

EX.2.2.8, Sauer3

Assume that your computer can solve a 2000×2000 linear system $Ax = b$ in 0.1 second. Estimate the time required to solve 100 systems of 8000 equations in 8000 unknowns with the same coefficient matrix, using the LU factorization method.

Clarification: Please assume that the 100 systems all have the same coefficient matrix A , but different right hand sides. So we want to solve 100 problems $Ax = b_1, \dots, Ax = b_{100}$. (Same A , 100 different b 's.)