

Jacobi Method:

Matrix 1:

3	0	4
7	4	2
-1	1	2

Condition number for Matrix 1: 4.84024e+00

Resultant x:

1.0e+50 \*  
  
0.5506  
6.8198  
-3.9686

Iterations: 1000

Error: 6.202610e+50

Matrix 2:

-3	3	-6
-4	7	-8
5	7	-9

Condition number for Matrix 2: 1.18191e+01

Resultant x:

-0.0234  
-0.1111  
-0.2105

Iterations: 53

Error: 9.387287e-06

Matrix 3:

4	1	1
2	-9	0
0	-8	-6

Condition number for Matrix 3: 4.08954e+00

Resultant x:

0.2877  
-0.0472  
-0.1038

Iterations: 15

Error: 2.840698e-06

Matrix 4:

7	6	9
4	5	-4
-7	-3	8

Condition number for Matrix 4: 5.97711e+00

Resultant x:

-0.3061  
0.4723  
0.0343

Iterations: 26

Error: 5.567300e-06

Matrix 5:

-18	3	4
2	20	7
7	5	-35

Matrix 5:

-18	3	4
2	20	7
7	5	-35

Condition number for Matrix 5: 2

Resultant x:

-0.0512

0.0654

-0.0295

Iterations: 8

Error: 4.304810e-06

Gauss-Seidel Method:

Matrix 1:

3	0	4
7	4	2
-1	1	2

Condition number for Matrix 1: 4.84024e+00

Resultant x:

1.0e+199 \*

-1.0148  
1.3953  
-1.2050

Iterations: 1000

Error: 3.433534e+199

Matrix 2:

-3	3	-6
-4	7	-8
5	7	-9

Condition number for Matrix 2: 1.18191e+01

Resultant x:

1.0e+45 \*

1.4880  
0  
0.8267

Iterations: 1000

Error: 3.234153e+45

Matrix 3:

4	1	1
2	-9	0
0	-8	-6

Condition number for Matrix 3: 4.08954e+00

Resultant x:

0.2877  
-0.0472  
-0.1038

Iterations: 5

Error: 2.508236e-07

Matrix 4:

7	6	9
4	5	-4
-7	-3	8

Condition number for Matrix 4: 5.97711e+00

Resultant x:

-0.3061  
0.4723  
0.0343

Iterations: 46

Error: 5.595262e-06

Matrix 5:

-18	3	4
2	20	7
7	5	-35

Condition number for Matrix 5: 2.20467e+00

Resultant x:

-0.0512
0.0654
-0.0295

Iterations: 6

Error: 1.859950e-06