Введите размерность матрицы - n(от 4 до 50):

8

Введите K (целое число):

3

Сгенерированная матрица А:

[[ 2 0 7 -8 -7 9 -4 8]

[ -5 3 8 -1 8 3 0 -3]

[ -8 -6 5 -5 -1 -9 -10 5]

[ 0 -5 2 0 1 7 8 -6]

[ 5 5 3 -2 3 3 6 5]

[ -3 3 -5 3 -7 8 -2 3]

[ 6 -8 -10 4 2 -10 -7 -7]

[ 7 2 5 3 1 7 0 -8]]

Матрица F до преобразований:

[[ 2 0 7 -8 -7 9 -4 8]

[ -5 3 8 -1 8 3 0 -3]

[ -8 -6 5 -5 -1 -9 -10 5]

[ 0 -5 2 0 1 7 8 -6]

[ 5 5 3 -2 3 3 6 5]

[ -3 3 -5 3 -7 8 -2 3]

[ 6 -8 -10 4 2 -10 -7 -7]

[ 7 2 5 3 1 7 0 -8]]

Матрица F после преобразований:

[[ 2 0 7 -8 3 3 6 5]

[ -5 3 8 -1 -7 8 -2 3]

[ -8 -6 5 -5 2 -10 -7 -7]

[ 0 -5 2 0 1 7 0 -8]

[ 5 5 3 -2 -7 9 -4 8]

[ -3 3 -5 3 8 3 0 -3]

[ 6 -8 -10 4 -1 -9 -10 5]

[ 7 2 5 3 1 7 8 -6]]

Транспонированная матрица А:

[[ 2 -5 -8 0 5 -3 6 7]

[ 0 3 -6 -5 5 3 -8 2]

[ 7 8 5 2 3 -5 -10 5]

[ -8 -1 -5 0 -2 3 4 3]

[ -7 8 -1 1 3 -7 2 1]

[ 9 3 -9 7 3 8 -10 7]

[ -4 0 -10 8 6 -2 -7 0]

[ 8 -3 5 -6 5 3 -7 -8]]

Нижняя треугольная матрица G:

[[ 2 0 0 0 0 0 0 0]

[ -5 3 0 0 0 0 0 0]

[ -8 -6 5 0 0 0 0 0]

[ 0 -5 2 0 0 0 0 0]

[ 5 5 3 -2 3 0 0 0]

[ -3 3 -5 3 -7 8 0 0]

[ 6 -8 -10 4 2 -10 -7 0]

[ 7 2 5 3 1 7 0 -8]]

Обратная матрица F:

[[ 2.01549499e-03 -6.42803200e-02 2.74279095e-02 -1.12756819e-02

6.77482978e-02 -8.72867839e-03 1.67471242e-02 6.12257737e-02]

[-5.50427283e-02 -6.92053237e-02 3.74364950e-02 -6.94935969e-02

8.71755660e-02 2.52679860e-02 -6.77153284e-02 1.56812709e-02]

[ 4.77272054e-02 1.10993461e-01 6.16292496e-02 -7.11892706e-02

-2.78103194e-02 4.22749952e-02 6.74311668e-02 1.16262354e-01]

[ 1.42290166e-04 1.55966018e-01 -8.09376920e-03 -7.33177094e-02

-9.60346818e-02 6.24325403e-02 1.01408041e-01 1.10545449e-01]

[ 7.12271258e-02 4.03842270e-02 3.80807316e-02 -3.73607402e-02

-1.29586525e-02 1.17596899e-01 6.08188143e-02 5.95405442e-02]

[ 1.40733635e-02 1.84522966e-02 -3.18273882e-02 6.78525488e-02

1.40491821e-02 2.59727490e-02 3.07270616e-04 -2.63822338e-02]

[ 1.15599957e-02 -6.35873653e-03 -6.90623166e-02 1.10289694e-02

-7.64254789e-02 -6.17877263e-02 -3.54802956e-02 -2.82523168e-02]

[ 6.75510903e-02 9.21954805e-02 -3.10793702e-02 -4.46629319e-02

-5.07641058e-02 3.22020253e-02 6.70510855e-02 3.62290749e-03]]

Финальный результат:

[[ 1.19939535e+01 -1.48071590e+01 -2.40822837e+01 3.38270456e-02

1.47967551e+01 -8.97381396e+00 1.79497586e+01 2.08163227e+01]

[-1.48348718e+01 1.82076160e+01 -1.81123095e+01 -1.47915192e+01

1.47384733e+01 8.92419604e+00 -2.37968540e+01 5.95295619e+00]

[-3.14318162e+00 5.66701962e+00 2.98151123e+01 6.21356781e+00

9.08343096e+00 -1.51268250e+01 -3.02022935e+01 1.46512129e+01]

[-2.40004269e+01 -1.84678981e+01 -8.97571869e+00 2.19953128e-01

-5.71189595e+00 8.81270238e+00 1.16957759e+01 8.66836365e+00]

[-6.21368138e+00 3.88788473e+01 5.88575781e+00 -2.88791778e+00

1.80388760e+01 -2.13527907e+01 5.81754356e+00 2.82137837e+00]

[ 1.79577799e+01 1.79446431e+01 -4.19045178e+01 2.97964424e+01

-1.20421475e+01 4.79220818e+01 -3.00009218e+01 2.10791467e+01]

[ 5.96532001e+00 -2.39809238e+01 -5.97928131e+01 3.59669131e+01

2.42292764e+01 -3.58146368e+01 -4.18935591e+01 8.47569504e-02]

[ 4.47973467e+01 -3.27658644e+00 3.00932381e+01 -8.86601120e+00

1.81522923e+01 2.99033939e+01 -2.12011533e+01 -4.80108687e+01]]

Время работы программы: 0.0030188560485839844 секунд

Process finished with exit code 0