```
>> % 2.2 Exerciss 2 (a) (b) (c)
>> A = [3, 1, 2; 6, 3, 4; 3, 1, 5]

A =

     3     1     2
     6     3     4
     3     1     5

>> [L, U] = LU_Factorization(A)

L =

     1     0     0
     2     1     0
     1     0     1


U =

     3     1     2
     0     1     0
     0     0     3

>> A == L * U

ans =

     1     1     1
     1     1     1
     1     1     1

>> L * U

ans =

     3     1     2
     6     3     4
     3     1     5

>> A = [4, 2, 0; 4, 4, 2; 2, 2, 3];
>> [L, U] = LU_Factorization(A)

L =

    1.0000         0         0
    1.0000    1.0000         0
    0.5000    0.5000    1.0000


U =
```

```
     4     2     0
     0     2     2
     0     0     2

>> A == L * U

ans =

     1     1     1
     1     1     1
     1     1     1

>> A = [1, -1, 1, 2; 0, 2, 1, 0; 1, 3, 4, 4; 0, 2, 1, -1];
>> [L, U] = LU_Factorization(A)

L =

     1     0     0     0
     0     1     0     0
     1     2     1     0
     0     1     0     1


U =

     1    -1     1     2
     0     2     1     0
     0     0     1     2
     0     0     0    -1

>> A == L * U

ans =

     1     1     1     1
     1     1     1     1
     1     1     1     1
     1     1     1     1

>>
```