## Demo of embedded symbolic math

## Hans Petter Langtangen<sup>1,2</sup>

 $^{1}\mathrm{Simula}$   $^{2}\mathrm{University}$  of Oslo

May 14, 2015

The following text was generated from a DocOnce file where all mathematical computations are done in the background by SymPy.

$$\iint ax + y^{2} \sin(y) dx dy = \int \frac{ax^{2}}{2} + xy^{2} \sin(y) dy$$
$$= \frac{ay}{2} x^{2} + x \left( -y^{2} \cos(y) + 2y \sin(y) + 2\cos(y) \right)$$

The solution of  $ax^2 + bx + c = 0$  is

$$x = \left[\frac{1}{2a}\left(-b + \sqrt{-4ac + b^2}\right), \quad -\frac{1}{2a}\left(b + \sqrt{-4ac + b^2}\right)\right]$$