$Lz = Pb$

$b = \begin{bmatrix} 2 \\ -2 \\ 1 \end{bmatrix}$

$Pb = \begin{bmatrix} 0 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 0 & 0 \end{bmatrix} \begin{bmatrix} 2 \\ -2 \\ 1 \end{bmatrix} = \begin{bmatrix} 1 \\ -2 \\ 2 \end{bmatrix}$

$\begin{bmatrix} 1 & 0 & 0 \\ -\frac{3}{5} & 1 & 0 \\ -\frac{1}{5} & \frac{2}{11} & 1 \end{bmatrix} \begin{bmatrix} y_1 \\ y_2 \\ y_3 \end{bmatrix} = \begin{bmatrix} 2 \\ -2 \\ 1 \end{bmatrix}$

$y_1 = 2$ ✓

$-\frac{3}{5} y_1 + y_2 = 1$

$y_2 = 1 + \frac{3}{5} 2 = \frac{5}{5} + \frac{6}{5} = \frac{11}{5} = y_2$

$-\frac{1}{5} \cdot 2 + \frac{2}{11} \cdot \frac{11}{5} + y_3 = -2$

$y_3 = -2 + \frac{2}{5} - \frac{2}{5} = -2 = y_3$ ✓

$\begin{bmatrix} 1 & 0 & 0 \\ \frac{3}{5} & 1 & 0 \\ \frac{1}{5} & -\frac{2}{11} & 1 \end{bmatrix} \begin{bmatrix} 2 \\ -2 \\ 1 \end{bmatrix} + \begin{bmatrix} -1+6-6 \\ -4+12-2 \\ -4+8-4 \end{bmatrix} = \begin{bmatrix} -1 \\ 6 \\ 10 \end{bmatrix}$

$-1 + 2 \cdot 3 + (-1) \cdot 2 = -1 + 6 - 6$

$Ux = y \longrightarrow \begin{bmatrix} -5 & 2 & -1 \\ 0 & \frac{11}{5} & \frac{27}{5} \\ 0 & 0 & \frac{20}{11} \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} 2 \\ \frac{11}{5} \\ -2 \end{bmatrix}$

$\frac{20}{11} x_3 = -2$

$x_3 = -\frac{11}{20} \cdot 2 = -\frac{22}{20} = -\frac{11}{10} = x_3$

$\frac{11}{5} x_2 + \frac{27}{5} x_3 = \frac{11}{5}$

$x_2 = \left(\frac{11}{5} + \frac{27}{5} \frac{11}{10} \right) \frac{5}{11} = 3.7 = x_2$

$-5 x_1 + 2 x_2 - x_3 = 2$

$x_1 = (2 - 2x_2 + x_3) \cdot \left(-\frac{1}{5}\right)$

$= (2 - 2(3.7) - \frac{11}{10}) \cdot \left(-\frac{1}{5}\right)$

$= 1.3 = x_3$

$-\frac{1}{5} y_1 + \frac{6}{11} y_2 + y_3 = -2$

$y_3 = -2 + \frac{2}{5} - \frac{2}{5}$

$= -2$ ✓

$-5 \cdot (1.3) + 2 \cdot (3.7) + \left(\frac{11}{10}\right) =$

S. P.
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