

Package `innerscript` v. 1.1 Documentation

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For easy, off-the-shelf use, type the following in your document preamble and compile using Lua \TeX :

```
\usepackage{innerscript}
```

Abstract

The `mathinner` package modifies two aspects of \TeX 's automatic interatom mathematics spacing. The package uses Lua \TeX 's `\Umath` primitives to make superscripts and subscripts more closely resemble `\textstyle` and `\displaystyle` math and to treat `\mathinner` subformulas as `\mathord`, effectively eliminating this class. Users must load `innerscript` with the Lua \TeX engine.

Keywords: superscript, subscript, spacing, `mathinner`, `scriptstyle`, `scriptscriptstyle`, Lua \TeX , `Umath`, `atom`

For several years now, I wondered whether it was possible to change two features of \TeX 's mathematics spacing routine, namely the lack of automatic spacing in subscripts and superscripts and the extra space around `\mathinner` subformulas. For example, compare

$$\sum_{i=1}^n x_i^{1+a} \qquad f(x) = g\left(\frac{1}{x}\right) \qquad (1)$$

$$\sum_{i=1}^n x_i^{1+a} \qquad f(x) = g\left(\frac{1}{x}\right). \qquad (2)$$

Equation (1) uses traditional \TeX spacing, and equation (2) incorporates small adjustments. On the left, the subscript under the summation symbol and the superscript of x_i contain small amounts of extra space around the `=` and `+` signs respectively, and on the right, the g is directly next to the parenthesis instead of being an extra `\thinmuskip` away. In traditional \TeX , automating these changes would be impossible to do easily, but Lua \TeX 's extra math-mode primitives provide direct access to the interatom space parameters.¹ The `innerscript` package is my attempt to automate the changes in equation (2) using `\Umath` spacing commands, and as far as I am aware, it is the first package to do so. (Although please let me know if this is incorrect!) It provides no user-level commands and alters spacing automatically. This file explains how to load the package and documents the internal code.

Users can load `innerscript` with the standard

```
\usepackage[\langle options \rangle]{innerscript}
```

syntax. The package must be loaded with Lua \TeX , and if it detects a different engine, in-

¹See section 7.5 of the Lua \TeX manual.

Table 1: Package Options for `innerscript`

Package Option	Meaning
<code>script</code>	Changes to <code>\scriptstyle</code> and <code>\crampedscriptstyle</code> spacing
<code>scriptscript</code>	Changes to <code>\scriptscriptstyle</code> and <code>\crampedscriptscriptstyle</code> spacing
<code>inner</code>	Treat <code>\mathinner</code> subformulas as <code>\mathord</code>
<code>no-script</code>	No changes to <code>\scriptstyle</code> and <code>\crampedscriptstyle</code> spacing
<code>no-scriptscript</code>	No changes to <code>\scriptscriptstyle</code> and <code>\crampedscriptscriptstyle</code> spacing
<code>no-inner</code>	No changes to treatment of <code>\mathinner</code> subformulas

`nerscript` will issue an error.² It is possible to continue compiling past the error with no other issues, but if you do, `innerscript` will not be able to change any math spacing in your document. Table 1 shows the six package options, and by default `innerscript` selects the first three. The `script` and `scriptscript` options will affect spacing of symbols in superscripts and subscripts, and the `inner` option will eliminate extra spacing for `\mathinner` subformulas, such as fractions and `\left-\right` delimiter pairs. The `no-` variants disable the spacing adjustments for the corresponding default option.

In standard mathematics typesetting, \TeX uses different font sizes for different portions of math lists, and it chooses a certain size based on the math style currently in use.³ \TeX uses `\displaystyle` and `\textstyle` as the default for display and inline math respectively, and while in either of these styles or the corresponding cramped versions, it adds extra space between symbols of certain math classes.⁴ \TeX switches to `\scriptstyle`, `\scriptscriptstyle`, or the corresponding cramped versions to typeset superscripts and subscripts, and in doing so, it forgoes most of the spacing additions from `\textstyle`.

The `script` and `scriptscript` options reverse this decision by forcing interatom spacing to more closely resemble that of `\textstyle`. Table 2 lists the amount of space that `innerscript` inserts between various pairs of math classes for each option, and adjustments of this type will resemble the changes to the summation from equation (2). The `inner` package option forces all spacing around `\mathinner` subformulas to take the value it would if the formula had type `\mathord`. Traditionally \TeX places more space around `\mathinner` subformulas than it does around `\mathord` atoms, so loading `innerscript` with `inner` will remove a certain amount of space from math formulas. Changes of this type will typically resemble

²Specifically, `innerscript` checks whether `\Umathordordspacing` is defined.

³The eight math styles are `\displaystyle`, `\textstyle`, `\scriptstyle`, `\scriptscriptstyle`, and cramped versions of those four, where the control sequence begins with the word “cramped.” Technically a math style is an instruction to pull math symbols from a specific font associated with a math family and to apply certain rules for assembling formulas to this part of the math list. See Donald Knuth, *The \TeX book*, (Addison Wesley, 1986), 140–143, 441–447; David Salomon, *The Advanced \TeX book*, (Springer, 1995), 254–256.

⁴The eight classes are `\mathord`, `\mathop`, `\mathbin`, `\mathrel`, `\mathopen`, `\mathclose`, `\mathpunct`, and `\mathinner`. They are specific to particular symbols and determine spacing in math formulas. As part of its definition, every math symbol is associated with a certain math class. See Donald Knuth, *The \TeX book*, 170; David Salomon, *The Advanced \TeX book*, 256–258.

Table 2: Spacing Inserted by `innerscript` between Consecutive Atoms

Consecutive Atom Types	Option <code>script</code>	Option <code>scriptscript</code>
<code>\mathord\mathop</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathord\mathbin</code>	0.7 <code>\thinmuskip</code>	0.5 <code>\thinmuskip</code>
<code>\mathord\mathrel</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathord\mathinner</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathop\mathord</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathop\mathop</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathop\mathrel</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathop\mathinner</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathbin\mathord</code>	0.7 <code>\thinmuskip</code>	0.5 <code>\thinmuskip</code>
<code>\mathbin\mathop</code>	0.7 <code>\thinmuskip</code>	0.5 <code>\thinmuskip</code>
<code>\mathbin\mathopen</code>	0.7 <code>\thinmuskip</code>	0.5 <code>\thinmuskip</code>
<code>\mathbin\mathinner</code>	0.7 <code>\thinmuskip</code>	0.5 <code>\thinmuskip</code>
<code>\mathrel\mathord</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathrel\mathop</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathrel\mathopen</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathrel\mathinner</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathclose\mathop</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathclose\mathbin</code>	0.7 <code>\thinmuskip</code>	0.5 <code>\thinmuskip</code>
<code>\mathclose\mathrel</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathclose\mathinner</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathpunct\mathord</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathpunct\mathop</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathpunct\mathrel</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathpunct\mathopen</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathpunct\mathclose</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathpunct\mathpunct</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathpunct\mathinner</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathinner\mathord</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathinner\mathop</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathinner\mathbin</code>	0.7 <code>\thinmuskip</code>	0.5 <code>\thinmuskip</code>
<code>\mathinner\mathrel</code>	<code>\thinmuskip</code>	0.7 <code>\thinmuskip</code>
<code>\mathinner\mathopen</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathinner\mathpunct</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>
<code>\mathinner\mathinner</code>	0.6 <code>\thinmuskip</code>	0.4 <code>\thinmuskip</code>

the adjustment to the function g from equation (2). Users who want to further change the spacing in their math formulas should manually add `glue`, `muglue`, or `\kern` to their math lists or provide new values for the `\Umath` spacing parameters in their document preamble.

Implementation

Finally, we come to the implementation, and we begin by declaring the package. The conditionals `\ifIS@script`, `\ifIS@scriptscript`, and `\ifIS@inner` encode option information, and we set them according to the user's option declaration.

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{innerscript}[2021/02/07 v. 1.1 Package innerscript]
3 \newif\ifIS@script\IS@scripttrue
4 \newif\ifIS@scriptscript\IS@scriptscripttrue
5 \newif\ifIS@inner\IS@innertrue
6 \DeclareOption{script}{\IS@scripttrue}
7 \DeclareOption{scriptscript}{\IS@scriptscripttrue}
8 \DeclareOption{inner}{\IS@innertrue}
9 \DeclareOption{no-script}{\IS@scriptfalse}
10 \DeclareOption{no-scriptscript}{\IS@scriptscriptfalse}
11 \DeclareOption{no-inner}{\IS@innerfalse}
12 \ProcessOptions*
```

Check whether `\Umathordordspacing` is defined. If not, issue an error and `\endinput`. We won't be able to print multiple spaces at once because \TeX collapses multiple space characters, so within a group, we change `+` to active and define it to be a space.

```
13 \ifx\Umathordordspacing\@undefined
14   \bgroup\catcode`\+=13
15   \def+{ }
16   \def\IS@LuaTeXError{\GenericError{
17     {\MessageBreak\MessageBreak
18       Package innerscript error:
19       \MessageBreak\MessageBreak
20       +*****\MessageBreak
21       +*****\MessageBreak
22       +*****CANNOT LOAD****\MessageBreak
23       +*****INNERSCRIPT****\MessageBreak
24       +*****LuaTeX Needed***\MessageBreak
25       +*****\MessageBreak
26       +*****\MessageBreak\@gobbletwo}
27     {See the innerscript package documentation for explanation.}
28     {I need LuaTeX to make the innerscript package work. It\MessageBreak
29       looks like the current engine is something else, so I\MessageBreak
30       can't load the package file. To use innerscript, please\MessageBreak
31       typeset with LuaLaTeX. To continue without innerscript,\MessageBreak
32       press return.}}
33   \IS@LuaTeXError
34   \egroup
35   \expandafter\endinput% we \endinput with a balanced conditional
36 \fi
```

We will use `\IS@skip` to store muglue information later.

```
37 \newmuskip\IS@skip
```

First we set the spacing for `\scriptstyle` and `\crampedscriptstyle` atoms. Each command has the form

$$\backslash\mathrm{Umath}\langle\mathit{math\ classes}\rangle\mathrm{spacing}\backslash\langle\mathit{math\ style}\rangle=\langle\mathit{factor}\rangle\backslash\mathrm{thinmuskip},$$

where the *math classes* are a pair of choices from `ord`, `op`, `bin`, `rel`, `open`, `close`, `punct`, and `inner`. The *math style* is either `scriptstyle` or `crampedscriptstyle`, and the *factor* corresponds to the spacing listed in Table 2. We set the `\scriptstyle` and `\scriptscriptstyle` spacing before handling `\mathinner` subformulas because we want to use updated spacing values for the `\mathinner` space adjustments. Otherwise, the `\scriptstyle` and `\scriptscriptstyle` adjustments will overwrite changes to `\mathinner` spacing.

```

38 \ifIS@script
39   \wlog{Package innerscript Info:
40     Adjusting spacing for \string\scriptstyle.}
41   \Umathordopspacing\scriptstyle=0.6\thinmuskip
42   \Umathordbinspacing\scriptstyle=0.7\thinmuskip
43   \Umathordrelspacing\scriptstyle=\thinmuskip
44   \Umathordinnerspacing\scriptstyle=0.6\thinmuskip
45   \Umathopordspacing\scriptstyle=0.6\thinmuskip
46   \Umathopopspacing\scriptstyle=0.6\thinmuskip
47   \Umathoprelspacing\scriptstyle=\thinmuskip
48   \Umathopinnerspacing\scriptstyle=\thinmuskip
49   \Umathbinordspacing\scriptstyle=0.7\thinmuskip
50   \Umathbinopspacing\scriptstyle=0.7\thinmuskip
51   \Umathbinopenspacing\scriptstyle=0.7\thinmuskip
52   \Umathbininnerspacing\scriptstyle=0.7\thinmuskip
53   \Umathrelordspacing\scriptstyle=\thinmuskip
54   \Umathreloppspacing\scriptstyle=\thinmuskip
55   \Umathreloppspacing\scriptstyle=\thinmuskip
56   \Umathrelinnerspacing\scriptstyle=\thinmuskip
57   \Umathcloseopspacing\scriptstyle=0.6\thinmuskip
58   \Umathclosebinspacing\scriptstyle=0.7\thinmuskip
59   \Umathcloserelspacing\scriptstyle=\thinmuskip
60   \Umathcloseinnerspacing\scriptstyle=0.6\thinmuskip
61   \Umathpunctordspacing\scriptstyle=0.6\thinmuskip
62   \Umathpunctopspacing\scriptstyle=0.6\thinmuskip
63   \Umathpunctrelspacing\scriptstyle=0.6\thinmuskip
64   \Umathpunctopenspacing\scriptstyle=0.6\thinmuskip
65   \Umathpunctclosespace\scriptstyle=0.6\thinmuskip
66   \Umathpunctpunctspacing\scriptstyle=0.6\thinmuskip
67   \Umathpunctinnerspacing\scriptstyle=0.6\thinmuskip
68   \Umathinnerordspacing\scriptstyle=0.6\thinmuskip
69   \Umathinneropspacing\scriptstyle=0.6\thinmuskip
70   \Umathinnerbinspacing\scriptstyle=0.7\thinmuskip
71   \Umathinnerrelspacing\scriptstyle=\thinmuskip
72   \Umathinneropenspacing\scriptstyle=0.6\thinmuskip
73   \Umathinnerpunctspacing\scriptstyle=0.6\thinmuskip
74   \Umathinnerinnerspacing\scriptstyle=0.6\thinmuskip

```

```

75 \wlog{Package innerscript Info:
76   Adjusting spacing for \string\crampedscriptstyle.}
77 \Umathordopspacing\crampedscriptstyle=0.6\thinmuskip
78 \Umathordbinspacing\crampedscriptstyle=0.7\thinmuskip
79 \Umathordrelspacing\crampedscriptstyle=\thinmuskip
80 \Umathordinnerspacing\crampedscriptstyle=0.6\thinmuskip
81 \Umathopordspacing\crampedscriptstyle=0.6\thinmuskip
82 \Umathopopspacing\crampedscriptstyle=0.6\thinmuskip
83 \Umathoprelspacing\crampedscriptstyle=\thinmuskip
84 \Umathopinnerspacing\crampedscriptstyle=\thinmuskip
85 \Umathbinordspacing\crampedscriptstyle=0.7\thinmuskip
86 \Umathbinopspacing\crampedscriptstyle=0.7\thinmuskip
87 \Umathbinopenspacing\crampedscriptstyle=0.7\thinmuskip
88 \Umathbininnerspacing\crampedscriptstyle=0.7\thinmuskip
89 \Umathrelordspacing\crampedscriptstyle=\thinmuskip
90 \Umathrelopspacing\crampedscriptstyle=\thinmuskip
91 \Umathrelopenspacing\crampedscriptstyle=\thinmuskip
92 \Umathrelinnerspacing\crampedscriptstyle=\thinmuskip
93 \Umathcloseopspacing\crampedscriptstyle=0.6\thinmuskip
94 \Umathclosebinspacing\crampedscriptstyle=0.7\thinmuskip
95 \Umathcloserelspacing\crampedscriptstyle=\thinmuskip
96 \Umathcloseinnerspacing\crampedscriptstyle=0.6\thinmuskip
97 \Umathpunctordspacing\crampedscriptstyle=0.6\thinmuskip
98 \Umathpunctopspacing\crampedscriptstyle=0.6\thinmuskip
99 \Umathpunctrelspacing\crampedscriptstyle=0.6\thinmuskip
100 \Umathpunctopenspacing\crampedscriptstyle=0.6\thinmuskip
101 \Umathpunctclosespacing\crampedscriptstyle=0.6\thinmuskip
102 \Umathpunctpunctspacing\crampedscriptstyle=0.6\thinmuskip
103 \Umathpunctinnerspacing\crampedscriptstyle=0.6\thinmuskip
104 \Umathinnerordspacing\crampedscriptstyle=0.6\thinmuskip
105 \Umathinneropspacing\crampedscriptstyle=0.6\thinmuskip
106 \Umathinnerbinspacing\crampedscriptstyle=0.7\thinmuskip
107 \Umathinnerrelspacing\crampedscriptstyle=\thinmuskip
108 \Umathinneropenspacing\crampedscriptstyle=0.6\thinmuskip
109 \Umathinnerpunctspacing\crampedscriptstyle=0.6\thinmuskip
110 \Umathinnerinnerspacing\crampedscriptstyle=0.6\thinmuskip
111 \fi

```

Set the spacing for `\scriptscriptstyle` and `\crampedscriptscriptstyle`. The process is the same as it was for `\scriptstyle` except with different `\muskip` factors.

```

112 \ifIS@scriptscript
113   \wlog{Package innerscript Info:
114     Adjusting spacing for \string\scriptscriptstyle.}
115   \Umathordopspacing\scriptscriptstyle=0.4\thinmuskip
116   \Umathordbinspacing\scriptscriptstyle=0.5\thinmuskip
117   \Umathordrelspacing\scriptscriptstyle=0.7\thinmuskip
118   \Umathordinnerspacing\scriptscriptstyle=0.4\thinmuskip
119   \Umathopordspacing\scriptscriptstyle=0.4\thinmuskip

```

```

120 \Umathopopspacing\scriptscriptstyle=0.4\thinmuskip
121 \Umathoprelspacing\scriptscriptstyle=0.7\thinmuskip
122 \Umathopinnerspacing\scriptscriptstyle=0.7\thinmuskip
123 \Umathbinordspacing\scriptscriptstyle=0.5\thinmuskip
124 \Umathbinopspacing\scriptscriptstyle=0.5\thinmuskip
125 \Umathbinopenspacing\scriptscriptstyle=0.5\thinmuskip
126 \Umathbininnerspacing\scriptscriptstyle=0.5\thinmuskip
127 \Umathrelordspacing\scriptscriptstyle=0.7\thinmuskip
128 \Umathrelopspacing\scriptscriptstyle=0.7\thinmuskip
129 \Umathrelopenspacing\scriptscriptstyle=0.7\thinmuskip
130 \Umathrelinnerspacing\scriptscriptstyle=0.7\thinmuskip
131 \Umathcloseopspacing\scriptscriptstyle=0.4\thinmuskip
132 \Umathclosebinspacing\scriptscriptstyle=0.5\thinmuskip
133 \Umathclosere-spacing\scriptscriptstyle=0.7\thinmuskip
134 \Umathcloseinnerspacing\scriptscriptstyle=0.4\thinmuskip
135 \Umathpunctordspacing\scriptscriptstyle=0.4\thinmuskip
136 \Umathpunctopspacing\scriptscriptstyle=0.4\thinmuskip
137 \Umathpunctrelspacing\scriptscriptstyle=0.4\thinmuskip
138 \Umathpunctopenspacing\scriptscriptstyle=0.4\thinmuskip
139 \Umathpunctclosespacing\scriptscriptstyle=0.4\thinmuskip
140 \Umathpunctpunctspacing\scriptscriptstyle=0.4\thinmuskip
141 \Umathpunctinnerspacing\scriptscriptstyle=0.4\thinmuskip
142 \Umathinnerordspacing\scriptscriptstyle=0.4\thinmuskip
143 \Umathinneropspacing\scriptscriptstyle=0.4\thinmuskip
144 \Umathinnerbinspacing\scriptscriptstyle=0.5\thinmuskip
145 \Umathinnerrelspacing\scriptscriptstyle=0.7\thinmuskip
146 \Umathinneropenspacing\scriptscriptstyle=0.4\thinmuskip
147 \Umathinnerpunctspacing\scriptscriptstyle=0.4\thinmuskip
148 \Umathinnerinnerspacing\scriptscriptstyle=0.4\thinmuskip
149 \wlog{Package innerscript Info:
150   Adjusting spacing for \string\crampedscriptscriptstyle.}
151 \Umathordopspacing\crampedscriptscriptstyle=0.4\thinmuskip
152 \Umathordbinspacing\crampedscriptscriptstyle=0.5\thinmuskip
153 \Umathordrelspacing\crampedscriptscriptstyle=0.7\thinmuskip
154 \Umathordinnerspacing\crampedscriptscriptstyle=0.4\thinmuskip
155 \Umathopordspacing\crampedscriptscriptstyle=0.4\thinmuskip
156 \Umathopopspacing\crampedscriptscriptstyle=0.4\thinmuskip
157 \Umathoprelspacing\crampedscriptscriptstyle=0.7\thinmuskip
158 \Umathopinnerspacing\crampedscriptscriptstyle=0.7\thinmuskip
159 \Umathbinordspacing\crampedscriptscriptstyle=0.5\thinmuskip
160 \Umathbinopspacing\crampedscriptscriptstyle=0.5\thinmuskip
161 \Umathbinopenspacing\crampedscriptscriptstyle=0.5\thinmuskip
162 \Umathbininnerspacing\crampedscriptscriptstyle=0.5\thinmuskip
163 \Umathrelordspacing\crampedscriptscriptstyle=0.7\thinmuskip
164 \Umathrelopspacing\crampedscriptscriptstyle=0.7\thinmuskip
165 \Umathrelopenspacing\crampedscriptscriptstyle=0.7\thinmuskip
166 \Umathrelinnerspacing\crampedscriptscriptstyle=0.7\thinmuskip

```

```

167 \Umathcloseopspacing\crampedscriptscriptstyle=0.4\thinmuskip
168 \Umathclosebinspacing\crampedscriptscriptstyle=0.5\thinmuskip
169 \Umathclosereclspacing\crampedscriptscriptstyle=0.7\thinmuskip
170 \Umathcloseinnerspacing\crampedscriptscriptstyle=0.4\thinmuskip
171 \Umathpunctordspacing\crampedscriptscriptstyle=0.4\thinmuskip
172 \Umathpunctopspacing\crampedscriptscriptstyle=0.4\thinmuskip
173 \Umathpunctreclspacing\crampedscriptscriptstyle=0.4\thinmuskip
174 \Umathpunctopenspacing\crampedscriptscriptstyle=0.4\thinmuskip
175 \Umathpunctclosespacing\crampedscriptscriptstyle=0.4\thinmuskip
176 \Umathpunctpunctspacing\crampedscriptscriptstyle=0.4\thinmuskip
177 \Umathpunctinnerspacing\crampedscriptscriptstyle=0.4\thinmuskip
178 \Umathinnerordspacing\crampedscriptscriptstyle=0.4\thinmuskip
179 \Umathinneropspacing\crampedscriptscriptstyle=0.4\thinmuskip
180 \Umathinnerbinspacing\crampedscriptscriptstyle=0.5\thinmuskip
181 \Umathinnerreclspacing\crampedscriptscriptstyle=0.7\thinmuskip
182 \Umathinneropenspacing\crampedscriptscriptstyle=0.4\thinmuskip
183 \Umathinnerpunctspacing\crampedscriptscriptstyle=0.4\thinmuskip
184 \Umathinnerinnerspacing\crampedscriptscriptstyle=0.4\thinmuskip
185 \fi

```

Now set the spacing for `\mathinner` subformulas. We store each `\mathord` spacing dimension in `\IS@skip` and use it to reset the `\mathinner` spacing. Each command has the form

```

\IS@skip\Umath<math class>ordspacing\<math style>
\Umath<math class>innerspacing\<math style>\IS@skip

```

or

```

\IS@skip\Umathord<math class>spacing\<math style>
\Umathinner<math class>spacing\<math style>\IS@skip,

```

where *math class* is one of `ord`, `op`, `bin`, `rel`, `open`, `close`, `punct`, or `inner`. The *math style* is either `displaystyle`, `textstyle`, `scriptstyle`, `scriptscriptstyle`, or the cramped version of any of those four.

```

186 \ifIS@inner
187   \wlog{Package innerscript Info:
188     Adjusting spacing for \string\mathinner.}
189   \IS@skip\Umathordordspacing\displaystyle
190   \Umathordinnerspacing\displaystyle\IS@skip
191   \IS@skip\Umathordordspacing\textstyle
192   \Umathordinnerspacing\textstyle\IS@skip
193   \IS@skip\Umathordordspacing\scriptstyle
194   \Umathordinnerspacing\scriptstyle\IS@skip
195   \IS@skip\Umathordordspacing\scriptscriptstyle
196   \Umathordinnerspacing\scriptscriptstyle\IS@skip
197   \IS@skip\Umathordordspacing\crampeddisplaystyle
198   \Umathordinnerspacing\crampeddisplaystyle\IS@skip
199   \IS@skip\Umathordordspacing\crampedtextstyle
200   \Umathordinnerspacing\crampedtextstyle\IS@skip
201   \IS@skip\Umathordordspacing\crampedscriptstyle

```


202 \Umathordinnerspacing\crampedscriptstyle\IS@skip
 203 \IS@skip\Umathordordspacing\crampedscriptscriptstyle
 204 \Umathordinnerspacing\crampedscriptscriptstyle\IS@skip
 205 \IS@skip\Umathopordspacing\displaystyle
 206 \Umathopinnerspacing\displaystyle\IS@skip
 207 \IS@skip\Umathopordspacing\textstyle
 208 \Umathopinnerspacing\textstyle\IS@skip
 209 \IS@skip\Umathopordspacing\scriptstyle
 210 \Umathopinnerspacing\scriptstyle\IS@skip
 211 \IS@skip\Umathopordspacing\scriptscriptstyle
 212 \Umathopinnerspacing\scriptscriptstyle\IS@skip
 213 \IS@skip\Umathopordspacing\crampeddisplaystyle
 214 \Umathopinnerspacing\crampeddisplaystyle\IS@skip
 215 \IS@skip\Umathopordspacing\crampedtextstyle
 216 \Umathopinnerspacing\crampedtextstyle\IS@skip
 217 \IS@skip\Umathopordspacing\crampedscriptstyle
 218 \Umathopinnerspacing\crampedscriptstyle\IS@skip
 219 \IS@skip\Umathopordspacing\crampedscriptscriptstyle
 220 \Umathopinnerspacing\crampedscriptscriptstyle\IS@skip
 221 \IS@skip\Umathbinordspacing\displaystyle
 222 \Umathbininnerspacing\displaystyle\IS@skip
 223 \IS@skip\Umathbinordspacing\textstyle
 224 \Umathbininnerspacing\textstyle\IS@skip
 225 \IS@skip\Umathbinordspacing\scriptstyle
 226 \Umathbininnerspacing\scriptstyle\IS@skip
 227 \IS@skip\Umathbinordspacing\scriptscriptstyle
 228 \Umathbininnerspacing\scriptscriptstyle\IS@skip
 229 \IS@skip\Umathbinordspacing\crampeddisplaystyle
 230 \Umathbininnerspacing\crampeddisplaystyle\IS@skip
 231 \IS@skip\Umathbinordspacing\crampedtextstyle
 232 \Umathbininnerspacing\crampedtextstyle\IS@skip
 233 \IS@skip\Umathbinordspacing\crampedscriptstyle
 234 \Umathbininnerspacing\crampedscriptstyle\IS@skip
 235 \IS@skip\Umathbinordspacing\crampedscriptscriptstyle
 236 \Umathbininnerspacing\crampedscriptscriptstyle\IS@skip
 237 \IS@skip\Umathrelordspacing\displaystyle
 238 \Umathrelinnerspacing\displaystyle\IS@skip
 239 \IS@skip\Umathrelordspacing\textstyle
 240 \Umathrelinnerspacing\textstyle\IS@skip
 241 \IS@skip\Umathrelordspacing\scriptstyle
 242 \Umathrelinnerspacing\scriptstyle\IS@skip
 243 \IS@skip\Umathrelordspacing\scriptscriptstyle
 244 \Umathrelinnerspacing\scriptscriptstyle\IS@skip
 245 \IS@skip\Umathrelordspacing\crampeddisplaystyle
 246 \Umathrelinnerspacing\crampeddisplaystyle\IS@skip
 247 \IS@skip\Umathrelordspacing\crampedtextstyle
 248 \Umathrelinnerspacing\crampedtextstyle\IS@skip

249 \IS@skip\Umathrelordspacing\crampedscriptstyle
 250 \Umathrelinnerspacing\crampedscriptstyle\IS@skip
 251 \IS@skip\Umathrelordspacing\crampedscriptscriptstyle
 252 \Umathrelinnerspacing\crampedscriptscriptstyle\IS@skip
 253 \IS@skip\Umathopenordspacing\displaystyle
 254 \Umathopeninnerspacing\displaystyle\IS@skip
 255 \IS@skip\Umathopenordspacing\textstyle
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429 \fi

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Version History

1.0 February 2021
—initial release

1.1 February 2021
—bug fix for `\mathinner` spacing
—added `\IS@skip` muglue register