Task for lecture 1

Consider the equation

$$\mathbf{A} * \mathbf{x} = \mathbf{b} \tag{1}$$

where

$$\mathbf{A} = \begin{bmatrix} 1 & 2 & 3 \\ 2 & -4 & 6 \\ 3 & -9 & -3. \end{bmatrix} \tag{2}$$

and

$$\mathbf{b} = \begin{bmatrix} 5 \\ 18 \\ 6 \end{bmatrix} \tag{3}$$

- Solve equation 1(for $\mathbf{x}$) using LU decomposition (using the source code from NR3)
- Hint: You can download the "Lecture1.cpp" to get a starting point.
- Print the Solutions and relevant information from the calculations.
- Hint: You may download and include the "utilities.h" header file.