
\<char>v
\left
\right
\<char>v
237 \prop_if_in:NnTF \g__jmt_lwa_selected_presets_prop {abc} {
238   \int_step_inline:nnn {1} {26} {
239     \int_compare:nNnTF {#1} = {22} {
240       \cs_new:cpx {vright} {

```

```

241     \exp_not:N\__jmt_lwa_arrow_overset:w{v}
242   }
243   \cs_new:cpx {vleft} {
244     \exp_not:N\__jmt_lwa_arrow_overset:w**{v}
245   }
246   \cs_new:cpx {vvv} {
247     \exp_not:N\__jmt_lwa_arrow_overset:w**{v}
248   }
249 } {
250   \cs_new:cpx {v\int_to_alph:n{#1}} {
251     \exp_not:N\__jmt_lwa_arrow_overset:w{\int_to_alph:n{#1}}
252   }
253   \cs_new:cpx {\int_to_alph:n{#1}v} {
254     \exp_not:N\__jmt_lwa_arrow_overset:w**{\int_to_alph:n{#1}}
255   }
256   \cs_new:cpx {v\int_to_alph:n{#1}v} {
257     \exp_not:N\__jmt_lwa_arrow_overset:w**{\int_to_alph:n{#1}}
258   }
259 }
260 }
261 } {}

```

(End of definition for `\v<char>` and others. These functions are documented on page 1.)

```

\vc<CHAR>
\<CHAR>v
\v<CHAR>v
262 \prop_if_in:NnTF \g__jmt_lwa_selected_presets_prop {ABC} {
263   \int_step_inline:nnn {1} {26} {
264     \cs_new:cpx {v\int_to_Alph:n{#1}} {
265       \exp_not:N\__jmt_lwa_arrow_overset:w{\int_to_Alph:n{#1}}
266     }
267     \cs_new:cpx {\int_to_Alph:n{#1}v} {
268       \exp_not:N\__jmt_lwa_arrow_overset:w**{\int_to_Alph:n{#1}}
269     }
270     \cs_new:cpx {v\int_to_Alph:n{#1}v} {
271       \exp_not:N\__jmt_lwa_arrow_overset:w**{\int_to_Alph:n{#1}}
272     }
273   }
274 } {}

```

(End of definition for `\v<CHAR>`, `\<CHAR>v`, and `\v<CHAR>v`. These functions are documented on page 2.)

```

\vc<CHAR>
\c<CHAR>v
\v<CHAR>v
275 \prop_if_in:NnTF \g__jmt_lwa_selected_presets_prop {cAcBcC} {
276   \int_step_inline:nnn {1} {26} {
277     \cs_new:cpx {vc\int_to_Alph:n{#1}} {
278       \exp_not:N\__jmt_lwa_arrow_overset:w{\exp_not:N\mathcal{\int_to_Alph:n{#1}}}
279     }
280     \cs_new:cpx {c\int_to_Alph:n{#1}v} {
281       \exp_not:N\__jmt_lwa_arrow_overset:w**{\exp_not:N\mathcal{\int_to_Alph:n{#1}}}
282     }
283     \cs_new:cpx {vc\int_to_Alph:n{#1}v} {
284       \exp_not:N\__jmt_lwa_arrow_overset:w**{\exp_not:N\mathcal{\int_to_Alph:n{#1}}}
285     }
286   }

```



287 } {}

(End of definition for  $\vc<CHAR>$ ,  $\c<CHAR>v$ , and  $\vc<CHAR>v$ . These functions are documented on page 2.)

```
\vec
\cev
\vecev
288 \prop_if_in:NnTF \g__jmt_lwa_selected_presets_prop {vec-cev} {
289   \RenewDocumentCommand \vec {m} {
290     \__jmt_lwa_arrow_overset:w {#1} \scan_stop:
291   }
292   \DeclareDocumentCommand \cev {m} {
293     \__jmt_lwa_arrow_overset:w* {#1} \scan_stop:
294   }
295   \DeclareDocumentCommand \vecev {m} {
296     \__jmt_lwa_arrow_overset:w** {#1} \scan_stop:
297   }
298 } {}
```

(End of definition for  $\vec$ ,  $\cev$ , and  $\vecev$ . These functions are documented on page 2.)

Some personal-preference tweaks.

```
299 \bool_if:NnTF \g__jmt_lwa_tweak_shortcuts_bool {
300   \prop_if_in:NnTF \g__jmt_lwa_selected_presets_prop {ABC} {
301     \int_step_inline:nnn {1} {26} {
302       \cs_set:cpx {v\int_to_Alph:n{#1}} {
303         \exp_not:N\__jmt_lwa_arrow_overset:w[2.5mu][8/10]{\int_to_Alph:n{#1}}
304       }
305       \cs_set:cpx {\int_to_Alph:n{#1}v} {
306         \exp_not:N\__jmt_lwa_arrow_overset:w*[2.5mu][7/10]{\int_to_Alph:n{#1}}
307       }
308       \cs_set:cpx {v\int_to_Alph:n{#1}v} {
309         \exp_not:N\__jmt_lwa_arrow_overset:w**[1.5mu][9/10]{\int_to_Alph:n{#1}}
310       }
311     }
312     \cs_set:cpn {vS} {
313       \__jmt_lwa_arrow_overset:w[3mu][7/10]{S}
314     }
315     \cs_set:cpn {vSv} {
316       \__jmt_lwa_arrow_overset:w**[2mu][9/10]{S}
317     }
318     \cs_set:cpn {vT} {
319       \__jmt_lwa_arrow_overset:w[2mu][8/10]{T}
320     }
321     \cs_set:cpn {Tv} {
322       \__jmt_lwa_arrow_overset:w*[1mu][8/10]{T}
323     }
324     \cs_set:cpn {vU} {
325       \__jmt_lwa_arrow_overset:w[2mu][7/10]{U}
326     }
327     \cs_set:cpn {Uv} {
328       \__jmt_lwa_arrow_overset:w*[2mu][7/10]{U}
329     }
330     \cs_set:cpn {vUv} {
331       \__jmt_lwa_arrow_overset:w**[1.5mu][8/10]{U}
332     }
333   }
}
```

```

333     \cs_set:cpn {vV} {
334         \__jmt_lwa_arrow_overset:w[2.5mu][7/10]{V}
335     }
336     \cs_set:cpn {Vv} {
337         \__jmt_lwa_arrow_overset:w*[2mu][7/10]{V}
338     }
339     \cs_set:cpn {vX} {
340         \__jmt_lwa_arrow_overset:w[3mu][7/10]{X}
341     }
342     \cs_set:cpn {vY} {
343         \__jmt_lwa_arrow_overset:w[2mu][8/10]{Y}
344     }
345     \cs_set:cpn {Yv} {
346         \__jmt_lwa_arrow_overset:w*[2mu][7/10]{Y}
347     }
348 } {}
349 \prop_if_in:NnTF \g__jmt_lwa_selected_presets_prop {cAcBcC} {
350     \int_step_inline:nnn {1} {26} {
351         \cs_set:cpx {vc\int_to_Alph:n{#1}} {
352             \exp_not:N\__jmt_lwa_arrow_overset:w[1mu][9/10]{\exp_not:N\mathcal{\int_to_Alph:n{#1}}}
353         }
354         \cs_set:cpx {c\int_to_Alph:n{#1}v} {
355             \exp_not:N\__jmt_lwa_arrow_overset:w*[1.5mu][8/10]{\exp_not:N\mathcal{\int_to_Alph:n{#1}}}
356         }
357     }
358 } {}
359 \prop_if_in:NnTF \g__jmt_lwa_selected_presets_prop {abc} {
360     \cs_new:cpn {vell} {
361         \__jmt_lwa_arrow_overset:w{\ell}
362     }
363     \cs_new:cpn {ellv} {
364         \__jmt_lwa_arrow_overset:w*{\ell}
365     }
366     \cs_new:cpn {vellv} {
367         \__jmt_lwa_arrow_overset:w**{\ell}
368     }
369 } {}
370 } {}

```

## Change History

2019/02/04	General: Tweaks for capital letters. . . . .	9	2020/05/08	General: Reset tabskip. Fixes spacing in aligned environments . . . . .	5
	\arrowoverset: Subscript spacing adjustments . . . . .	6	2021/07/10	General: Implement adjustable linewidth. . . . .	3
2019/11/21	General: Require expl3 before \ProvidesExplPackage. . . . .	3	2024/10/31	General: Add double arrows. . . . .	3