

Problem2

1. This function is designed to solve a linear equation by using Gaussian-elimination.

First we have to check A is $n \times n$ matrix. If it is not, error occurs.

Also, we have to check b is vector($n \times 1$)

2. We have to combine A and b.
3. Next, we have to make REF form. To do this, we use for loop.

We have to create pivot.

To create pivot, we have to check $A(i,i)$ is 0. If it is 0, we have to swap.

Also, for convenience, we make pivot one.

Non-zero elements below the pivot are eliminated by performing row operations.

4. Finally, we do back substitution for finding x. We use for loop again. However, the order of index is different because we starts to find x from $x(n)$