

$$M, L, U := \begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{bmatrix}, \begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ \frac{37}{71} & 1 & 0 & 0 & 0 \\ -\frac{13}{71} & \frac{218}{95} & 1 & 0 & 0 \\ \frac{13}{71} & -\frac{2297}{475} & -\frac{65029}{13955} & 1 & 0 \\ -\frac{37}{71} & -\frac{1327}{475} & -\frac{9564}{13955} & -\frac{25692}{5693} & 1 \end{bmatrix}, \begin{bmatrix} 71 & 9 & -5 & 21 & -12 \\ 0 & -\frac{475}{71} & \frac{1747}{71} & -\frac{1274}{71} & -\frac{905}{71} \\ 0 & 0 & -\frac{2791}{95} & \frac{1522}{95} & \frac{39}{19} \\ 0 & 0 & 0 & \frac{5693}{2791} & -\frac{514619}{13955} \\ 0 & 0 & 0 & 0 & -\frac{1046824}{5693} \end{bmatrix}$$

(1)

$$b := \begin{bmatrix} 236 \\ 30 \\ -241 \\ 244 \\ 2 \end{bmatrix}$$

(2)

$$y := LinearSolve(L, b)$$

$$y := \begin{bmatrix} 236 \\ -\frac{6602}{71} \\ \frac{1481}{95} \\ -\frac{491847}{2791} \\ -\frac{5234120}{5693} \end{bmatrix}$$

(3)

$$x := LinearSolve(U, y)$$

$$x := \begin{bmatrix} 3 \\ 1 \\ 2 \\ 4 \\ 5 \end{bmatrix}$$

(4)