

```
>> A=[2.11 -4.21 0.921 2.01; 4.01 10.2 -1.12 -3.09; 1.09 0.987 0.832 4.21]
```

```
2.1100 -4.2100 0.9210 2.0100  
4.0100 10.2000 -1.1200 -3.0900  
1.0900 0.9870 0.8320 4.2100
```

store this data in a file
call it file.dat

```
>> alg061
```

This is Gaussian Elimination to solve a linear system.

The array will be input from a text file in the order:

```
A(1,1), A(1,2), ..., A(1,N+1),  
A(2,1), A(2,2), ..., A(2,N+1),  
..., A(N,1), A(N,2), ..., A(N,N+1)
```

Place as many entries as desired on each line, but separate entries with at least one blank.

Has the input file been created? - enter Y or N.

y

Input the file name in the form - drive:\name.ext

for example: A:\DATA.DTA

D:\Courceses\471\pro\alg061.dat

Input the number of equations - an integer.

3

Choice of output method:

1. Output to screen
2. Output to text file

Please enter 1 or 2.

1

GAUSSIAN ELIMINATION

The reduced system - output by rows:

```
2.11000000 -4.21000000 0.92100000 2.01000000  
0.00000000 18.20099526 -2.87033649 -6.90995261  
0.00000000 0.00000000 0.85485086 4.37203950
```

Has solution vector:

```
-0.42800441 0.42690323 5.11438861
```

with 0 row interchange(s)

```
>> alg062
```

This is Gaussian Elimination with Partial Pivoting.

The array will be input from a text file in the order:

```
A(1,1), A(1,2), ..., A(1,N+1)  
A(2,1), A(2,2), ..., A(2,N+1),  
..., A(N,1), A(N,2), ..., A(N,N+1)
```

Place as many entries as desired on each line, but separate entries with at least one blank.

Has the input file been created? - enter Y or N.

y

Input the file name in the form - drive:\name.ext

for example: A:\DATA.DTA

D:\Courceses\471\pro\alg061.dat

Input the number of equations - an integer.

3

Choice of output method:

1. Output to screen
2. Output to text file

Please enter 1 or 2.

1

GAUSSIAN ELIMINATION - PARTIAL PIVOTING

The reduced system - output by rows:

0.00000000 -9.57708229 1.51032668 3.63591022
4.01000000 10.20000000 -1.12000000 -3.09000000
0.00000000 0.00000000 0.85485086 4.37203950

Has solution vector:

-0.42800441 0.42690323 5.11438861

with 1 row interchange(s)

The rows have been logically re-ordered to:

2 1 3

>> alg063

This is Gauss Elimination with Scaled Partial Pivoting.

The array will be input from a text file in the order:

A(1,1), A(1,2), ..., A(1,N+1),

A(2,1), A(2,2), ..., A(2,N+1),

..., A(N,1), A(N,2), ..., A(N,N+1)

Place as many entries as desired on each line, but separate entries with at least one blank.

Has the input file been created? - enter Y or N.

y

Input the file name in the form - drive:\name.ext

for example: A:\DATA.DTA

D:\Cources\471\pro\alg061.dat

Input the number of equations - an integer.

3

Choice of output method:

1. Output to screen
2. Output to text file

Please enter 1 or 2

1

GAUSSIAN ELIMINATION WITH SCALED PARTIAL PIVOTING

The reduced system - output by rows:

0.00000000 -6.12061468 -0.68956881 -6.13963303
0.00000000 0.00000000 -4.92092116 -25.16750311
1.09000000 0.98700000 0.83200000 4.21000000

Has solution vector:

-0.42800441 0.42690323 5.11438861

with 2 row interchange(s)

The rows have been logically re-ordered to:

3 1 2

