

Extra exercise. Let A be the matrix

$$\begin{bmatrix} 1 & 5 & 3 \\ 2 & 6 & 2 \\ 4 & 8 & 4 \\ 3 & 7 & 1 \end{bmatrix}.$$

Compute the LU -factorization of A . Use this factorization to solve the 2 equations $Ax = b_1$ and $Ax = b_2$ for

$$b_1 = \begin{bmatrix} 1 \\ 2 \\ 3 \\ 3 \end{bmatrix} \quad \text{and} \quad b_2 = \begin{bmatrix} 4 \\ 5 \\ 6 \\ 6 \end{bmatrix}.$$