

Simplex

$$\textcircled{1} \quad x_1 + x_2 \geq 3$$

$$x_1 + x_2 - x_3 + \bar{x}_4 = 3 \Rightarrow \text{Two phase method}$$

$$\textcircled{2} \quad x_1 + x_2 \leq -3 \quad \leftarrow b \text{ must } \geq 0$$

$$-x_1 - x_2 \geq 3$$

$$-x_1 - x_2 - x_3 + \bar{x}_4 = 3 \Rightarrow \text{Two phase}$$

$$\textcircled{3} \quad x_1 \in \mathbb{R} \quad \leftarrow \text{free}$$

$$x_1 = x_2 - x_3, \quad$$

$$x_2, x_3 \geq 0$$

$$\textcircled{4} \text{ min matrix}$$

$$x^T$$

$$x_0 \quad A \quad B$$

$$C^T - C_0^T A \quad - C_0^T B$$

max max ix

x^T

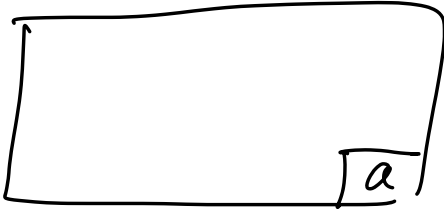
x_0

A

B

$$-C^T + C_0^T A \quad -C_0^T B$$

⑤ final value



$$z_{\min} = -a$$

$$z_{\max} = a$$