

$$A := \begin{bmatrix} 2 & 4 & -2 & 6 \\ 1 & 5 & 5 & 0 \\ -1 & -1 & 7 & -3 \\ 4 & 17 & 10 & 1 \end{bmatrix}$$

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(1)

with (LinearAlgebra) :

(P, L, U) := LUDecomposition(A);

$$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}, \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{1}{2} & 1 & 0 & 0 \\ -\frac{1}{2} & \frac{1}{3} & 1 & 0 \\ 2 & 3 & -1 & 1 \end{bmatrix}, \begin{bmatrix} 2 & 4 & -2 & 6 \\ 0 & 3 & 6 & -3 \\ 0 & 0 & 4 & 1 \\ 0 & 0 & 0 & -1 \end{bmatrix}$$

(2)