Homework 2

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1 Problem 1

Using the LU decomposition to calculate:

$$\begin{bmatrix} 6 & -2 & 2 & 4 \\ 12 & -8 & 6 & 10 \\ 3 & -13 & 9 & 3 \\ -6 & 4 & 1 & -18 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{bmatrix} = \begin{bmatrix} 12 \\ 34 \\ 27 \\ -38 \end{bmatrix}$$

2 Problem 2 (may be the homework 3)

$$A = \begin{bmatrix} 1 & -2 \\ -3 & 4 \end{bmatrix}$$

Find $\|A\|_\infty, \|A\|_1, \|A\|_2$.