

o Augmented matrix

$$2x + y - z = 3$$

$$x + 5z = 1$$

$$-x + 3y - 2z = 0$$

coefficient matrix  $\begin{bmatrix} 2 & 1 & -1 \\ 1 & 0 & 5 \\ -1 & 3 & -2 \end{bmatrix}$

Augmented matrix  $\begin{bmatrix} 2 & 1 & -1 & 3 \\ 1 & 0 & 5 & 1 \\ -1 & 3 & -2 & 0 \end{bmatrix}$

Def. A matrix is in row echelon form if

1. Any rows consisting entirely of zeros are at the bottom