Step-1

4764-1.5-20E AID: 124

RID: 175 | 3/15/12

l_{21} = One time row 1 is subtracted from row 2 to make $\begin{bmatrix} 1 & 1 & 5 \\ 1 & 2 & 7 \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 1 & 5 \\ 0 & 1 & 2 \end{bmatrix}$

Step-2

The reverse step is adding l_{21}= one time row 1 to row 2 to make $L = \begin{pmatrix} 1 & 0 \\ 1 & 1 \end{pmatrix}$ in an identity matrix.

Step-3

$Ax = b \Rightarrow LUx = b$

So,

A = LU

Step-4

A = LDU