Sample document

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1 LLAlignAnd

`&=`	$a = b$ $c = d$	ok
`=&`	$a =b$ $c =d$	ng
`={}&`	$a = b$ $c = d$	ok

2 LLAlignEnd

The following ends with a line break.

$$f(x) = ax^2 + bx + c$$
$$g(x) = dx^2 + ex + f$$

The following does not end with a line break.

$$f(x) = ax^2 + bx + c$$
$$g(x) = dx^2 + ex + f$$

Here is the next line after the align environment.

3 LLAlignSingleLine

Long line before display (same result)

Lorem ipsum.

$$f(x) = ax^2 + bx + c$$

This is an equation environment.

Lorem ipsum.

$$f(x) = ax^2 + bx + c$$

This is an align environment.

Short line before display (different result)

Lrm:

$$f(x) = ax^2 + bx + c$$

This is an equation environment.

Lrm:

$$f(x) = ax^2 + bx + c$$

This is an align environment.

Single-line alignat environment is also detected.

$$f(x) = ax^2 + bx + c$$

Multi-line alignat environment is not detected.

$$f(x) = ax^2 + bx + c$$
$$g(x) = dx^2 + ex + f$$

4 LLBig

This is a sample text. This is a sample text. This is a sample text.
Both bigcup $\bigcup_{x\in B} O_x$ and cup $\cup_{x\in B} O_x$ do not spoil the line spacing.
This is a sample text. This is a sample text. This is a sample text.

$$X_1 \cap X_2 \quad X_1 \cup X_2 \quad X_1 \odot X_2 \quad X_1 \oplus X_2 \quad X_1 \otimes X_2$$
$$X_1 \sqcup X_2 \quad X_1 \uplus X_2 \quad X_1 \vee X_2 \quad X_1 \wedge X_2 \quad \text{ok}$$
$$\bigcap_{i=1}^{\infty} X_i \quad \bigcup_{i=1}^{\infty} X_i \quad \bigodot_{i=1}^{\infty} X_i \quad \bigoplus_{i=1}^{\infty} X_i \quad \bigotimes_{i=1}^{\infty} X_i \quad \bigsqcup_{i=1}^{\infty} X_i \quad \biguplus_{i=1}^{\infty} X_i \quad \bigvee_{i=1}^{\infty} X_i \quad \bigwedge_{i=1}^{\infty} X_i \quad \text{ok}$$
$$\cap_{i=1}^{\infty} X_i \quad \cup_{i=1}^{\infty} X_i \quad \odot_{i=1}^{\infty} X_i \quad \oplus_{i=1}^{\infty} X_i \quad \otimes_{i=1}^{\infty} X_i$$
$$\sqcup_{i=1}^{\infty} X_i \quad \uplus_{i=1}^{\infty} X_i \quad \vee_{i=1}^{\infty} X_i \quad \wedge_{i=1}^{\infty} X_i \quad \text{ng}$$

5 LLBracketCurly

`\max(a,b)`	$\max(a,b)$	ok
`\max{a,b}`	$\max a,b$	ng
`\max {a,b}`	$\max a,b$	ok?

We cannot fully determine whether the use of curly brackets is wrong or not. It is not detected if some spaces are inserted between the command name and the curly brackets.
$\min(a,b)$ and $\min a,b$ are also checked.

6 LLBracketRound

`\sqrt{a}`	$\sqrt{a}$	ok
`\sqrt(a)`	$\sqrt(a)$	ng

$a^(1)$ and $a_(1)$ are also checked.

7 LLColonEqq

`\coloneqq`	$x \coloneqq y$	ok
`\Coloneqq`	$x \Coloneqq y$	ok
`:=`	$x := y$	ng
`::=`	$x ::= y$	ng

The differecen is quite subtle, but the vertical position of the colon is different.

8 LLColonForMapping

`A:B`	$A : B$	ok
`A\colon B`	$A\colon B$	ng
`f:`	$f : \mathbb{R} \to \mathbb{R}$	ng
`f\colon`	$f\colon \mathbb{R} \to \mathbb{R}$	ok

We detect all of : in the following

Here are examples of colons we detect.

- $f : X \to Y$
- $g : X \mapsto Y$
- $h : \mathbb{R}^{n^2+2n+1} \to \mathbb{R}$

and

$$f : (X \text{ at new line in tex file}) \to (Y \text{ at new line in tex file}). \tag{1}$$

We do NOT detect any of : in the following

Here are examples of ':' we do not detect.

- $f\colon X \to Y$, the correct use of \colon.
- $A : B : C = 1 : 2 : 3$, the colon for ratio.
- $A : B = 1 : 2$ and $X \to Y$, separated by dollar sign.
- $g : (\text{some very very very very very long long long long words}) \to \mathbb{R}$, the false negative.

9 LLCref

Theorem 1. *This is a sample theorem.*

Use Thm. 1 with cref instead of Theorem 1 with ref to avoid mistakes.

10 LLDoubleQuotes

Use “XXX” instead of “XXX” or "XXX".

11 LLENDash

`hyphen (-)`	A-B
`en-dash (--)`	A–B
`em-dash (---)`	A—B

- Erdos-Renyi (random graph, Erdős–Rényi)
- Einstein-Podolsky-Rosen (quantum physics, Einstein–Podolsky–Rosen)
- Fruchterman-Reingold (graph drawing, Fruchterman–Reingold)
- Gauss-Legendre (numerical integration, Gauss–Legendre)
- Gibbs-Helmholtz (thermodynamics, Gibbs–Helmholtz)
- Karush-Kuhn-Tucker (optimization, Karush–Kuhn–Tucker)

Exception: Fritz-John (optimization, name of a person)
False Positive: Wrong-Example

12 LLEqnarray

We should not use eqnarray. It has some spacing issues.

$$\begin{aligned} x &= y \\ a &= b \end{aligned}$$

13 LLLlGg

`\ll`	$n \ll m$	ok
`<<`	$n << m$	ng

I like human <<< cat <<<<<<< dog.

14 LLRefEq

To refer to the equation, use (1) with eqref instead of (1) with ref.
You can avoid the mistake of forgetting to add parentheses.

15 LLSharp

`\#`	$\#A$	ok
`\sharp`	$\sharp A$	ng

If you really want to use ♯, you can disable this rule.

16 LLNonASCII

The following line contains non-ASCII characters.
！＂＃＄％＆＇（）＊＋，－．／

日本語の文章は、upLaTeX でフツウに書けます。
(You can write Japanese sentences as usual with upLaTeX.)

17 LLSI

`\SI{1}{\kilo\byte}`	1 kB	ok
`1kB`	1kB	ng

Example: 10 KB, 3.5MiB, 500 GB.
Some Awesome Command. This is not ExaByte.
This 1EB is one ExaByte.

18 LLT

`^\top`	$X^\top$	ok
`^{\mathsf{T}}`	X^{T}	ok
`^T`	X^T	ng

If you really want to use X^T, you can disable this rule.

19 LLTitle

19.1 The quick brown fox jumps over the lazy dog

19.1.1 This Is a Correct Title

SubParagraph: Test With Ref 1

20 LLUserDefined

You can define your own rule, such as prohibiting the use of a f^a.

$$f^a(X) \quad f^{\mathrm{a}}(X)$$

Appendix A LLSetBar

Detecting inappropriate use of the vertical bar | is very difficult. We are currently trying to detect the following, although not implemented yet.

`\lvert -1 \rvert`	$\lvert -1 \rvert$	ok
`\abs{-1}`	$\lvert -1 \rvert$	ok
`\vert -1 \vert`	$\vert -1 \vert$	ng
`|-1|`	$\vert -1 \vert$	ng

`\lVert -x \rVert`	$\lVert -x \rVert$	ok
`\norm{-x}`	$\lVert -x \rVert$	ok
`\Vert -x \Vert`	$\Vert -x \Vert$	ng
`||-x||`	$\Vert -x \Vert$	ng

`\relmiddle|` (macro)	$\left\{ a \,\middle|\, a > \frac{1}{2} \right\}$	ok
`\mid`	$\{ a \mid a > \frac{1}{2} \}$	ok?
`|`	$\{ a \vert a > \frac{1}{2} \}$	ng

`\divides` (MnSymbol)	$+2 \mid +4$	ok
`\mid`	$+2 \mid +4$	ok?
`\mathrel|`	$+2 \mid +4$	ok?
`\vert`	$+2 \vert + 4$	ng
`|`	$+2 \vert + 4$	ng

`f(y|x)`	$f(y \vert x)$	ok?
`f(y \mid x)`	$f(y \mid x)$	ok?
`f(\,y\mid x\,)`	$f(\, y \mid x \,)$	ok?
`\left. \dv{t} \right|_{t=0} f(t)`	$\frac{\mathrm{d}}{\mathrm{d}t}\Big\vert_{t=0} f(t)$	ok?