

Worksheet 5

Svadrut Kukunooru

October 7, 2021

0.0.1 Problem 1

Given the matrix

$$\begin{bmatrix} 3 & 1 & 2 \\ 2 & 1 & 2 \\ 1 & 2 & 2 \end{bmatrix}$$

Find the reduced row echelon form of the given matrix.

$$\begin{bmatrix} 3 & 1 & 2 \\ 2 & 1 & 2 \\ 1 & 2 & 2 \end{bmatrix} \rightarrow \begin{bmatrix} 2 & 1 & 2 \\ 3 & 1 & 2 \\ 1 & 2 & 2 \end{bmatrix} \rightarrow \begin{bmatrix} 2 & 1 & 2 \\ 1 & 0 & 0 \\ -1 & 1 & 0 \end{bmatrix} \rightarrow \begin{bmatrix} 2 & 1 & 2 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix} \rightarrow$$
$$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 2 & 1 & 2 \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 1 & 2 \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$