

① solve the following systems $Ax = b$ by Gaussian elimination without pivoting. check that $A = LU$.

a) $A = \begin{bmatrix} 1 & 1 & -1 \\ 1 & 2 & -2 \\ -2 & 1 & 1 \end{bmatrix}$ $b = \begin{bmatrix} 1 \\ 0 \\ 1 \end{bmatrix}$