Update of MaximaTakeover() (SS-1244, SS-2401)

Note: In former versions the takeover state was set for the whole SMath instance (with side effects between multiple sheets).
In the 2017 version of the plugin, the takeover state is done by re-defining the internal functions local to the current sheet or program.

Provide a single argument for complete switching on or off:

"all"	All functions are handled by Maxima
"none"	All functions are native SMath (default)

Provide up to 5 arguments in any combination in order to handle these functions by Maxima.

"dif"
"det"
"int"
"lim"
"sum"

None or any other non-valid argument is equivalent to "none"

The default ("none") is re-established when MaximaControl("restart") or MaximaControl("cleanup") are called.

MaximaControl("restart")="Maxima started successfully."

$\frac{d}{dx}\operatorname{sech}(x)=-\operatorname{sech}(x)\cdot\tanh(x)$ $\int \sin(x)\,dx=\int \sin(x)\,dx$ $\lim_{x\to\infty}\frac{x^2}{x}=\lim_{x\to\infty}x$ $\sum_{j=1}^{n} j=$ ∎

$\left|a\cdot\begin{bmatrix}1 & 2\\ b & 3\end{bmatrix}\right|=\left|a\cdot\begin{bmatrix}1 & 2\\ b & 3\end{bmatrix}\right|$

MaximaTakeover("all")="diff(), int(), lim(), sum(), det() handled by Maxima"

$\frac{d}{dx}\operatorname{sech}(x)=-\operatorname{sech}(x)\cdot\tanh(x)$ $\int \sin(x)\,dx=-\cos(x)$ $\lim_{x\to 1+0}\frac{1}{x-1}=\infty$ $\sum_{j=1}^{n} j=\frac{n\cdot(1+n)}{2}$

$\left|a\cdot\begin{bmatrix}1 & 2\\ b & 3\end{bmatrix}\right|=a^2\cdot(3-2\cdot b)$

Improved output formatting of MaximaLog()

The same information as before is now displayed in 3 lines instead of 6. The expressions have the correct input and output labels.

```
MaximaLog(∎)= "Received Bytes: 31
              (%i25) determinant(a*matrix([1,2],[b,3]));
              (%o25) 3*a^2-2*a^2*b"
```

Corrected behaviour of MaximaDefine() (SS-193)

MaximaDefine(s)
MaximaDefine(s ; expr)

Defines symbol s in Maxima using the given expression expr or the current value of s in SMath. s is not re-defined in SMath.
This can be used to set control variables inside Maxima.

s	symbol
expr	expression

Examples

MaximaControl("restart") = "Restart complete."

$C := \begin{cases} 2 \\ 3 \end{cases}$ D := 4 Definition in SMath

MaximaDefine(C) = $\begin{cases} 2 \\ 3 \end{cases}$ Transfer definition to Maxima

MaximaDefine(D) = 4

Clear(D ; C) = 1 Clear the definition in SMath

C·D = ∎ lastError = "C - not defined."

(M) (C·D) = $\begin{cases} 8 \\ 12 \end{cases}$ Still available in Maxima

(M) (kill(D ; C)) = done Clear the definitions in Maxima

(M) (D·C) = C·D

Application for control of float printing precision

MaximaDefine(fpprec ; 40) = 40

(M) (bfloat(π)) = $3,141592653589793238462643383279502884197 \cdot 10^{0}$

MaximaDefine(fpprec ; 16) = 16

(M) (bfloat(π)) = $3,141592653589793 \cdot 10^{0}$

Compatibility with Maxima 5.40

(M) ("$args(build_info())$") = $\begin{cases} \text{"5.40.0"} \\ \text{"2017-06-01 18:54:32"} \\ \text{"x86\_64-w64-mingw32"} \\ \text{"CLISP"} \\ \text{"2.49 (2010-07-07) (built on toshiba [192.168.43.206])"} \end{cases}$

Please note: Maxima processes now run as lisp.exe instead of maxima.exe.

Maxima Icon in the Insert menu