

Using Maxima in the Cadabra notebook front-end

If you want scalar expressions to be evaluated by maxima, simply use the `@maxima` command. For added convenience, you can make this a default rule, so that any cadabra output will get passed through maxima before it enters the cadabra expression tree.

(Right now this will restart maxima for every line of input, but more extensive maxima support is planned).

The Cadabra notebook interface uses the \TeX output from maxima for typesetting.

```
::PostDefaultRules( @@maxima(%) ).
```

Assigning property `PostDefaultRules` to `.`

Here are some examples from the xmaxima introductory text:

```
trigsimp(cos(x)**2 + sin(x)**2);
```

$$12 := 1;$$

```
integrate(cos(x),x);
```

$$13 := \sin(x);$$

```
integrate( 1/(1+x**3), x);
```

$$14 := -\frac{1}{6} \log(x^2 - x + 1) + a \frac{\tan(\frac{(2x-1)}{\sqrt{3}})}{\sqrt{3}} + \frac{1}{3} \log(x + 1);$$

```
diff( @(%), x);
```

$$15 := \text{diff}\left(-\frac{1}{6} \log(x^2 - x + 1) + a \frac{\tan(\frac{(2x-1)}{\sqrt{3}})}{\sqrt{3}} + \frac{1}{3} \log(x + 1), x\right);$$

```
integrate( 1/(1+x**2), x, 0, 1);
```

$$4 := \frac{1}{4} \pi;$$

```
limit( (2x+1)/(3x+2), x, \infty);
```

$$5 := \frac{2}{3};$$

```
limit( sin(3x)/x, x, 0);
```

$$6 := 3;$$

```
solve([x+y+z=5, 3*x-5*y=10, y+2*z=3], [x,y,z]);
```

$$7 := \left[x = \frac{45}{13}, \quad y = \frac{1}{13}, \quad z = \frac{19}{13} \right];$$

```
solve(x**2 - 5x + 6=0, x);
```

$$8 := [x = 3, \quad x = 2];$$

```
determinant(matrix([1,2],[3,4]));
```

$$9 := (-2);$$

```
(\sin(x)**2 + \cos(x)**2) ( A_{m n} + B_{m n} );
```

$$18 := ((\sin(x))^2 + (\cos(x))^2)(A_{mn} + B_{mn});$$

```
trigsimp( @(% ) );
```

$$19 := \text{trigsimp}(((\sin(x))^2 + (\cos(x))^2)(A_{mn} + B_{mn}));$$