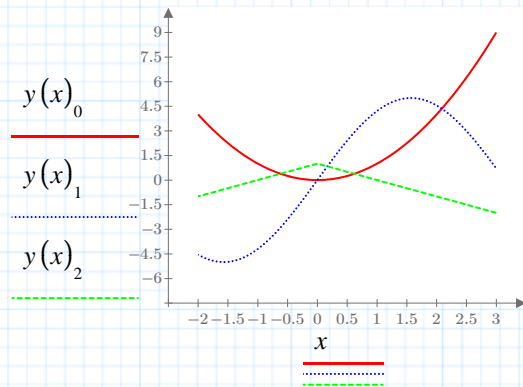


$$y(x) := \begin{bmatrix} x^2 \\ 5 \cdot \sin(x) \\ 1 - |x| \end{bmatrix}$$



$$a := -2 \quad b := 2$$

$$N := 1000$$

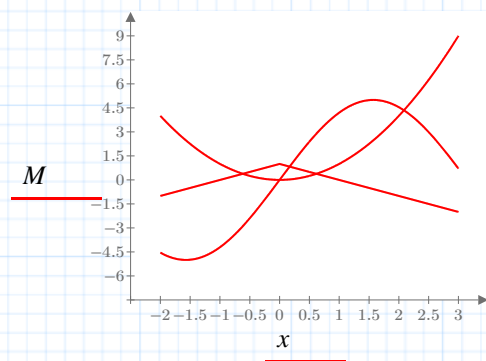
$$h := \frac{b-a}{N}$$

$$k := 0 \dots N$$

$$x_k := a + k \cdot h$$

$$F(y, a, b, N) := \left\| \begin{array}{l} \left[ \begin{array}{l} x_0 \leftarrow a \quad h \leftarrow \frac{b-a}{N} \quad A \leftarrow y(a) \end{array} \right] \\ \text{for } k \in 1 \dots N \\ \left\| \begin{array}{l} x_k \leftarrow a + k \cdot h \\ A \leftarrow \text{augment}(A, y(x_k)) \end{array} \right\| \\ \left[ x \quad A^T \right]^T \end{array} \right\|$$

$$\begin{bmatrix} x \\ M \end{bmatrix} := F(y, -2, 3, 1000)$$



$$f(x) := \begin{bmatrix} x^3 - 2 \cdot x \\ x \cdot e^{-x^2} \\ \cos(\sqrt[3]{x-1}) \\ -|x| \end{bmatrix}$$

$$a := -1$$

$$b := 2$$

$$\begin{bmatrix} x \\ A \end{bmatrix} := F(f, a, b, 1000)$$

