

The latex-lab-mathtools code*

L^AT_EX Project

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Abstract

Contents

1	Introduction	1
2	The Implementation	1
2.1	File declaration	1
2.2	Tagpdf support	1
2.3	\shortintertext	2
	Index	5

1 Introduction

This file implements adaption to the `mathtools` package needed for the tagging project.

2 The Implementation

¹ `\@@=math`

² `*kernel`

2.1 File declaration

³ `\ProvidesFile{latex-lab-mathtools.ltx}`

⁴ `[2024-07-13 v0.1a mathtools adaption]`

2.2 Tagpdf support

To make the code independent from tagging being loaded and active we load the `tagpdf-base` package:

⁵ `\RequirePackage{tagpdf-base}`

*

2.3 \shortintertext

Similar to the `\intertext` command from `amsmath`, `\shortintertext` errors with active tagging as it is processed twice which leads to duplicated structures. The fix is similar but is complicated as `mathtools` defines two version (and an additional `\intertext` version) and package options to switch between the variants.

At first we redefine all the internal commands

```

6 \ExplSyntaxOn
7 \tl_new:N\l__math_mathtools_init_tl
8 \cs_if_eq:NNTF\intertext@ \MT_intertext:
9 {
10   \tl_set:Nn \l__math_mathtools_init_tl {\MT_orig_intertext_false:}
11 }
12 {
13   \tl_set:Nn \l__math_mathtools_init_tl {\MT_orig_intertext_true:}
14 }

15 \cs_if_eq:NNTF\shortintertext@ \MT_shortintertext:n
16 {
17   \tl_put_right:Nn \l__math_mathtools_init_tl
18     {\MT_orig_shortintertext_false:}
19 }
20 {
21   \tl_put_right:Nn \l__math_mathtools_init_tl
22     {\MT_orig_shortintertext_true:}
23 }

24 \def\MT_intertext: {%
25   \def\intertext##1{%
26     \ifvmode\else\\\@empty\fi
27     \noalign{%
28       \penalty\postdisplaypenalty\vskip\belowdisplayskip
29       \vskip-\lineskiplimit % CCS
30       \vskip\normallineskiplimit % CCS
31       \vskip\l_MT_above_intertext_sep
32       \vbox{%

Stop tagging when measuring:

33       \ifmeasuring@\tag_suspend:n{\measuring}\fi
34       \normalbaselines
35       \ifdim
36         \ifdim\@totalleftmargin=\z@
37           \linewidth
38         \else
39           -\maxdimen
40         \fi
41       =\columnwidth
42       \else \parshape\@ne \@totalleftmargin \linewidth
43       \fi

```

End the previous mc:

```

44   \tag_mc_end_push:

```

We are already in a par so we change now to Span:

```

45      \tagpdfsetup{para/tag=Span}
46      \noindent\ignorespaces##1\par

Restart the MC

47      \tag_mc_begin_pop:n{}}%
48      \penalty\predisplaypenalty\vskip\abovedisplayskip%
49      \vskip-\lineskiplimit      % CCS
50      \vskip\normallineskiplimit % CCS
51      \vskip\l_MT_below_intertext_sep
52  }%
53 }%
54 \MH_let:NwN \shortintertext \shortintertext@
55 }

56 \def\MT_orig_shortintertext:n #1{%
57   \ifvmode\else\\\@empty\fi
58   \noalign{%
59     \penalty\postdisplaypenalty\vskip\abovedisplayshortskip
60     \vbox{%
61       \ifmeasuring@\tag_suspend:n{\measuring}\fi
62       \normalbaselines
63       \MH_if_dim:w
64       \MH_if_dim:w \@totalleftmargin=\z@
65       \linewidth
66       \MH_else:
67       -\maxdimen
68       \MH_fi:
69       =\columnwidth
70       \MH_else:
71       \parshape\@ne \@totalleftmargin \linewidth
72       \MH_fi:
73       \tag_mc_end_push:
74       \tagpdfsetup{para/tag=Span}
75       \tagpdfparaOn
76       \noindent\ignorespaces#1\par
77       \tag_mc_begin_pop:n{}}
78     \penalty\predisplaypenalty\vskip\abovedisplayshortskip%
79   }%
80 }

81 \def\MT_shortintertext:n #1{%
82   \ifvmode\else\\\@empty\fi
83   \noalign{%
84     \penalty\postdisplaypenalty\vskip\abovedisplayshortskip
85     \vskip-\lineskiplimit
86     \vskip\normallineskiplimit
87     \vskip\l_MT_above_shortintertext_sep
88     \vbox{%
89       \ifmeasuring@\tag_suspend:n{\measuring}\fi
90       \normalbaselines
91       \MH_if_dim:w
92       \MH_if_dim:w \@totalleftmargin=\z@

```

```

93     \linewidth
94     \MH_else:
95     -\maxdimen
96     \MH_fi:
97     =\columnwidth
98     \MH_else:
99     \parshape\@ne \@totalleftmargin \linewidth
100    \MH_fi:
101    \tag_mc_end_push:
102    \tagpdfsetup{para/tag=P}

```

Why is it needed to enable paratagging??

```

103    \tagpdfparaOn
104    \noindent\ignorespaces#1\par
105    \tag_mc_begin_pop:n{}}%
106    \penalty\predisplaypenalty\vskip\abovedisplayshortskip%
107    \vskip-\lineskiplimit
108    \vskip\normallineskiplimit
109    \vskip\l_MT_below_shortintertext_sep
110  }%
111 }

```

see <https://github.com/latex3/tagging-project/issues/734>. The multlined environment still creates a few unneeded structure, perhaps triggered by empty tags.

```

112 \renewcommand*{\MT_mult_internal:n [1]{
113   \MH_if_boolean:nF {outer_mult}{\alignedspace@left} %<-- requires amsmath 2016/11/05
114   \MT_next:
115   \bgroup
116   \Let@
117   \def\l_MT_multline_lastline_fint{0 }
118   \chardef\dspbrk@context\@ne \restore@math@cr
119   \MH_let:NwN \math@cr__math\MT_mult_mathcr_atat:w
120   \MH_let:NwN \shoveleft\MT_shoveleft:wn
121   \MH_let:NwN \shoveright\MT_shoveright:wn
122   \spread@equation
123   \MH_set_boolean_F:n {mult_firstline}
124   \MT_measure_mult:n {#1}
125   \MH_if_dim:w \l_MT_multwidth_dim<\l_MT_multline_measure_fdim
126   \MH_setlength:dn \l_MT_multwidth_dim{\l_MT_multline_measure_fdim}
127   \fi
128   \MH_set_boolean_T:n {mult_firstline}
129   \MH_if_num:w \l_MT_multline_lastline_fint=\@ne
130   \MH_let:NwN \math@cr__math \MT_mult_firstandlast_mathcr:w
131   \MH_fi:
132   \ialign\bgroup
133   \hfil\strut@$\m@th\displaystyle{##}
134   \UseTaggingSocket{math/luamml/save/nNn}{ { } \displaystyle {mtd}}
135   $
136   \UseTaggingSocket{math/luamml/mtable/finalizecol}{last}
137   \hfil
138   \crrc
139   \hfilneg
140   #1
141 }

```

```

end hook

142 \l__math_mathtools_init_tl
143 \ExplSyntaxOff

144 </kernel>

```

Index

The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

Symbols	L
<code>\</code> 26, 57, 82	<code>\lineskiplimit</code> 29, 49, 85, 107
	<code>\linewidth</code> 37, 42, 65, 71, 93, 99
A	M
<code>\abovedisplayskip</code> ... 59, 78, 84, 106	<code>math@cr</code> internal commands:
<code>\abovedisplayskip</code> 48	<code>\math@cr__math</code> 119, 130
	<code>\maxdimen</code> 39, 67, 95
	<code>\measuring</code> 33, 61, 89
	MH commands:
	<code>\MH_else:</code> 66, 70, 94, 98
	<code>\MH_fi:</code> 68, 72, 96, 100, 131
	<code>\MH_if_boolean:nTF</code> 113
	<code>\MH_if_dim:w</code> 63, 64, 91, 92, 125
	<code>\MH_if_num:w</code> 129
	<code>\MH_let:NwN</code> 54, 119, 120, 121, 130
	<code>\MH_set_boolean_F:n</code> 123
	<code>\MH_set_boolean_T:n</code> 128
	<code>\MH_setlength:dn</code> 126
	MT commands:
	<code>\l_MT_above_intertext_sep</code> 31
	<code>\l_MT_above_shortintertext_sep</code> .. 87
	<code>\l_MT_below_intertext_sep</code> 51
	<code>\l_MT_below_shortintertext_sep</code> . 109
	<code>\MT_intertext:</code> 8, 24
	<code>\MT_measure_mult:n</code> 124
	<code>\MT_mult_firstandlast_mathcr:w</code> . 130
	<code>\MT_mult_internal:n</code> 112
	<code>\MT_mult_mathcr_atat:w</code> 119
	<code>\l_MT_multline_lastline_fint</code> 117, 129
	<code>\l_MT_multline_measure_fdim</code> 125, 126
	<code>\l_MT_multwidth_dim</code> 125, 126
	<code>\MT_next:</code> 114
	<code>\MT_orig_intertext_false:</code> 10
	<code>\MT_orig_intertext_true:</code> 13
	<code>\MT_orig_shortintertext:n</code> 56
	<code>\MT_orig_shortintertext_false:</code> .. 18
	<code>\MT_orig_shortintertext_true:</code> ... 22
	<code>\MT_shortintertext:n</code> 15, 81
	<code>\MT_shoveleft:wn</code> 120
B	
<code>\belowdisplayskip</code> 28	
<code>\bgroup</code> 115, 132	
C	
<code>\chardef</code> 118	
<code>\columnwidth</code> 41, 69, 97	
<code>\crrc</code> 138	
cs commands:	
<code>\cs_if_eq:NNTF</code> 8, 15	
D	
<code>\def</code> 24, 25, 56, 81, 117	
<code>\displaystyle</code> 133, 134	
E	
<code>\else</code> 26, 38, 42, 57, 82	
<code>\ExplSyntaxOff</code> 143	
<code>\ExplSyntaxOn</code> 6	
F	
<code>\fi</code> 26, 33, 40, 43, 57, 61, 82, 89, 127	
H	
<code>\hfil</code> 133, 137	
<code>\hfilneg</code> 139	
I	
<code>\ialign</code> 132	
<code>\ifdim</code> 35, 36	
<code>\ifvmode</code> 26, 57, 82	
<code>\ignorespaces</code> 46, 76, 104	
<code>\intertext</code> 2, 25	

<code>\MT_shoveright:wn</code>	121	<code>\tagpdfsetup</code>	45, 74, 102
N		T _E X and L ^A T _E X 2 _ε commands:	
<code>\noalign</code>	27, 58, 83	<code>\@empty</code>	26, 57, 82
<code>\noindent</code>	46, 76, 104	<code>\@ne</code>	42, 71, 99, 118, 129
<code>\normalbaselines</code>	34, 62, 90	<code>\@totalleftmargin</code>	36, 42, 64, 71, 92, 99
<code>\normallineskiplimit</code>	30, 50, 86, 108	<code>\alignedspace@left</code>	113
P		<code>\dspbrk@context</code>	118
<code>\par</code>	46, 76, 104	<code>\ifmeasuring@</code>	33, 61, 89
<code>\parshape</code>	42, 71, 99	<code>\intertext@</code>	8
<code>\penalty</code>	28, 48, 59, 78, 84, 106	<code>\Let@</code>	116
<code>\postdisplaypenalty</code>	28, 59, 84	<code>\m@th</code>	133
<code>\predisplaypenalty</code>	48, 78, 106	<code>\restore@math@cr</code>	118
<code>\ProvidesFile</code>	3	<code>\shortintertext@</code>	15, 54
R		<code>\spread@equation</code>	122
<code>\renewcommand</code>	112	<code>\strut@</code>	133
<code>\RequirePackage</code>	5	<code>\z@</code>	36, 64, 92
S		tl commands:	
<code>\shortintertext</code>	2, 54	<code>\tl_new:N</code>	7
<code>\shoveleft</code>	120	<code>\tl_put_right:Nn</code>	17, 21
<code>\shoveright</code>	121	<code>\tl_set:Nn</code>	10, 13
T		tl internal commands:	
tag commands:		<code>\l_math_mathtools_init_tl</code>	7, 10, 13, 17, 21, 142
<code>\tag_mc_begin_pop:n</code>	47, 77, 105	U	
<code>\tag_mc_end_push:</code>	44, 73, 101	<code>\UseTaggingSocket</code>	134, 136
<code>\tag_suspend:n</code>	33, 61, 89	V	
<code>\tagpdfparaOn</code>	75, 103	<code>\vbox</code>	32, 60, 88
		<code>\vskip</code>	28, 29, 30, 31, 48, 49, 50, 51, 59, 78, 84, 85, 86, 87, 106, 107, 108, 109