

Console

A =

120.	80.	40.	- 16.
80.	120.	16.	- 40.
40.	16.	120.	- 80.
- 16.	- 40.	- 80.	120.

Modified A =

120.	80.	40.	- 16.
0.6666667	66.666667	- 10.666667	- 29.333333
0.3333333	- 0.16	104.96	- 79.36
- 0.1333333	- 0.44	- 0.7560976	44.956098

L =

1.	0.	0.	0.
0.6666667	1.	0.	0.
0.3333333	- 0.16	1.	0.
- 0.1333333	- 0.44	- 0.7560976	1.

U =

120.	80.	40.	- 16.
0.	66.666667	- 10.666667	- 29.333333
0.	0.	104.96	- 79.36
0.	0.	0.	44.956098

After 1 iterations, matrix A =

188.80	80.64	52.10	-16.00
44.80	81.28	11.51	-29.33
45.57	18.12	164.96	-79.36
-5.99	-19.78	-33.99	44.96

Modified A =

188.8	80.64	52.097561	- 16.
0.2372881	62.145085	- 0.8499380	- 25.536723
0.2413559	- 0.0215326	152.37155	- 76.048176
- 0.0317487	- 0.2771011	- 0.2137715	21.114936

L =

1.	0.	0.	0.
----	----	----	----

```

0.2372881  1.      0.      0.
0.2413559 - 0.0215326  1.      0.
- 0.0317487 - 0.2771011 - 0.2137715  1.

```

U =

```

188.8  80.64      52.097561 - 16.
0.      62.145085 - 0.8499380 - 25.536723
0.      0.      152.37155 - 76.048176
0.      0.      0.      21.114936

```

After 2 iterations, matrix A =

```

221.02      83.95      55.52      -16.00
15.35      69.24      4.61      -25.54
39.19      17.79      168.63     -76.05
-0.67      -5.85      -4.51      21.11

```

Modified A =

```

221.01695  83.951824  55.517904 - 16.
0.0694603  63.408319  0.7527925 - 24.425358
0.1773176  0.0458291  158.74967 - 72.091702
- 0.0030331 - 0.0882587 - 0.0269540  16.967496

```

L =

```

1.      0.      0.      0.
0.0694603  1.      0.      0.
0.1773176  0.0458291  1.      0.
- 0.0030331 - 0.0882587 - 0.0269540  1.

```

U =

```

221.01695  83.951824  55.517904 - 16.
0.      63.408319  0.7527925 - 24.425358
0.      0.      158.74967 - 72.091702
0.      0.      0.      16.967496

```

After 3 iterations, matrix A =

```

236.74      87.91      55.95      -16.00
4.61      65.60      1.41      -24.43
28.37      13.64      160.69     -72.09
-0.05      -1.50      -0.46      16.97

```

Modified A =

236.7411	87.908298	55.949168	- 16.
0.0194809	63.886036	0.3212129	- 24.113663
0.1198262	0.0485921	153.97305	- 69.002749
- 0.0002174	- 0.0231415	- 0.0028430	16.209817

L =

1.	0.	0.	0.
0.0194809	1.	0.	0.
0.1198262	0.0485921	1.	0.
- 0.0002174	- 0.0231415	- 0.0028430	1.

U =

236.7411	87.908298	55.949168	- 16.
0.	63.886036	0.3212129	- 24.113663
0.	0.	153.97305	- 69.002749
0.	0.	0.	16.209817

After 4 iterations, matrix A =

245.16	91.00	55.99	-16.00
1.29	64.46	0.39	-24.11
18.47	9.08	154.17	-69.00
-0.00	-0.38	-0.05	16.21

Modified A =

245.16129	90.997251	55.994656	- 16.
0.0052549	63.981492	0.0955238	- 24.029586
0.0753178	0.0347756	149.94851	- 66.962022
- 0.0000144	- 0.0058425	- 0.0002982	16.049223

L =

1.	0.	0.	0.
0.0052549	1.	0.	0.
0.0753178	0.0347756	1.	0.
- 0.0000144	- 0.0058425	- 0.0002982	1.

U =

245.16129	90.997251	55.994656	- 16.
0.	63.981492	0.0955238	- 24.029586
0.	0.	149.94851	- 66.962022
0.	0.	0.	16.049223

After 5 iterations, matrix A =

249.86	93.04	56.00	-16.00
0.34	64.13	0.10	-24.03
11.29	5.61	149.97	-66.96
-0.00	-0.09	-0.00	16.05

Modified A =

249.85709	93.037978	55.999428	- 16.
0.0013758	63.997205	0.0256463	- 24.007573
0.0452048	0.0218761	147.43647	- 65.713553
- 0.0000009	- 0.0014638	- 0.0000319	16.011971

L =

1.	0.	0.	0.
0.0013758	1.	0.	0.
0.0452048	0.0218761	1.	0.
- 0.0000009	- 0.0014638	- 0.0000319	1.

U =

249.85709	93.037978	55.999428	- 16.
0.	63.997205	0.0256463	- 24.007573
0.	0.	147.43647	- 65.713553
0.	0.	0.	16.011971

After 6 iterations, matrix A =

252.52	94.29	56.00	-16.00
0.09	64.03	0.03	-24.01
6.66	3.32	147.44	-65.71
-0.00	-0.02	-0.00	16.01

Modified A =

252.51655	94.286447	55.999938	- 16.
0.0003534	63.999592	0.0066231	- 24.001919
0.0263939	0.0130147	145.96042	- 64.978873
- 5.854D-08	- 0.0003661	- 0.0000035	16.002957

L =

1.	0.	0.	0.
0.0003534	1.	0.	0.
0.0263939	0.0130147	1.	0.

- 5.854D-08 - 0.0003661 - 0.0000035 1.

U =

252.51655	94.286447	55.999938	- 16.
0.	63.999592	0.0066231	- 24.001919
0.	0.	145.96042	- 64.978873
0.	0.	0.	16.002957

After 7 iterations, matrix A =

254.03	95.02	56.00	-16.00
0.02	64.01	0.01	-24.00
3.85	1.92	145.96	-64.98
-0.00	-0.01	-0.00	16.00

Modified A =

254.02793	95.021127	55.999993	- 16.
0.0000897	63.999942	0.0016818	- 24.000483
0.0151655	0.0075371	145.11136	- 64.55533
- 3.688D-09	- 0.0000915	- 0.0000004	16.000735

L =

1.	0.	0.	0.
0.0000897	1.	0.	0.
0.0151655	0.0075371	1.	0.
- 3.688D-09	- 0.0000915	- 0.0000004	1.

U =

254.02793	95.021127	55.999993	- 16.
0.	63.999942	0.0016818	- 24.000483
0.	0.	145.11136	- 64.55533
0.	0.	0.	16.000735

After 8 iterations, matrix A =

254.89	95.44	56.00	-16.00
0.01	64.00	0.00	-24.00
2.20	1.10	145.11	-64.56
-0.00	-0.00	-0.00	16.00

Modified A =

254.88572	95.44467	55.999999	- 16.
-----------	----------	-----------	-------

```

0.0000226  63.999992  0.0004237 - 24.000121
0.0086340  0.0043056  144.62788 - 64.31385
- 2.315D-10 - 0.0000229 - 4.173D-08  16.000183

```

L =

```

1.      0.      0.      0.
0.0000226  1.      0.      0.
0.0086340  0.0043056  1.      0.
- 2.315D-10 - 0.0000229 - 4.173D-08  1.

```

U =

```

254.88572  95.44467  55.999999 - 16.
0.      63.999992  0.0004237 - 24.000121
0.      0.      144.62788 - 64.31385
0.      0.      0.      16.000183

```

After 9 iterations, matrix A =

```

255.37      95.69      56.00      -16.00
0.00      64.00      0.00      -24.00
1.25      0.62      144.63      -64.31
-0.00      -0.00      -0.00      16.00

```

Modified A =

```

255.37139  95.68615  56.      - 16.
0.0000057  63.999999  0.0001063 - 24.00003
0.0048898  0.0024421  144.35405 - 64.177004
- 1.451D-11 - 0.0000057 - 4.616D-09  16.000046

```

L =

```

1.      0.      0.      0.
0.0000057  1.      0.      0.
0.0048898  0.0024421  1.      0.
- 1.451D-11 - 0.0000057 - 4.616D-09  1.

```

U =

```

255.37139  95.68615  56.      - 16.
0.      63.999999  0.0001063 - 24.00003
0.      0.      144.35405 - 64.177004
0.      0.      0.      16.000046

```

After 10 iterations, matrix A =

255.65	95.82	56.00	-16.00
0.00	64.00	0.00	-24.00
0.71	0.35	144.35	-64.18
-0.00	-0.00	-0.00	16.00

Modified A =

255.64576	95.822996	56.	- 16.
0.0000014	64.	0.0000266	- 24.000008
0.0027611	0.0013798	144.19943	- 64.09971
- 9.079D-13	- 0.0000014	- 5.116D-10	16.000011

L =

1.	0.	0.	0.
0.0000014	1.	0.	0.
0.0027611	0.0013798	1.	0.
- 9.079D-13	- 0.0000014	- 5.116D-10	1.

U =

255.64576	95.822996	56.	- 16.
0.	64.	0.0000266	- 24.000008
0.	0.	144.19943	- 64.09971
0.	0.	0.	16.000011

After 11 iterations, matrix A =

255.80	95.90	56.00	-16.00
0.00	64.00	0.00	-24.00
0.40	0.20	144.20	-64.10
-0.00	-0.00	-0.00	16.00

Modified A =

255.80052	95.90029	56.	- 16.
0.0000004	64.	0.0000067	- 24.000002
0.0015565	0.0007781	144.11227	- 64.056132
- 5.679D-14	- 0.0000004	- 5.676D-11	16.000003

L =

1.	0.	0.	0.
0.0000004	1.	0.	0.
0.0015565	0.0007781	1.	0.
- 5.679D-14	- 0.0000004	- 5.676D-11	1.

U =

255.80052	95.90029	56.	- 16.
0.	64.	0.0000067	- 24.000002
0.	0.	144.11227	- 64.056132
0.	0.	0.	16.000003

After 12 iterations, matrix A =

255.89	95.94	56.00	-16.00
0.00	64.00	0.00	-24.00
0.22	0.11	144.11	-64.06
-0.00	-0.00	-0.00	16.00

Modified A =

255.88772	95.943868	56.	- 16.
8.930D-08	64.	0.0000017	- 24.
0.0008766	0.0004383	144.06318	- 64.031589
- 3.551D-15	- 8.941D-08	- 6.301D-12	16.000001

L =

1.	0.	0.	0.
8.930D-08	1.	0.	0.
0.0008766	0.0004383	1.	0.
- 3.551D-15	- 8.941D-08	- 6.301D-12	1.

U =

255.88772	95.943868	56.	- 16.
0.	64.	0.0000017	- 24.
0.	0.	144.06318	- 64.031589
0.	0.	0.	16.000001

After 13 iterations, matrix A =

255.94	95.97	56.00	-16.00
0.00	64.00	0.00	-24.00
0.13	0.06	144.06	-64.03
-0.00	-0.00	-0.00	16.00

Modified A =

255.93682	95.968411	56.	- 16.
2.234D-08	64.	0.0000004	- 24.
0.0004934	0.0002467	144.03555	- 64.017773

- 2.220D-16 - 2.235D-08 - 6.998D-13 16.

L =

1. 0. 0. 0.
 2.234D-08 1. 0. 0.
 0.0004934 0.0002467 1. 0.
 - 2.220D-16 - 2.235D-08 - 6.998D-13 1.

U =

255.93682 95.968411 56. - 16.
 0. 64. 0.0000004 - 24.
 0. 0. 144.03555 - 64.017773
 0. 0. 0. 16.

After 14 iterations, matrix A =

255.96 95.98 56.00 -16.00
 0.00 64.00 0.00 -24.00
 0.07 0.04 144.04 -64.02
 -0.00 -0.00 -0.00 16.00

Modified A =

255.96445 95.982227 56. - 16.
 5.586D-09 64. 0.0000001 - 24.
 0.0002777 0.0001388 144.02 - 64.009999
 - 1.388D-17 - 5.588D-09 - 7.774D-14 16.

L =

1. 0. 0. 0.
 5.586D-09 1. 0. 0.
 0.0002777 0.0001388 1. 0.
 - 1.388D-17 - 5.588D-09 - 7.774D-14 1.

U =

255.96445 95.982227 56. - 16.
 0. 64. 0.0000001 - 24.
 0. 0. 144.02 - 64.009999
 0. 0. 0. 16.

After 15 iterations, matrix A =

255.98 95.99 56.00 -16.00

0.00	64.00	0.00	-24.00
0.04	0.02	144.02	-64.01
-0.00	-0.00	-0.00	16.00

Modified A =

255.98	95.990001	56.	- 16.
1.397D-09	64.	2.607D-08	- 24.
0.0001562	0.0000781	144.01125	- 64.005625
- 8.673D-19	- 1.397D-09	- 8.636D-15	16.

L =

1.	0.	0.	0.
1.397D-09	1.	0.	0.
0.0001562	0.0000781	1.	0.
- 8.673D-19	- 1.397D-09	- 8.636D-15	1.

U =

255.98	95.990001	56.	- 16.
0.	64.	2.607D-08	- 24.
0.	0.	144.01125	- 64.005625
0.	0.	0.	16.

After 16 iterations, matrix A =

255.99	95.99	56.00	-16.00
0.00	64.00	0.00	-24.00
0.02	0.01	144.01	-64.01
-0.00	-0.00	-0.00	16.00

Modified A =

255.98875	95.994375	56.	- 16.
3.492D-10	64.	6.519D-09	- 24.
0.0000879	0.0000439	144.00633	- 64.003164
- 5.421D-20	- 3.492D-10	- 9.595D-16	16.

L =

1.	0.	0.	0.
3.492D-10	1.	0.	0.
0.0000879	0.0000439	1.	0.
- 5.421D-20	- 3.492D-10	- 9.595D-16	1.

U =

255.98875	95.994375	56.	- 16.
0.	64.	6.519D-09	- 24.
0.	0.	144.00633	- 64.003164
0.	0.	0.	16.

After 17 iterations, matrix A =

255.99	96.00	56.00	-16.00
0.00	64.00	0.00	-24.00
0.01	0.01	144.01	-64.00
-0.00	-0.00	-0.00	16.00

Modified A =

255.99367	95.996836	56.	- 16.
8.731D-11	64.	1.630D-09	- 24.
0.0000494	0.0000247	144.00356	- 64.00178
- 3.388D-21	- 8.731D-11	- 1.066D-16	16.

L =

1.	0.	0.	0.
8.731D-11	1.	0.	0.
0.0000494	0.0000247	1.	0.
- 3.388D-21	- 8.731D-11	- 1.066D-16	1.

U =

255.99367	95.996836	56.	- 16.
0.	64.	1.630D-09	- 24.
0.	0.	144.00356	- 64.00178
0.	0.	0.	16.

After 18 iterations, matrix A =

256.00	96.00	56.00	-16.00
0.00	64.00	0.00	-24.00
0.01	0.00	144.00	-64.00
-0.00	-0.00	-0.00	16.00

Modified A =

255.99644	95.99822	56.	- 16.
2.183D-11	64.	4.074D-10	- 24.
0.0000278	0.0000139	144.002	- 64.001001
- 2.118D-22	- 2.183D-11	- 1.184D-17	16.

L =

1.	0.	0.	0.
2.183D-11	1.	0.	0.
0.0000278	0.0000139	1.	0.
- 2.118D-22	- 2.183D-11	- 1.184D-17	1.

U =

255.99644	95.99822	56.	- 16.
0.	64.	4.074D-10	- 24.
0.	0.	144.002	- 64.001001
0.	0.	0.	16.

After 19 iterations, matrix A =

256.00	96.00	56.00	-16.00
0.00	64.00	0.00	-24.00
0.00	0.00	144.00	-64.00
-0.00	-0.00	-0.00	16.00

Modified A =

255.998	95.998999	56.	- 16.
5.457D-12	64.	1.019D-10	- 24.
0.0000156	0.0000078	144.00113	- 64.000563
- 1.323D-23	- 5.457D-12	- 1.316D-18	16.

L =

1.	0.	0.	0.
5.457D-12	1.	0.	0.
0.0000156	0.0000078	1.	0.
- 1.323D-23	- 5.457D-12	- 1.316D-18	1.

U =

255.998	95.998999	56.	- 16.
0.	64.	1.019D-10	- 24.
0.	0.	144.00113	- 64.000563
0.	0.	0.	16.

After 20 iterations, matrix A =

256.00	96.00	56.00	-16.00
0.00	64.00	0.00	-24.00
0.00	0.00	144.00	-64.00

-0.00 -0.00 -0.00 16.00

Therefore the eigenvalues are the diagonal elements of the transformed triangular matrix:

256.00, 64.00, 144.00, 16.00,