

Q 5 Basis: - Lin independent
- Span V

$$\left[\begin{array}{ccc|c} 7 & 6 & 1 & 0 \\ 1 & 0 & 1 & 0 \\ 1 & 2 & 0 & 0 \end{array} \right] \rightarrow \left[\begin{array}{ccc|c} 7 & 6 & 1 & 0 \\ 0 & 6 & 0 & 0 \\ 0 & -8 & 0 & 0 \end{array} \right] \rightarrow \left[\begin{array}{ccc|c} 1 & 6/7 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{array} \right] \rightarrow \left[\begin{array}{ccc|c} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{array} \right]$$

$$c_1 = 0$$

$$c_2 = 0$$

$$0 = 0$$

\therefore lin independent