

Show that the vectors

$$\begin{bmatrix} 1 \\ 2 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ 3 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ 4 \\ 1 \end{bmatrix}$$

do not span  $\mathbb{R}^3$  by giving a vector not in their span.

$$\begin{bmatrix} \phantom{0} \\ \phantom{0} \\ \phantom{0} \end{bmatrix}$$

Show that the vectors

$$\begin{bmatrix} 1 \\ 2 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ 3 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ 4 \\ 1 \end{bmatrix}$$

do not span  $\mathbb{R}^3$  by giving a vector not in their span.

$$\begin{bmatrix} \boxed{1} \\ \boxed{0} \\ \boxed{2} \end{bmatrix}$$