$$B = \begin{pmatrix} 0 & -2 & -2 \\ 0 & 2 & 1 \\ 0 & 4 & 3 \end{pmatrix} \qquad \rho(B) = \frac{1}{2}(5+\sqrt{17}) \approx \underline{4.562\ldots}$$

$$\vec{x}_0 = \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix} \qquad \vec{y}_1 = B\vec{x}_0 = \begin{pmatrix} 0 & -2 & -2 \\ 0 & 2 & 1 \\ 0 & 4 & 3 \end{pmatrix}\begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix} = \begin{pmatrix} -2 \\ 2 \\ 4 \end{pmatrix}$$

$$\underline{\vec{x}_1 = \frac{\vec{y}_1}{\|\vec{y}_1\|_\infty} = \begin{pmatrix} -1/2 \\ 1/2 \\ 1 \end{pmatrix}}$$

$$\vec{y}_2 = \begin{pmatrix} 0 & -2 & -2 \\ 0 & 2 & 1 \\ 0 & 4 & 3 \end{pmatrix}\begin{pmatrix} -1/2 \\ 1/2 \\ 1 \end{pmatrix} = \begin{pmatrix} -3 \\ 2 \\ 5 \end{pmatrix} \qquad \vec{x}_2 = \begin{pmatrix} -3/5 \\ 2/5 \\ 1 \end{pmatrix}$$

$$\vec{y}_3 = \begin{pmatrix} 0 & -2 & -2 \\ 0 & 2 & 1 \\ 0 & 4 & 3 \end{pmatrix} \begin{pmatrix} -3/5 \\ 2/5 \\ 1 \end{pmatrix} = \begin{pmatrix} -\frac{14}{5} \\ 9/5 \\ \frac{23}{5} \end{pmatrix}$$

$$\|\vec{y}_3\|_\infty = \frac{23}{5}$$

$$\vec{x}_3 = \begin{pmatrix} -\frac{14}{23} \\ \frac{9}{23} \\ 1 \end{pmatrix}$$

$$\vec{v} = \begin{pmatrix} -14 \\ 9 \\ 23 \end{pmatrix}$$

$$\vec{x}_3 = \begin{pmatrix} -0.610 \\ 0.390 \\ 1 \end{pmatrix} \approx \begin{pmatrix} -0.609 \\ 0.391 \\ 1 \end{pmatrix}$$

$$\lambda \approx \frac{\vec{x}^T \cdot B\vec{x}}{\vec{x}^T \cdot \vec{x}} = \frac{(-14, 9, 23) \cdot \begin{pmatrix} -64 \\ 41 \\ 105 \end{pmatrix}}{(-14, 9, 23) \cdot \begin{pmatrix} -14 \\ 9 \\ 23 \end{pmatrix}} = \frac{3680}{806} = \frac{1840}{403} \approx 4.562$$

$$\dot{x} = y^2 - 1$$
$$\dot{y} = y - x$$

$$x(0) = \tfrac{1}{2}$$
$$y(0) = 1$$

Eulerova metoda

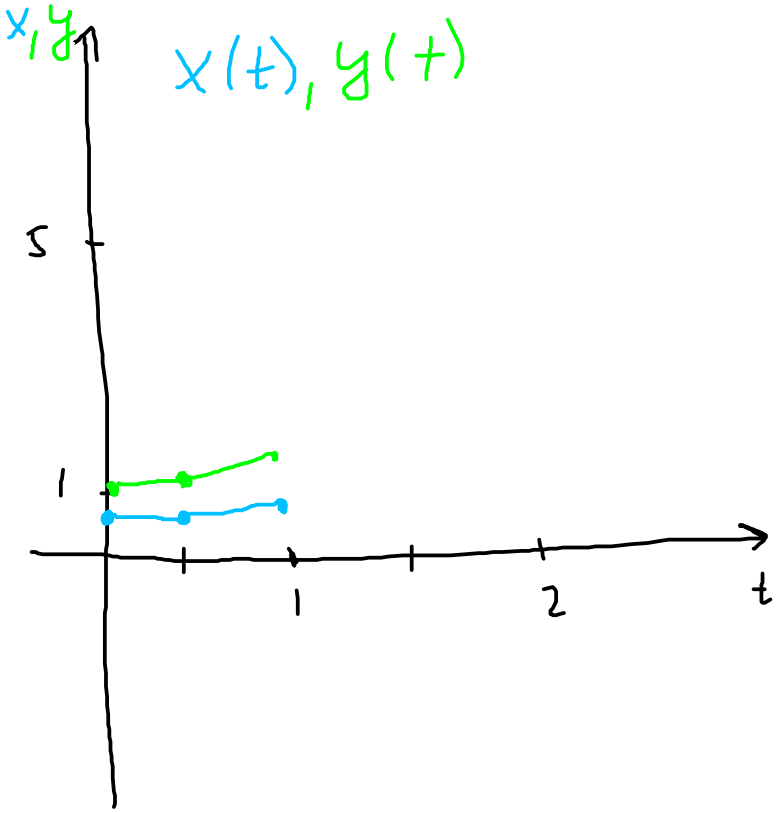
$h = 0.5 = 1/2$

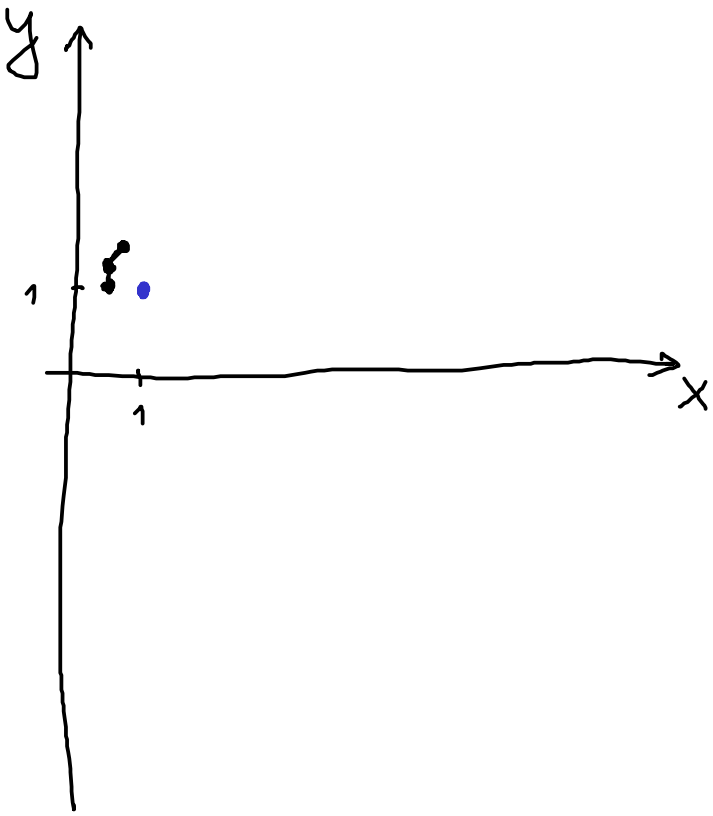
$t_0 = 0$

$x(t) = ?$

$y(t) = ?$

	(x)	(y)	postp
$t = 0$	$\frac{1}{2} = x_0$	$1 = y_0$	$x_1 = x_0 + \dot{x} \cdot h = x_1 = x_0 + (y_0^2 - 1) \cdot h = \frac{1}{2}$
			$y_1 = y_0 + \dot{y} \cdot h = 1 + \overbrace{\frac{1}{2}}^{(y_0 - x_0)} \cdot \frac{1}{2} = 5/4$
$t = 0.5$	$x_1 = 1/2$	$y_1 = 5/4$	$\dot{x} = \frac{9}{16}$, $\dot{y} = \frac{3}{4}$, $x_2 = \frac{1}{2} + \frac{9}{16} \cdot \frac{1}{2} = \frac{16+9}{32}$, $y_2 = \frac{5}{4} + \frac{3}{4} \cdot \frac{1}{2}$
$t = 1.0$	$x_2 = \frac{25}{32}$	$y_2 = \frac{13}{8}$	
	$3/4$	$\sim 3/2$	


x, y
x(t), y(t)
5
1
1
2
t


y
1
1
x

- $\frac{1}{2}\left[\frac{1}{3}+\frac{3}{3}+\frac{5}{3}\right]$

$x_3 = 3^2 - \frac{7}{2}$

- $y_p =$ . . . . $L =$ . . . . $A =$

zvolíme

$y_p = e^{2x} + 2x + 3$

$\vec{x}_{k+1} = B \cdot \vec{x}_k + \vec{c}$

$n \times n$

N

n^2

$N \cdot n^2$

$\uparrow$? ? ?

$N \sim 10$

n^2