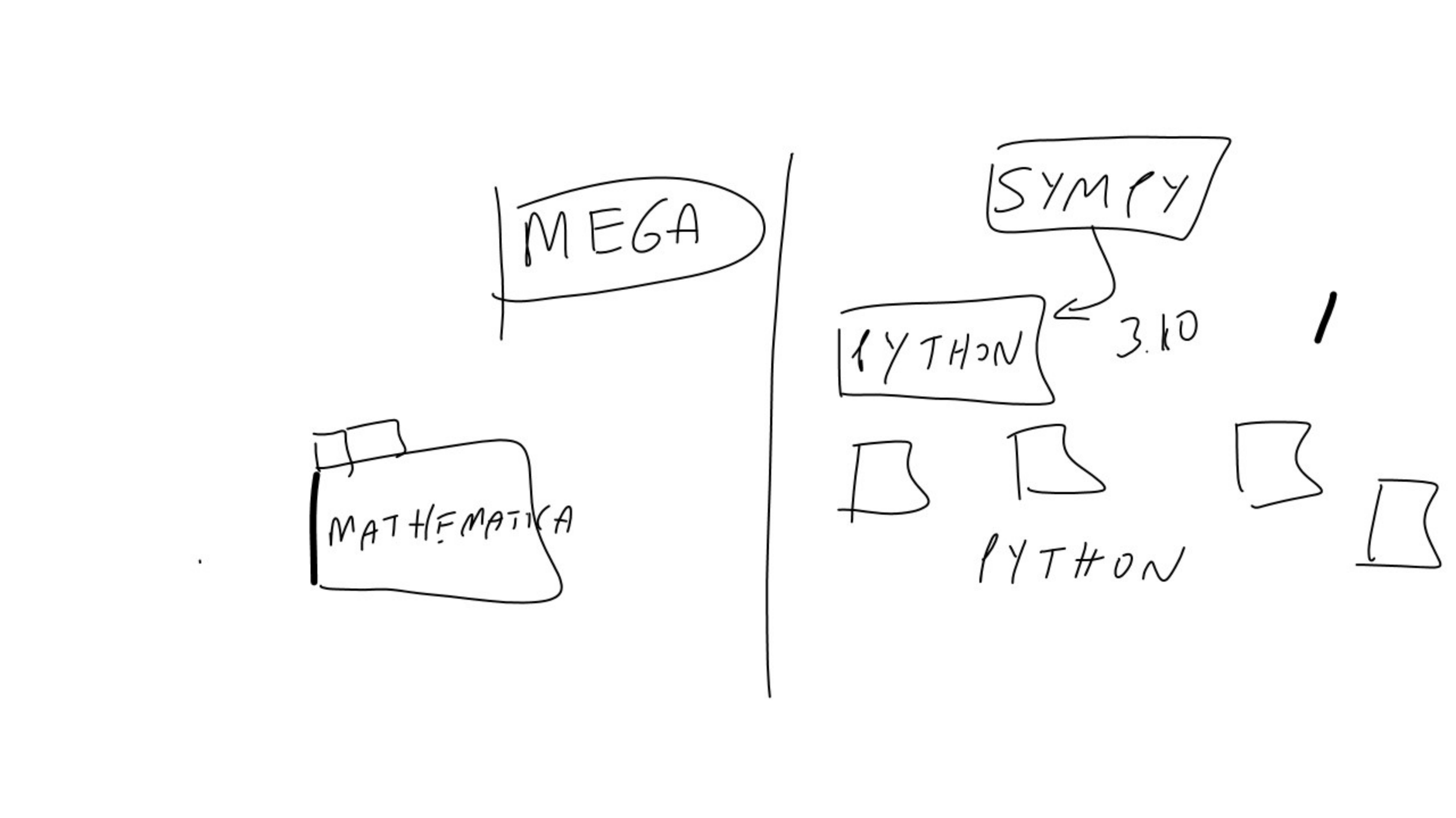
MEGA
SYMPY
PYTHON
3.10
MATHEMATICA
PYTHON

>_ CONDA CREATE --NAME MEGA
PYTHON=3.10

>_ CONDA ACTIVATE MEGA

MEGA >_ SYMPY MATPLOTLIB
PANDAS
NUMPY

$$f(x) = 2x^2 + 5x$$

$$\frac{df(x)}{dx} = 4x + 5$$

$$\Delta f(x_0) = f(x_0 + \Delta x) - f(x_0)$$

$$\frac{\Delta f(x_0)}{\Delta x}$$

Δx

$f(x_0 + \Delta x)$

$$\Delta f(x_0) = \left[2(x_0 + \Delta x)^2 + 5(x_0 + \Delta x) \right] - \left[2(x_0)^2 + 5(x_0) \right]$$

$f(x_0)$

$$u(x) = \prod_{i=1}^{n} x_i^{\alpha_i} \quad \text{s.a. } px = w$$

$$x_i = \frac{\alpha_i w}{p_i}$$

$$p_i x_i = \alpha_i w$$

~~$\sum \alpha_i = 1$~~

$$x_i = \frac{\alpha_i}{\sum_i \alpha_i} \frac{w}{p_i}$$

$$MAX \; -(P_x x + P_y y)$$

$$\{(x,y)\} \quad s.t. \quad \bar{u} = x^{\alpha} y^{\beta}$$

$$\mathcal{L} = f(x,y) + \lambda(k - g(x,y))$$

$$\bar{H} = \begin{bmatrix} 0 & \frac{\partial g}{\partial x} & \frac{\partial g}{\partial y} \\ \frac{\partial g}{\partial x} & f_{xx} & f_{xy} \\ \partial g/\partial y & f_{yx} & f_{yy} \end{bmatrix}$$

$$f_{xx} = \frac{\partial^2 f(x,y)}{\partial^2 x}$$

$$f_{xy} = \frac{\partial^2 f(x,y)}{\partial x \, \partial y}$$