

The LP:

$$\max [0 \quad 1 \quad 3 \quad 0] x + 0$$

$$\begin{array}{l} \text{s.t.} \\ \begin{bmatrix} 1 & 1 & 2 & 0 \\ 0 & 1 & 1 & 1 \end{bmatrix} x = \begin{bmatrix} 2 \\ 5 \end{bmatrix} \\ x \geq \mathbb{O} \end{array}$$

Written in canonical form with the basis  $B = \{1, 3\}$  is:

$$\max [-1. \quad 0. \quad 1. \quad 0.] x + 2.0$$

$$\begin{array}{l} \text{s.t.} \\ \begin{bmatrix} 1. & 1. & 2. & 0. \\ -1. & 0. & -1. & 1. \end{bmatrix} x = \begin{bmatrix} 2. \\ 3. \end{bmatrix} \\ x \geq \mathbb{O} \end{array}$$