

$$\begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{bmatrix} = \begin{bmatrix} -\frac{1}{3}t - \frac{8}{3}s \\ -\frac{4}{3}t + \frac{1}{3}s \\ t \\ s \end{bmatrix}$$

$$\begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{bmatrix} = t \begin{bmatrix} -\frac{1}{3} \\ -\frac{4}{3} \\ 1 \\ 0 \end{bmatrix} + s \begin{bmatrix} -\frac{8}{3} \\ \frac{1}{3} \\ 0 \\ 1 \end{bmatrix}$$

Null space =  $\left\{ \left(-\frac{1}{3}, -\frac{4}{3}, 1, 0\right), \left(-\frac{8}{3}, \frac{1}{3}, 0, 1\right) \right\}$

*Ans*

Q Find a basis for the null space of

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