Homework #7

- Textbook: 1.8.4, 1.8.7, 1.8.9, 1.8.10, 1.8.27.

- Programming:

  1. (a) Write a function that takes as input
      - dimension $n$;
      - $n \times n$ matrix $A$;
      and calculates the $LU$ factorization of $A$, stored in a single matrix overwriting $A$, and outputs the number of flops used. Write out or print out your function and turn it in.

     (b) Run the case with on $n \times n$ matrices with value $n$ on the diagonal and $-1$ for all other elements, for $n = 25, 50, 100, 200$. Write out or print out your results.