9.2 $Uv = y$

$$\begin{bmatrix} v_1 & c_1 & 0 & 0 \\ 0 & v_2 & c_2 & 0 \\ 0 & 0 & v_3 & c_3 \\ 0 & 0 & 0 & v_4 \end{bmatrix} \begin{bmatrix} v_1 \\ v_2 \\ v_3 \\ v_4 \end{bmatrix} = \begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \end{bmatrix}$$

$v_4 v_4 = y_4$

$v_3 v_3 + c_3 v_4 = y_3$

$v_2 v_2 + c_2 v_3 = y_2$

$v_1 v_1 + c_1 v_2 = y_1$

$$v_4 = \frac{y_4}{v_4}$$

$$v_3 = \frac{1}{v_3}(y_3 - c_3 v_4)$$

$$v_2 = \frac{1}{v_2}(y_2 - c_2 v_3)$$

$$v_1 = \frac{1}{v_1}(y_1 - c_1 v_2)$$

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

→ n DIVIDES,
$n-1$ MULTIPLICATIONS,
$n-1$ SUBTRACTIONS

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