$$P = \begin{pmatrix} 0 & 1 & 0 \\ 0 & 0 & 1 \\ 1 & 0 & 0 \end{pmatrix}$$

(b) $Ax = b \Leftrightarrow \underbrace{PA}_{LU} x = Pb$

1. Resolve $Ly = Pb$

2. " $Ux = y$

4. (a) $A = \begin{pmatrix} 14 & 7 & -1 \\ 7 & 6 & -2 \\ -1 & -2 & 2 \end{pmatrix}$, $b = \begin{pmatrix} 5,3 \\ 4,5 \\ 0 \end{pmatrix}$

$C = \begin{pmatrix} 0 & -0,5 & 0,0714 \\ -1,1667 & 0 & 0,3333 \\ 0,5 & 1 & 0 \end{pmatrix}$, $\beta = \begin{pmatrix} 0,3786 \\ 0,75 \\ 0 \end{pmatrix}$

$\alpha_3 = 1,5 > 1$

$\therefore$ criterio das linhas não é satisfeito

(b) Seja $x^{(0)} = \begin{pmatrix} 0 \\ 1 \\ 1 \end{pmatrix}$, $Ax^{(0)} = \begin{pmatrix} 6 \\ 4 \\ 0 \end{pmatrix}$

$\Rightarrow \|Ax^{(0)} - b\|_\infty = 0,7 < 1$

GJ:

$x^{(1)} = Cx^{(0)} + \beta = \begin{pmatrix} -0,05 \\ 1,0833 \\ 1 \end{pmatrix}$

$x^{(2)} = Cx^{(1)} + \beta = \begin{pmatrix} -0,0917 \\ 1,1417 \\ 1,0583 \end{pmatrix}$