

# Sample document

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## 1 LAlignAnd

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

## 2 LAlignSingleLine

Long line before display (same result)

Lorem ipsum.

Lorem ipsum.

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

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

This is an **equation** environment.

This is an **align** environment.

Short line before display (different result)

Lrm:

Lrm:

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

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

This is an **equation** environment.

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.

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

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

### 3 LLColonEqq

$x := y$	$x := y$	ng
$x \backslash \text{coloneqq } y$	$x := y$	ok
$x ::= y$	$x ::= y$	ng
$x \backslash \text{Coloneqq } y$	$x ::= y$	ok

### 4 LLColonForMapping

$A : B$	$A : B$	ok
$A \backslash \text{colon } B$	$A : B$	ng
$f(x) : \backslash \text{mathbb{R}} \backslash \text{to} \backslash \text{mathbb{R}}$	$f(x) : \mathbb{R} \rightarrow \mathbb{R}$	ng
$f(x) \backslash \text{colon} \backslash \text{mathbb{R}} \backslash \text{to} \backslash \text{mathbb{R}}$	$f(x) : \mathbb{R} \rightarrow \mathbb{R}$	ok

— We detect all of : in the following —

Here are examples of colons we detect.

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

and

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

— We do NOT detect any of : in the following —

Here are examples of ‘:’ we do not detect.

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

### 5 LLCref

**Theorem 1.** *This is a sample theorem.*

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

## 6 LLDoubleQuotation

Use “XXX” instead of “XXX” or ”XXX”.

## 7 LLENDash

- 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

## 8 LLEqnarray

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

$$x = y \tag{2}$$

$$a = b \tag{3}$$

## 9 LLLlGg

$$\begin{array}{lll} n \ll m & n \ll m & \text{ok} \\ n << m & n << m & \text{ng} \end{array}$$

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

## 10 LLRefEq

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

## 11 LLSharp

$$\begin{array}{lll} \backslash\# & \#A & \text{ok} \\ \backslash\text{sharp} & \sharp A & \text{ng} \end{array}$$

## 12 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.)

## 13 LLSI

Example: 10 KB, 3.5MiB, 500 GB.

Some Awesome Command.This is not ExaByte..

This 1EB is one ExaByte.

## 14 LLT

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

## 15 LLTitle

### 15.1 The quick brown fox jumps over the lazy dog

#### 15.1.1 This Is a Correct Title

SubParagraph: Test With Ref 1

## 16 LLUserDefined

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

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