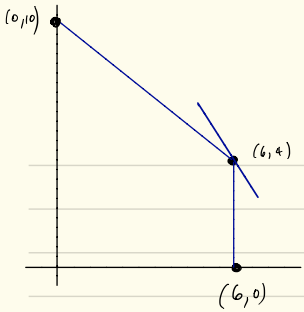

$$\max \quad x_2$$
$$\text{s.t.} \quad x_1 + x_2 \le 10$$
$$x_1 \le 6$$
$$3x_1 + 2x_2 \le 26$$

standard initial basis:

$$z - x_2 = 0$$
$$x_1 + x_2 + x_3 = 10$$
$$x_1 + x_4 = 6$$
$$3x_1 + 2x_2 + x_5 = 26$$

$x_3 = 10 \quad x_4 = 6 \quad x_5 = 26$

$z =$

x_1 enters → why? e.g. get initial basis with more original variables

$$z - x_2 = 0$$
$$x_2 + x_3 - x_4 = 4$$
$$x_1 + x_4 = 6$$
$$2x_2 - 3x_4 + x_5 = 8$$

$x_1 = 6 \quad x_3 = 4 \quad x_5 = 8$

$z = 0$

x_2 enters, x_3 leaves

$$z + x_3 - x_4 = 4$$
$$x_2 + x_3 - x_4 = 4$$
$$x_1 + x_4 = 6$$
$$-2x_3 - x_4 + x_5 = 0$$

$x_1 = 6 \quad x_2 = 4 \quad x_5 = 0$

$z = 4$

x_4 enters, x_5 leaves

$$z + x_3 - x_5 = 4$$
$$x_2 + 3x_3 - x_5 = 4$$
$$x_1 - 2x_3 + x_5 = 6$$
$$2x_3 + x_4 - x_5 = 0$$

$x_1 = 6 \quad x_2 = 4 \quad x_4 = 0$

$z = 4$

+ degenerate pivot!