Sample document

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1 LLAlignAnd

$$
\begin{aligned}
\& = & \quad \begin{aligned} a &= b \\ c &= d \end{aligned} & \quad \text{ok} \\
= \& & \quad \begin{aligned} a &= b \\ c &= d \end{aligned} & \quad \text{ng} \\
= \{\} \& & \quad \begin{aligned} a &= b \\ c &= d \end{aligned} & \quad \text{ok}
\end{aligned}
$$

2 LLAlignEnd

The following ends with a line break.

$$
\begin{aligned}
f(x) &= ax^2 + bx + c \\
g(x) &= dx^2 + ex + f
\end{aligned}
$$

The following does not end with a line break.

$$
\begin{aligned}
f(x) &= ax^2 + bx + c \\
g(x) &= dx^2 + ex + f
\end{aligned}
$$

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.

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

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

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

8 LLColonForMapping

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

We detect all of : in the following

Here are examples of colons we detect.

- $X : Y \to Z$,
- $X : Y \mapsto Z.$,
- $X : \mathbb{R}^{n^2+2n+1} \to \mathbb{R}$

and

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

We do NOT detect any of : in the following

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

- $X \colon Y \to Z$, the correct use of colon.
- $A : B : C = 1 : 2 : 3$, the colon for ratio.
- $A : B = 1 : 2$ and $\alpha \to \beta$, separated by dollar sign.
- f : (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

Example: 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.

$$x = y \tag{2}$$
$$a = b \tag{3}$$

13 LLLlGg

n \ll m	$n \ll m$	ok
n << m	$n << m$	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

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

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

18 LLT

$$X^{T} \quad X^{\top} \quad X^{\intercal}$$

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.

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