
Exercise 1 Let $A = \begin{bmatrix} 1 & 2 \\ -1 & 1 \end{bmatrix}$ and $C = \begin{bmatrix} -1 & 1 \\ 2 & 1 \end{bmatrix}$. Find elementary matrices E_1 and E_2 such that $C = E_2 E_1 A$.

$$E_1 = \begin{bmatrix} \cdots & \cdots \\ \cdots & \cdots \end{bmatrix}; \quad E_2 = \begin{bmatrix} \cdots & \cdots \\ \cdots & \cdots \end{bmatrix}$$

Source

[Nicholson] W. Keith Nicholson, *Linear Algebra with Applications*, Lyryx 2021, Open Edition, Problem 2.5.3 (a).