

$$\frac{dx}{dt} = \alpha x - \beta xy$$

$$x_0 = 100$$

$$y_0 = 100$$

$$z_0 = 0$$

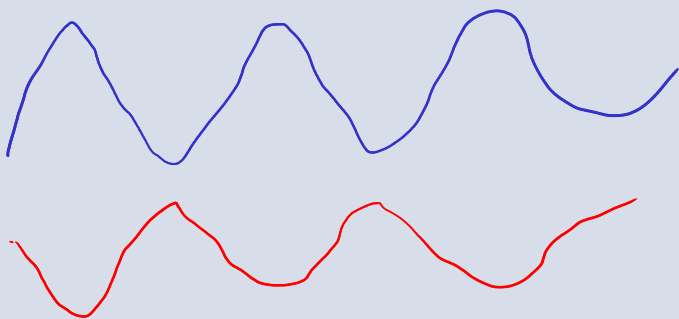
$$\frac{dy}{dt} = \delta xy - \gamma y$$

$$\frac{dx}{dt} = \frac{x(t + \Delta t) - x(t)}{\Delta t} + O(\Delta t)$$

$$x(t + \Delta t) = x(t) + \Delta t (\alpha x - \beta xy)$$

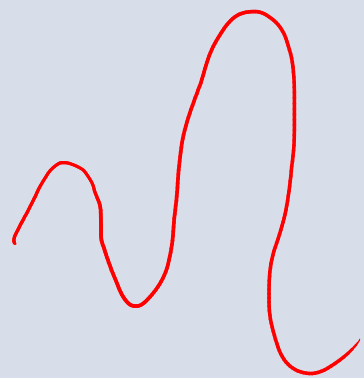
$$y(t + \Delta t) = y(t) + \Delta t (\delta xy - \gamma y)$$

метод Эйлера



$x(t)$

$y(t)$



$$\frac{d^2 f(t)}{dt^2} + \alpha f(t) = 0$$

$$\left\{ \begin{array}{l} g(t) = f'(t) \end{array} \right.$$

$$\left\{ \begin{array}{l} \frac{dg(t)}{dt} + \alpha f(t) = 0 \end{array} \right.$$