

Método de Runge-Kutta de quarta ordem

definir $f(x, y)$; **definir** x_0, x_{max}, n ; $h = (x_{max} - x_0)/n$
definir y_0 ; $y_{i=1, \dots, n} = 0$

CICLO DE $i = 0, 1, \dots, n - 1$ **FAZER**

$$x_{mid} = x_0 + h/2$$

$$x_1 = x_0 + h$$

$$k_1 = f(x_0, y_0)$$

$$k_2 = f(x_{mid}, y_0 + h k_1/2)$$

$$k_3 = f(x_{mid}, y_0 + h k_2/2)$$

$$k_4 = f(x_1, y_0 + h k_3)$$

$$y_{i+1} = y_0 + \frac{h}{6} (k_1 + 2k_2 + 2k_3 + k_4)$$

$$x_0 = x_1$$

$$y_0 = y_{i+1}$$

FIM DE CICLO