Homework #1

- Textbook: 1.2.16, 1.2.17, 1.2.18, 1.2.19, 1.2.20, 1.3.4, 1.3.17.

- Programming:

  1. Write a function in Matlab that takes as input the number $n$, an $n \times n$ upper triangular matrix $G$, and an $n$-component column vector $b$, and returns as output the solution of $G\vec{y} = \vec{b}$, using back substitution, and the number of flops used. Use only programming basics.
    
    (a) Write out or print out your program.
    
    (b) Create cases of your choice with $n = 100, 200, 400$ to run your function. Write down the number of flops used in each case.
    
    (c) What lines in the program can you change if $G$ were lower triangular instead of upper triangular?