9.2

$$U_v = \gamma$$

$$\begin{bmatrix} v_1 & c_1 & 0 & 0 \\ 0 & v_2 & c_2 & 0 \\ 0 & 0 & v_3 & c_3 \\ 0 & 0 & 0 & v_4 \end{bmatrix} \begin{bmatrix} u_1 \\ u_2 \\ u_3 \\ u_4 \end{bmatrix} = \begin{bmatrix} \gamma_1 \\ \gamma_2 \\ \gamma_3 \\ \gamma_4 \end{bmatrix}$$

$$v_4 u_4 = \gamma_4$$

$$v_3 u_3 + c_3 u_4 = \gamma_3$$

$$v_2 u_2 + c_2 u_3 = \gamma_2$$

$$v_1 u_1 + c_1 u_2 = \gamma_1$$

$$u_4 = \frac{\gamma_4}{v_4}$$

$$u_3 = \frac{1}{v_3}\left(\gamma_3 - c_3 u_4\right)$$

$$u_2 = \frac{1}{v_2}\left(\gamma_2 - c_2 u_3\right)$$

$$u_1 = \frac{1}{v_1}\left(\gamma_1 - c_1 u_2\right)$$

$n = 4,$
4 DIVIDES,
3 MULT'S,
3 SUB'S

$\longrightarrow$ n DIVIDES,
$n-1$ MULTIPLICATIONS,
$n-1$ SUBTRACTIONS

FOR BACK. SUB., THE
OPERATION COUNT IS
$$O(n)$$