$$AB\left(\begin{array}{cccc|c} 5_{11} & 7_{12} & 6_{13} & 5_{14} & 23_{15} \\ 7_{21} & 10_{22} & 8_{23} & 7_{24} & 32_{25} \\ 6_{31} & 8_{32} & 10_{33} & 9_{34} & 33_{35} \\ 5_{41} & 7_{42} & 9_{43} & 10_{41} & 31_{45} \end{array}\right)$$

$i = (1; n-1)$

$j = (i; n+1)$

$k = (i+1; 4)$

1 строка ведущая $(i = 1)$:

$\tilde{a}_{11} = 1 \quad a_{12} = \frac{7}{5} \quad \tilde{a}_{13} = \frac{6}{5} \quad \tilde{a}_{14} = 1 \quad \tilde{a}_{15} = \frac{23}{5}$

ведомые:

$\tilde{a}_{21} = 7 - 1 \cdot 7 = 0 \quad \tilde{a}_{22} = 10 - \frac{7}{5} \cdot 7 = \frac{1}{5} \quad \tilde{a}_{23} = 8 - \frac{6}{5} \cdot 7 = -\frac{2}{5}$

$\tilde{a}_{24} = 7 - 1 \cdot 7 = 0 \quad \tilde{a}_{25} = 32 - \frac{23}{5} \cdot 7 = -\frac{1}{5}$

$\tilde{a}_{31} = 6 - 1 \cdot 6 = 0 \quad \tilde{a}_{32} = 8 - \frac{7}{5} \cdot 6 = -\frac{2}{5}$

$\tilde{a}_{33} = 10 - \frac{6}{5} \cdot 6 = \frac{14}{5}$

$\tilde{a}_{34} = 9 - 6 \cdot 1 = 3 \quad \tilde{a}_{35} = 33 - \frac{23}{5} \cdot 6 = \frac{27}{5}$

$\tilde{a}_{41} = 5 - 1 \cdot 5 = 0 \quad \tilde{a}_{42} = 7 - 5 \cdot \frac{7}{5} = 0 \quad \tilde{a}_{43} = 9 - 5 \cdot \frac{6}{5} = 3$

$\tilde{a}_{44} = 10 - 5 \cdot 1 = 5 \quad \tilde{a}_{45} = 31 - \frac{23}{5} \cdot 5 = 8$

перепишем:

$$\left(\begin{array}{cccc|c} 1 & \frac{7}{5} & \frac{6}{5} & 1 & \frac{23}{5} \\ 0 & \frac{1}{5} & -\frac{2}{5} & 0 & -\frac{1}{5} \\ 0 & -\frac{2}{5} & \frac{14}{5} & 3 & \frac{27}{5} \\ 0 & 0 & 3 & 5 & 8 \end{array}\right)$$

2 строка ведущая $(i = 2)$:

$\tilde{a}_{22} = 1 \quad \tilde{a}_{23} = -\frac{2}{5} \cdot \frac{5}{1} = -2 \quad \tilde{a}_{24} = 0 \quad \tilde{a}_{25} = -1$

ведомые:

$\tilde{a}_{32} = -\frac{2}{5} - \left(-\frac{2}{5}\right) \cdot 1 = 0 \quad \tilde{a}_{33} = \frac{14}{5} - \left(-\frac{2}{5}\right) \cdot -2 = 2 \quad \tilde{a}_{34} = 3 - \left(-\frac{2}{5}\right) \cdot 0 = 3$

$\tilde{a}_{35} = \frac{27}{5} - (-1)\left(-\frac{2}{5}\right) = 5$

$\tilde{a}_{42} = 0$ $\quad \tilde{a}_{43} = 3$ $\quad \tilde{a}_{44} = 5$ $\quad \tilde{a}_{45} = 8$

переписали:

$$\left(\begin{array}{cccc|c} 1 & \frac{7}{5} & \frac{6}{5} & 1 & \frac{23}{5} \\ 0 & 1 & -2 & 0 & -1 \\ 0 & 0 & 2 & 3 & 5 \\ 0 & 0 & 3 & 5 & 8 \end{array}\right)$$

3 строка ведущая ($i = 3$):

$\tilde{a}_{33} = 1$ $\quad \tilde{a}_{34} = \frac{3}{2}$ $\quad \tilde{a}_{35} = \frac{5}{2}$

ведомая:

$\tilde{a}_{43} = 0$ $\quad \tilde{a}_{44} = 5 - 3 \cdot \frac{3}{2} = \frac{1}{2}$

$\tilde{a}_{44} = 5 - 3 \cdot \frac{3}{2}$

$\tilde{a}_{43} = 3 - 3 \cdot 1 = 0$ $\quad \tilde{a}_{44} = 5 - 3 \cdot \frac{3}{2} = \frac{1}{2}$

$\tilde{a}_{45} = 8 - 3 \cdot \frac{5}{2} = \frac{1}{2}$

переписали:

$$\left(\begin{array}{cccc|c} 1 & \frac{7}{5} & \frac{6}{5} & 1 & \frac{23}{5} \\ 0 & 1 & -2 & 0 & -1 \\ 0 & 0 & 1 & \frac{3}{2} & \frac{5}{2} \\ 0 & 0 & 0 & 1/2 & 1/2 \end{array}\right)$$

Обратный ход:

$x_4 = \frac{1}{2} \cdot \frac{2}{1} = 1$

$x_3 = \tilde{a}_{35} - \left(\frac{3}{2} \cdot x_4 + \ldots\right)$

$x_3 = \frac{5}{2} - \frac{3}{2} \cdot \ldots$

$x_3 = \frac{2}{2} = 1$

$x_2 = -1 - (0 \cdot x_4 - 2 \cdot x_3)$

$x_2 = -1 - 0 + 2 = 1$

$x_1 = \frac{23}{5} - \left(1 \cdot x_4 + \frac{6}{5} \cdot x_3 + \frac{7}{5} x_2\right) =$

$= \frac{23}{5} - \frac{5 + 6 + 7}{5} = \frac{5}{5} = 1$

Ответ: $x_1 = 1$

$x_2 = 1$

$x_3 = 1$

$x_4 = 1$