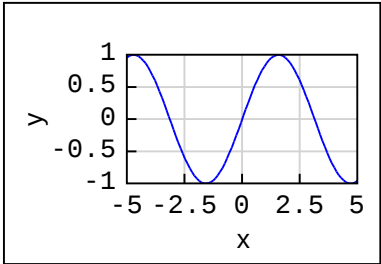
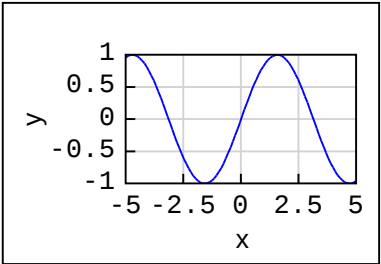


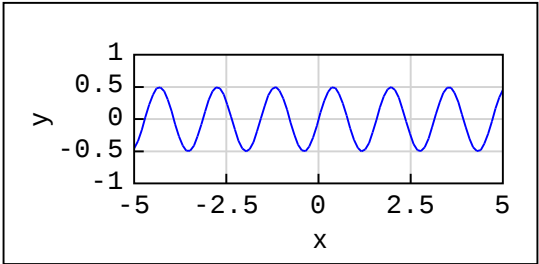
$f(x) := \sin(x)$ $g(y) := \cos(y)$



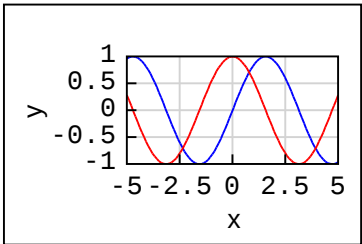
f



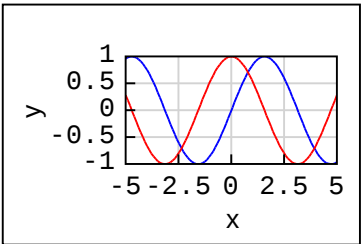
f(x)



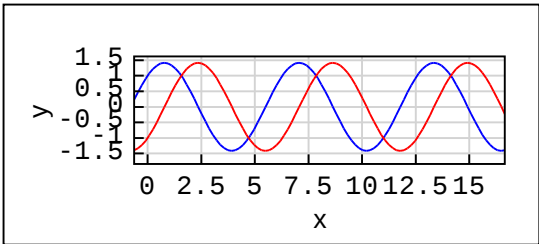
f(4·x)·0.5



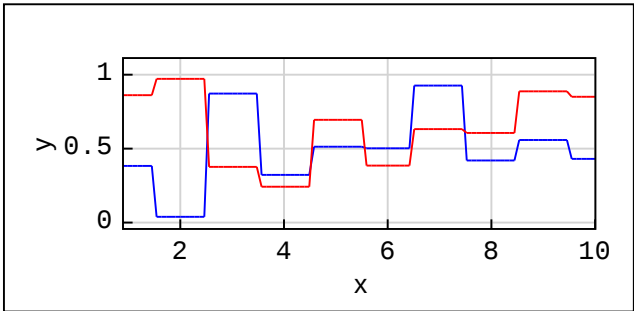
$\begin{cases} f \\ g \end{cases}$



$\begin{cases} f(a) \\ g(b) \end{cases}$



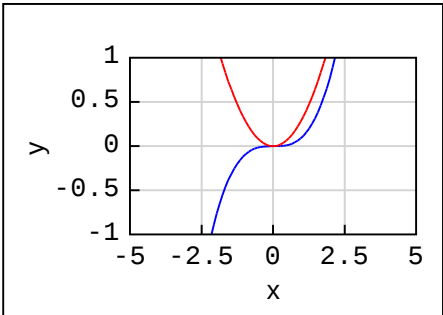
$\begin{cases} f(a) + g(a) \\ f(a) - g(a) \end{cases}$



N:=Random(2, 10)

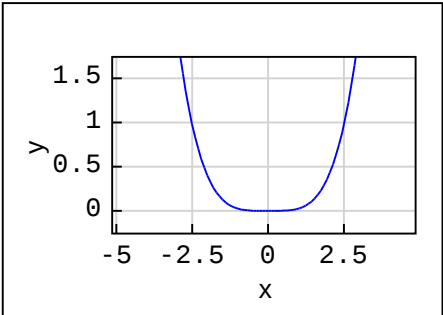
$\begin{cases} N_1 x \\ N_2 x \end{cases}$

$u(t) := 0.1 \cdot (t^3)$



$\begin{cases} u \\ \frac{d}{dt} u(t) \end{cases}$

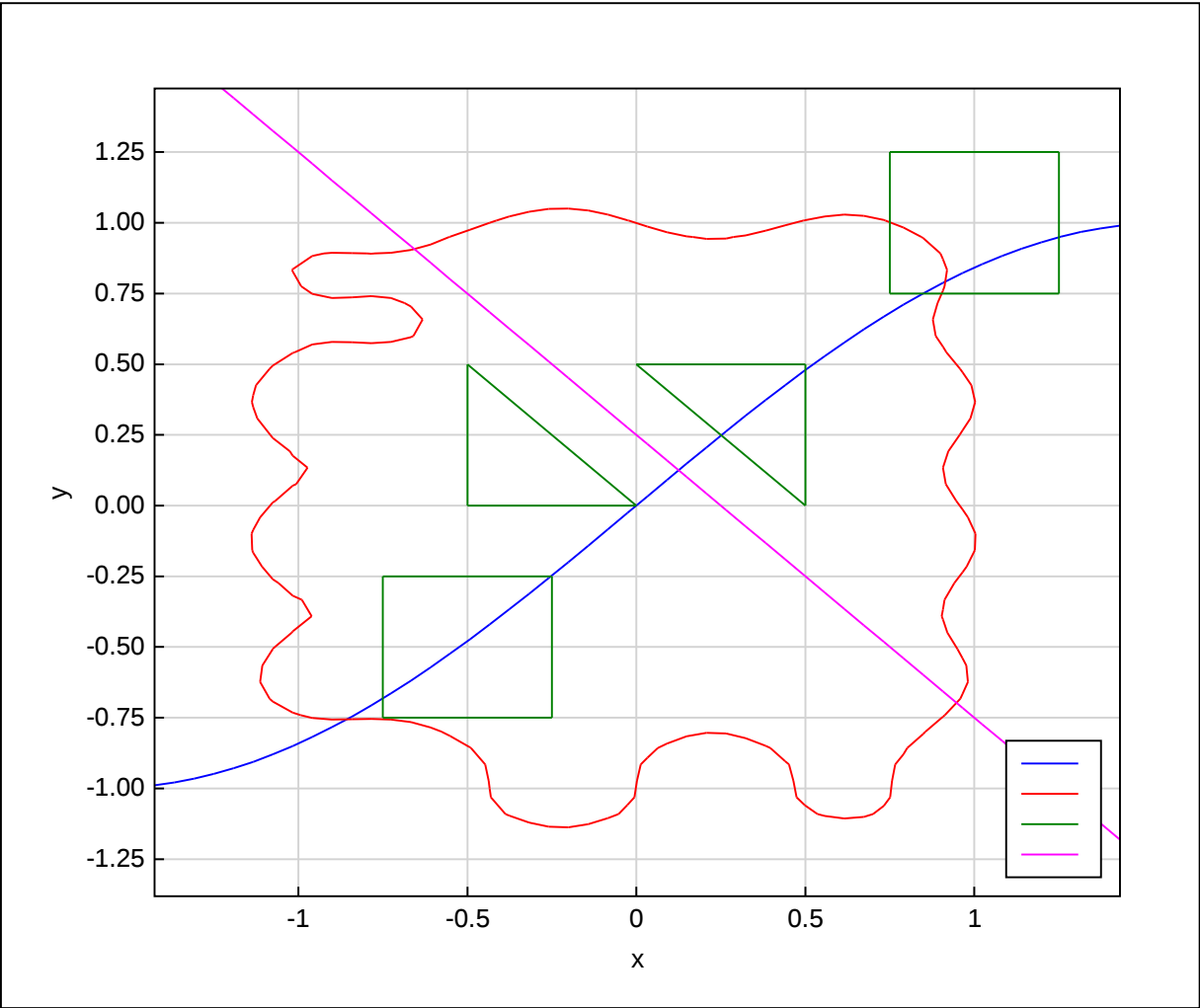
$U(t) := \int_0^t u(x) dx$



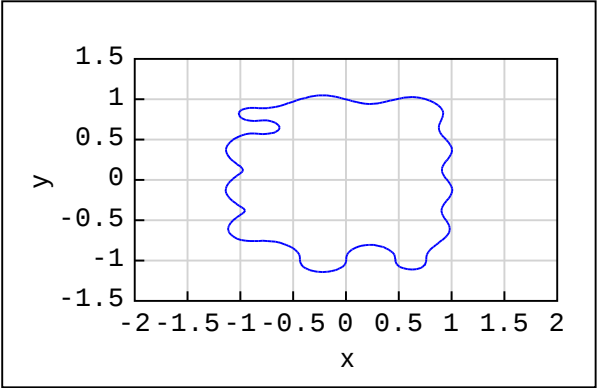
U(t)

$$h(x,y) := x^4 + y^4 + 0.4 \cdot \sin(7 \cdot x) + 0.3 \cdot \sin(4 \cdot \pi \cdot y) - 1$$

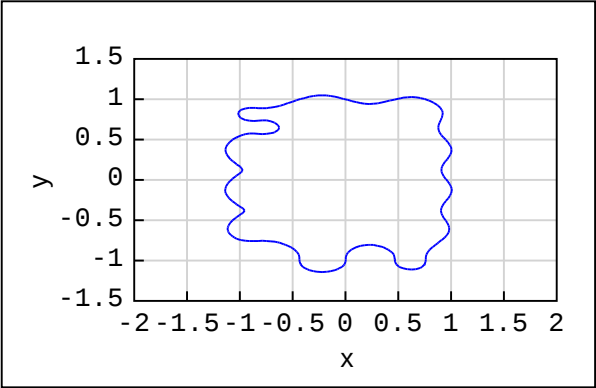
$$M_1 := \begin{bmatrix} 0 & 0 \\ -0.5 & 0 \\ -0.5 & 0.5 \\ 0 & 0 \end{bmatrix} \quad M_2 := \begin{bmatrix} 0 & 0.5 \\ 0.5 & 0.5 \\ 0.5 & 0 \\ 0 & 0.5 \end{bmatrix} \quad M_3 := \begin{bmatrix} 0 & 0.5 \\ 0.5 & 0.5 \\ 0.5 & 0 \\ 0 & 0 \\ 0 & 0.5 \end{bmatrix} + 0.75 \quad M_4 := M_3 - 1.5$$



$\left\{ \begin{array}{l} \sin(x) \\ h \\ M \\ -x + 0.25 \end{array} \right.$



h



h(x, y)

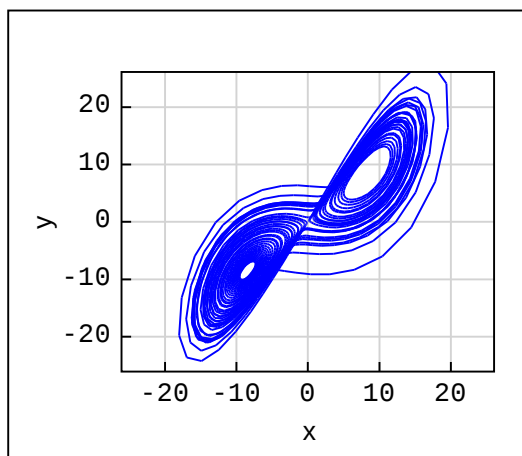
$$D(t, x) := \begin{bmatrix} a \cdot (x_2 - x_1) \\ x_1 \cdot (b - x_3) - x_2 \\ x_1 \cdot x_2 - c \cdot x_3 \end{bmatrix} \quad x_0 := \begin{bmatrix} 0.1 \\ 0.1 \\ 0.5 \end{bmatrix} \quad t_0 := 0 \quad t_{max} := 50 \quad n := 2000$$

$$a := 10 \quad b := 28 \quad c := \frac{8}{3} \quad t0 := \text{time}(1)$$

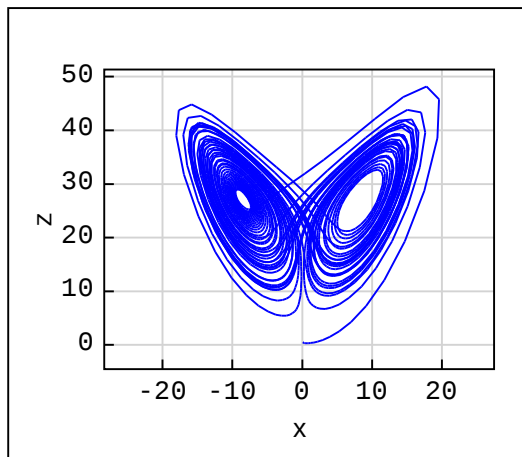
$$L := \text{rkfixed}(x_0, t_0, t_{max}, n, D(t, x))$$

$$\text{time}(1) - t0 = 0.593 \text{ c}$$

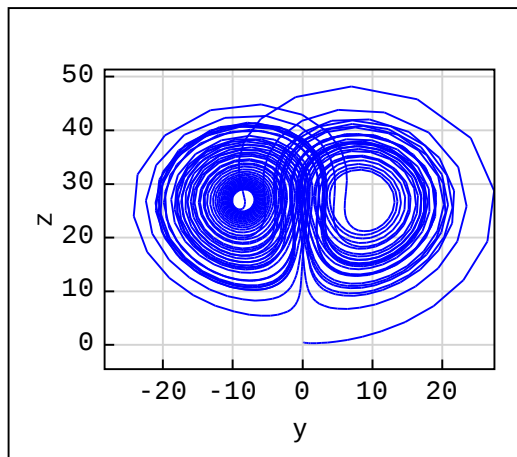
$$x := \text{col}(L, 2) \quad y := \text{col}(L, 3) \quad z := \text{col}(L, 4)$$



augment(x, y)



augment(x, z)



augment(y, z)