

Gauss-Jordan

```
>> A=[35 46 46;57 57 57;9 32 9]
```

```
>> B=Gauss_Jordan(A)
```

```
=>
```

```
B =
```

```
    0.0286    0.0734         0
   -0.0112   -0.0069    0.0435
    0.0112   -0.0490   -0.0435
```

```
>> A=magic(5)
```

```
=>
```

```
A =
```

```
    17    24     1     8    15
    23     5     7    14    16
     4     6    13    20    22
    10    12    19    21     3
    11    18    25     2     9
```

```
>> B=Gauss_Jordan(A)
```

```
=>
```

```
B =
```

```
    0.0566    0.0517   -0.0338    0.0012    0.0034
   -0.0010   -0.0363    0.0132    0.0127    0.0015
   -0.0236    0.0033    0.0074    0.0031    0.0364
    0.0239   -0.0033    0.0716    0.0435   -0.0370
   -0.0072    0.0010   -0.0215   -0.0450    0.0111
```

```
>> A=[1 2 3;1 2 3;1 2 3]
```

```
!!! Det(A)=0
```

```
=> B =
```

```
NaN NaN NaN
NaN NaN NaN
NaN NaN NaN
```

Inversarea matricilor triunghiulare

```
>> A=[1 2 3;0 4 5; 0 0 6]
```

```
A =
```

```
1 2 3
0 4 5
0 0 6
```

```
>> A1=InvTriSup(A)
```

```
A1 =
```

```
1.0000 -0.5000 -0.0833
0 0.2500 -0.2083
0 0 0.1667
```

```
>> A*A1
```

```
ans =
```

```
1 0 0
0 1 0
0 0 1
```

```
>> B=[1 0 0;2 3 0;4 5 6]
```

```
B =
```

```
1 0 0
2 3 0
4 5 6
```

```
>> B1=InvTriInf(B)
```

```
B1 =
```

```
1.0000 0 0
-0.6667 0.3333 0
-0.1111 -0.2778 0.1667
```

```
>> B*B1
```

ans =

1	0	0
0	1	0
0	0	1

Factorizare Crout

```
>> A=[1 2 3;4 5 6;7 8 9]
```

A =

1	2	3
4	5	6
7	8	9

```
>> LU=Crout(A)
```

LU =

1	2	3
4	-3	2
7	-6	0

```
>> A=[4 2 6 ; 3 7 5; 7 3 7]
```

A =

4	2	6
3	7	5
7	3	7

```
>> LU=Crout(A)
```

LU =

4.0000	0.5000	1.5000
3.0000	5.5000	0.0909
7.0000	-0.5000	-3.4545

Kirchoff

```
>> R=[30 -10;-10 70]
```

R =

$$\begin{bmatrix} 30 & -10 \\ -10 & 70 \end{bmatrix}$$

```
>> e= [20;0]
```

e =

$$\begin{bmatrix} 20 \\ 0 \end{bmatrix}$$

```
>> Ri=Gauss_Jordan(R)
```

Ri =

$$\begin{bmatrix} 0.0350 & 0.0050 \\ 0.0050 & 0.0150 \end{bmatrix}$$

```
>> I=Ri*e
```

I =

$$\begin{bmatrix} 0.7000 \\ 0.1000 \end{bmatrix}$$

```
>> R=[30 -10 0;-10 50 -20;0 -20 60]
```

R =

$$\begin{bmatrix} 30 & -10 & 0 \\ -10 & 50 & -20 \\ 0 & -20 & 60 \end{bmatrix}$$

```
>> Ri=Gauss_Jordan(R)
```

Ri =

```
0.0333  0.0083  0.0028
0  0.0250  0.0083
0  0.0083  0.0194
```

```
>> E=[36;0;0]
```

```
E =
```

```
36
0
0
```

```
>> I=Ri'*E
```

```
I =
```

```
1.2000
0
0
```

Modelul Leontief

```
>> A=[0.1 0.2 0.1;0.4 0.2 0.2; 0.2 0.3 0.5]
```

```
A =
```

```
0.1000  0.2000  0.1000
0.4000  0.2000  0.2000
0.2000  0.3000  0.5000
```

```
>> B=[92 69 115]'
```

```
B =
```

```
92
69
115
```

```
>> I=eye(3)
```

```
I =
```

```
1  0  0
0  1  0
0  0  1
```

```
>> Inv=Gauss_Jordan(I-A)
```

```
Inv =
```

```
1.2271  0.5652  0.5217
0.2126  1.8696  0.9565
0.6184  1.3478  2.7826
```

```
>> P=Inv*B
```

```
P =
```

```
211.8889
258.5556
469.8889
```