

$$\text{Min } 3x_3 + x_4 - x_5$$

$$\text{s.t. } x_3 + x_4 - x_5 \leq 1$$

$$2x_3 + 3x_4 - 3x_5 = 7$$

$$x_3, x_4, x_5 \geq 0$$

step 5° Transform inequalities into equalities:
add a new slack variable

$$\text{Min } 3x_3 + x_4 - x_5 + 0 \cdot s_1$$

$$\text{s.t. } x_3 + x_4 - x_5 + s_1 = 1$$

$$2x_3 + 3x_4 - 3x_5 = 7$$

$$x_3, x_4, x_5, s_1 \geq 0$$

$$c = \begin{pmatrix} 3 \\ 1 \\ -1 \\ 0 \end{pmatrix}$$

$$b = \begin{pmatrix} 1 \\ 7 \end{pmatrix}$$

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