Lab 3 Assignment

Due on 5/22 at noon on Blackboard.

Submit your m-files and a diary showing how you tested the code. Submit the m-files for `forward`, `backward`, and `mySolve`, but not `MYLU`.

Write a function `forward.m` to solve $n \times n$ lower triangular systems and a function `backward.m` to solve $n \times n$ upper triangular systems. Then write a function `mySolve.m` to solve $n \times n$ systems (under the assumption that elimination can be performed without row exchanges). Use `MYLU.m` from last week's assignment. Test your code on $A\mathbf{x} = \mathbf{b}$ with

$$
A = \begin{pmatrix}
1 & -5 & -4 & -9 & 5 \\
-3 & 0 & 4 & -1 & 0 \\
-8 & -3 & -9 & -3 & -2 \\
8 & -8 & -6 & 9 & 5 \\
4 & 7 & -4 & 0 & -3
\end{pmatrix}, \qquad
\mathbf{b} = \begin{pmatrix}
-9 \\
-4 \\
7 \\
6 \\
-2
\end{pmatrix}.
$$

Check to see if your answer is correct.

Note: If you do not have a working `MYLU.m`, you can email me.