In your written documentation, explain how to use your programs to solve Ax = b using methods described on page 68 of the textbook (5):

A. Factorization: LU = A
B. fwdSubst to solve for y in Ly = b
C. backSubst to solve for x in Ux = y.

For A:

We need to solve A=LU

L is a lower triangular matrix, and U is an upper triangular matrix.

Firstly, we calculates the elimination matrix and its inverse, which is M_k and L_k. the input is square matrix and pivot index.

Then we apply elimination to U and accumulate L to get L and U

For B:

We need to solve Ly=b

L is the lower triangular matrix and b is the right hand side vector

For C:

We need to solve Ux=y

U is the upper triangular matrix and b is the right hand side vector

A=[[1,2,2],[4,4,2],[4,6,4]]; b=[3,6,10]

So we have A and b; then use myLU to decompose the matrix, and solve Ly=b through fwdSubst, solve Ux=y through backSubst