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## EX.2.2.8, Sauer3

Assume that your computer can solve a  $2000 \times 2000$  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.

<u>Clarification:</u> 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  $Ax = b_1, \ldots, Ax = b_{100}$ . (Same A, 100 different b's.)