

Tableaux

$$P = \{x \in \mathbb{R}^m \mid x \geq 0, xB \leq 1\}$$

$$B = \begin{pmatrix} 1 & 3 \\ 3 & 1 \end{pmatrix}$$

2 slack variables

$$\begin{aligned} x_1 &\geq 0 \\ x_2 &\geq 0 \\ x_1 + 3x_2 &\leq 1 \\ 3x_1 + x_2 &\leq 1 \end{aligned} \quad \begin{aligned} x_1 + 3x_2 + s_1 &= 1 \quad (s_1 \geq 0) \\ 3x_1 + x_2 + s_2 &= 1 \quad (s_2 \geq 0) \end{aligned}$$

for  $x_1, x_2, s_1, s_2 \geq 0$

$$\begin{aligned} x_1 + 3x_2 + s_1 &= 1 \\ 3x_1 + x_2 + s_2 &= 1 \end{aligned}$$

$$\rightarrow T_r = \begin{pmatrix} 1 & 3 & 1 & 0 & 1 \\ 3 & 1 & 0 & 1 & 1 \end{pmatrix}$$

$$T_r = (B^T \quad I \quad 1)$$

$$T_c = (I \quad A \quad 1)$$