Step-1

4764-1.7-11P AID: 124

RID: 175

A small pivot forces a practical change in elimination. Normally we compare each pivot with all possible pivots in the same column. Exchanging rows to obtain the largest possible pivot is called partial pivoting.

A large pivot is multiplied by less than 1 in eliminating each entry below it.

An extreme case, with multipliers = 1 and pivots = $\frac{1}{2}, \frac{1}{2}, 4$ is

$$A = \begin{pmatrix} \frac{1}{2} & \frac{1}{2} & 1 \\ -\frac{1}{2} & 0 & 1 \\ -\frac{1}{2} & -1 & 1 \end{pmatrix}$$