

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

Drop label 0: "pivot column 0 from T_r "

minimum ratio test

$$\text{row 1 } \frac{1}{1} \quad \text{row 2 } \frac{1}{3}$$

pivot on row 2

$$T_r = \begin{pmatrix} 0 & 8 & 3 & -1 & 2 \\ 3 & 1 & 0 & 1 & 1 \end{pmatrix}$$

pivot 3 from T_c

ratio: $\frac{1}{1}, \frac{1}{3}, 2$

pivot on row 2

$$T_c = \begin{pmatrix} 2 & -8 & 0 & 2 \\ 0 & 1 & 1 & 3 \end{pmatrix}$$

pivot 1 from T_r

ratio: $\frac{1}{4}, \frac{1}{1}$

pivot on row 1

$$T_r = \begin{pmatrix} 0 & 8 & 3 & -1 & 2 \\ 24 & 0 & -3 & 9 & 6 \end{pmatrix}$$

pivot 2 from T_c

ratio: $\frac{1}{4}, \frac{1}{1}$

pivot on row 1

$$T_c = \begin{pmatrix} 3 & -1 & 8 & 0 & 2 \\ -3 & 9 & 0 & 24 & 6 \end{pmatrix}$$

S_1, S_2, X_1, X_2

$$0x_1 + 8x_2 = 2 \quad 8y_1 + 0y_2 = 2$$

$$24x_1 + 0x_2 = 6 \quad 0y_1 + 24y_2 = 6$$

$$(x_1, x_2) = \left(\frac{1}{4}, \frac{1}{4}\right) \quad (y_1, y_2) = \left(\frac{1}{4}, \frac{1}{4}\right)$$

Normalize:

$$NE: \left\{ \left(\frac{1}{2}, \frac{1}{2} \right), \left(\frac{1}{2}, \frac{1}{2} \right) \right\}$$