

EXERC 6) S. (REPRESENTA A INTERSECÇÃO DE 4 HIPERPLANOS EM \mathbb{R}^4)

$$\begin{array}{c} \begin{array}{l} \downarrow -2 \\ \downarrow -1 \\ \downarrow -1 \end{array} \left[\begin{array}{cccc|c} 1 & 1 & 1 & 1 & 1 \\ 1 & -1 & 2 & 1 & 9 \\ 1 & 2 & 1 & -1 & -6 \\ 1 & 1 & -2 & 1 & 7 \end{array} \right] \rightarrow \begin{array}{c} 1 \downarrow \\ \downarrow -1 \end{array} \left[\begin{array}{cccc|c} 1 & 1 & 1 & 1 & 1 \\ 0 & -1 & -3 & 0 & 7 \\ 0 & 1 & 0 & -2 & -7 \\ 0 & 0 & -3 & 0 & 6 \end{array} \right] \rightarrow \left[\begin{array}{cccc|c} 1 & 1 & 1 & 1 & 1 \\ 0 & -1 & -3 & 0 & 7 \\ 0 & 0 & -3 & -2 & 0 \\ 0 & 0 & -3 & 0 & 6 \end{array} \right]$$

$$\frac{1}{2} \times \left[\begin{array}{cccc|c} 1 & 1 & 1 & 1 & 1 \\ 0 & -1 & -3 & 0 & 7 \\ 0 & 0 & -3 & -2 & 0 \\ 0 & 0 & 0 & 2 & 6 \end{array} \right] \rightarrow \left[\begin{array}{cccc|c} 1 & 1 & 1 & 1 & 1 \\ 0 & -1 & -3 & 0 & 7 \\ 0 & 0 & -3 & -2 & 0 \\ 0 & 0 & 0 & 1 & 3 \end{array} \right] \xrightarrow{-1} \left[\begin{array}{cccc|c} 1 & 1 & 1 & 0 & -2 \\ 0 & -1 & -3 & 0 & 7 \\ 0 & 0 & -3 & 0 & 6 \\ 0 & 0 & 0 & 1 & 3 \end{array} \right] \xrightarrow{-\frac{1}{3} \times}$$

NÃO HÁ EQS IMP
TODAS AS COLUNAS TÊM PIVOT } \Rightarrow PD

$$\rightarrow \left[\begin{array}{cccc|c} 1 & 1 & 1 & 0 & -2 \\ 0 & -1 & -3 & 0 & 7 \\ 0 & 0 & 1 & 0 & -2 \\ 0 & 0 & 0 & 1 & 3 \end{array} \right] \xrightarrow{-1} \left[\begin{array}{cccc|c} 1 & 1 & 0 & 0 & 0 \\ 0 & -1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & -2 \\ 0 & 0 & 0 & 1 & 3 \end{array} \right] \xrightarrow{(-1) \times} \left[\begin{array}{cccc|c} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & -1 \\ 0 & 0 & 1 & 0 & -2 \\ 0 & 0 & 0 & 1 & 3 \end{array} \right] \xrightarrow{-1} \left[\begin{array}{cccc|c} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & -1 \\ 0 & 0 & 1 & 0 & -2 \\ 0 & 0 & 0 & 1 & 3 \end{array} \right] \rightarrow \left[\begin{array}{cccc|c} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & -1 \\ 0 & 0 & 1 & 0 & -2 \\ 0 & 0 & 0 & 1 & 3 \end{array} \right]$$

$$\rightarrow \begin{cases} x_1 & = 1 \\ x_2 & = -1 \\ x_3 & = -2 \\ x_4 & = 3 \end{cases}$$

$$CS = \{(1, -1, -2, 3)\}$$