MaximaTexMaths Manual

Presentation

MaximaTexMaths is an extension for LibreOffice that allows you to insert mathematical formulas and Maxima commands (a computer algebra system) as images into a LibreOffice document.

How MaximaTexMaths Works

By clicking on the MaximaTexMaths icon, a dialog box opens where you can enter LaTeX commands as well as Maxima commands.

→ A complete set of icons makes it easy to enter these LaTeX commands in a very user-friendly way.
→ Maxima commands are processed by the computer algebra system, and their results are inserted into the same dialog box in the form of LaTeX commands.
→ A click then inserts the image generated from these LaTeX commands into the open LibreOffice document.

License and Sources of the Extension

→ MaximaTexMaths is free and open-source software, distributed under the GNU license.
→ Website: https://maxima-french-doc.fr/interfaces/
→ Development repository: https://github.com/michelprog59/MaximaTeXMaths
→ Contact: michel.gosse@free.fr

MaximaTexMaths is based on the code of the TeXMaths extension by Roland Baudin:
http://roland65.free.fr/texmaths

It is also based on OOoLatex by Geoffroy Piroux:
http://ooolatex.sourceforge.net

Requirements

- The current version 1.0 (April 2026) is compatible with Windows and Linux.
- LibreOffice version 7.4 or later
- A LaTeX distribution
- The Maxima software

Installation

1. Install LibreOffice:
   https://www.libreoffice.org/
2. Install a LaTeX distribution:

- On Windows, you can install MiKTeX: https://miktex.org/download
  (includes all required programs for the extension)
  Alternatively, install TeX Live: https://www.tug.org/texlive/

- On Linux, install TeX Live:
  https://www.tug.org/texlive/

3. Install Maxima:
   https://maxima.sourceforge.io/
4. Download the MaximaTexMaths extension:
   https://maxima-french-doc.fr/interfaces/
5. Open LibreOffice, then go to:
   Tools → Extensions → Add
   Select the file *MaximaTexMaths-1.0.oxt* and confirm.
6. Restart LibreOffice.

Warning

Since MaximaTexMaths is based on TeXMaths, and to avoid conflicts, you must uninstall TeXMaths if it was previously installed in LibreOffice.
All TeXMaths features are included in MaximaTexMaths.

Configuration

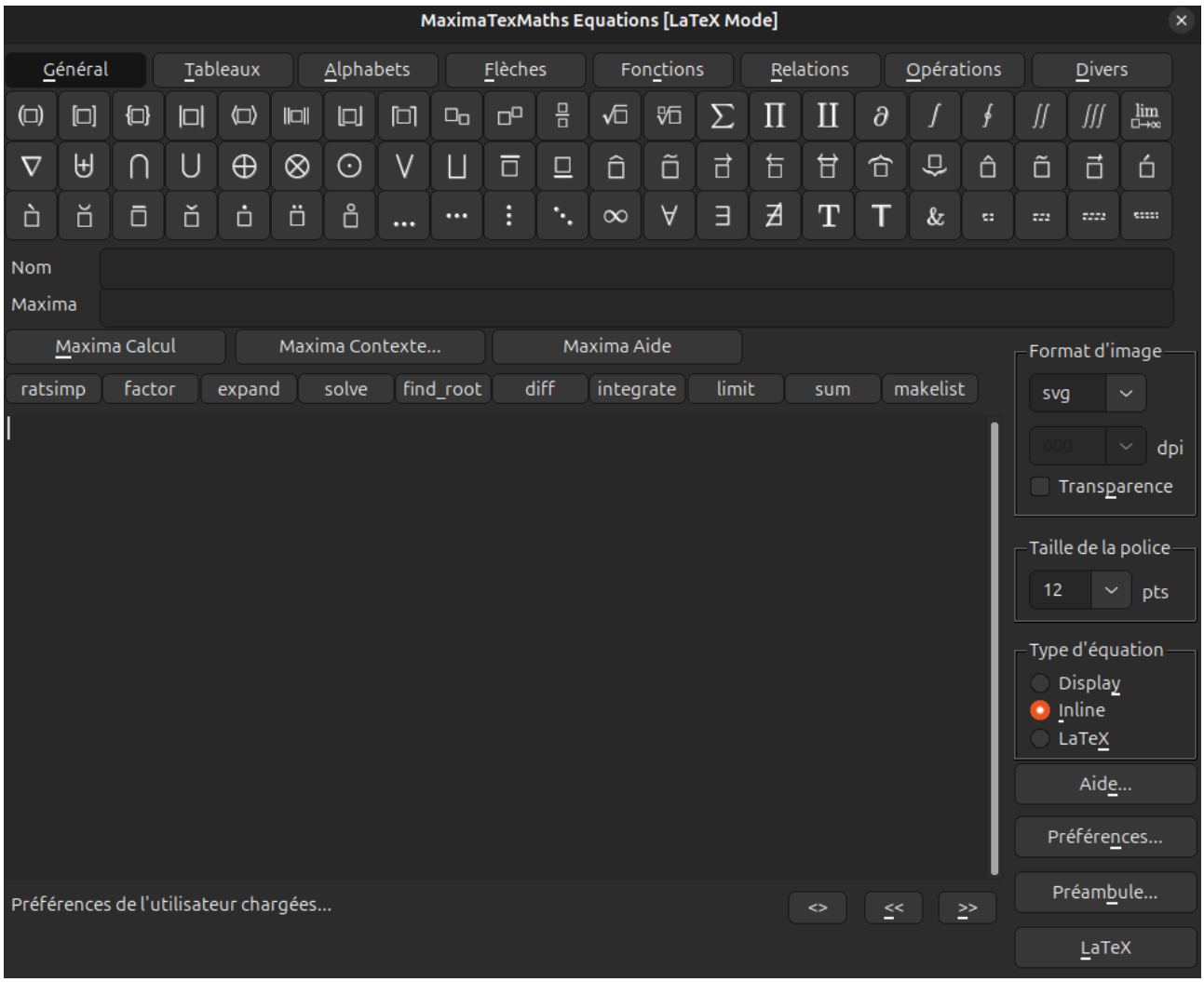
Once the extension is installed, a toolbar is added to LibreOffice.

Click on the last icon on the right to open the configuration.
In the **Paths** tab, specify the paths to the required software:

- Most paths are automatically detected by the extension. Otherwise, you must specify them manually.
- For Maxima, you must manually set the path to the Maxima executable.

Usage

Clicking on the first icon on the left opens the following dialog box:



- The **Help** button provides help for the LaTeX part of the extension. It is the version from TeXMaths, with an additional section about Maxima.
- The **Maxima Help** button provides an introduction to Maxima, how it works within MaximaTexMaths, and a list of common Maxima commands with their syntax.
- The available options (image format, transparency, font size, equation type, preferences, and preamble) are explained in the general help (Help button). Additional documentation is available on the original extension website:
  http://roland65.free.fr/texmaths/
- The icons at the top of the dialog box allow insertion of most common LaTeX commands. A click inserts a template that can be completed in the editing area.
- The **Name** field allows you to assign a name to an equation.
- The **Maxima** field allows you to enter a Maxima command.
  Example:
  expand((2*x+5)^2) expands the expression $(2x+5)^2$
  It is not necessary to end the command with a semicolon (normally required in Maxima), as it is added automatically.
  Clicking **Maxima Compute** inserts the result 4\,x^2+20\,x+25 into the LaTeX editing area.
- The **LaTeX** button generates the image to be inserted into the LibreOffice document :
  $4\,x^2+20\,x+25$

- Shortcut buttons for common Maxima commands are available below this field. They insert templates that you can complete.

- The **Maxima Context** button opens an editor where you can enter Maxima commands that will be used together with the main command.
  This allows defining functions, loading packages, or creating macros/procedures.
  Example :
  f(x):=3*x-5;
  Then you can compute f(5).
  In this context area, each command must end with a semicolon (;) or dollar sign ($).

  The Maxima Context content is saved with the LibreOffice document and restored when reopening it.

- If Maxima encounters an issue, an error message is displayed.
  You should then check the commands entered either in the main field or in the Maxima preamble.
  Sometimes Maxima asks a question (e.g., whether a number is positive or negative) and waits for input. Since direct interaction is not possible, an error appears.
  In such cases, you must anticipate the answer, for example by adding: assume(x>0);

Practical Examples

1. Compute an integral

Compute: $e^x\ x^2 + \frac{1}{x}$

Enter in the Maxima field:
integrate(x^2*exp(x)+1/x, x);

Click **Maxima Compute**, which produces in the editor :
\log x + e^x (x^2 - 2x + 2)

Then click **LaTeX** to insert the final result. $\log x + e^x(x^2 - 2x + 2)$

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2. Solve an equation

Solve f(x)=g(x) with:

- f(x)=x2+5x−1
- g(x)=−2x+3

In the Maxima preamble:

f(x):=x^2+5*x-1;

g(x):=-2*x+3;
In the Maxima field:
solve(f(x)=g(x),x)

Result: $\left[x = -\left(\frac{\sqrt{65}+7}{2}\right), x = \frac{\sqrt{65}-7}{2}\right]$

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3. Random values and mean

Generate 20 random integers between 1 and 6 and compute the mean using the *descriptive* package.

In the Maxima preamble:

load(descriptive);

data:makelist(1+random(6),i,1,20);
In the Maxima field:
mean(data)

Result : $\frac{17}{5}$

To do list

For version 2.0, the goal is to make the extension work on macOS and to include a graphical module also managed by Maxima.