(4) $A = \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 3 & 2 & 2 \end{pmatrix}$ Metoda de Crout

$L = \begin{pmatrix} L_{1,1} & 0 & 0 \\ L_{2,1} & L_{2,2} & 0 \\ L_{3,1} & L_{3,2} & L_{3,3} \end{pmatrix}$, $U = \begin{pmatrix} 1 & u_{1,2} & u_{1,3} \\ 0 & 1 & u_{2,3} \\ 0 & 0 & 1 \end{pmatrix}$

$L_{11} = 1$ $\quad u_{12} = \frac{2}{1} = 2$ $\quad L_{22} = 5 - 4 \cdot 2 = -3$

$L_{21} = 4$ $\quad u_{13} = \frac{3}{1} = 3$

$L_{31} = 3$ $\quad L_{32} = 2 - 3 \cdot 2 = -4$

$$u_{2,3} = \frac{a_{2,3} - L_{2,3} \cdot U_{2,3}}{L_{2,2}} = \frac{6 - 4 \cdot 3}{-3} = 2$$

$$L_{3,3} = a_{3,3} - (l_{3,1} \cdot U_{1,3} + L_{3,2} \cdot U_{2,3}) = 2 - (3 \cdot 3 + (-4) \cdot (2)) = 1$$

$L = \begin{pmatrix} 1 & 0 & 0 \\ 4 & -3 & 0 \\ 3 & -4 & 1 \end{pmatrix}$, $U = \begin{pmatrix} 1 & 2 & 3 \\ 0 & 1 & 2 \\ 0 & 0 & 1 \end{pmatrix}$ $LXU = \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 3 & 2 & 2 \end{pmatrix}$