Exception handling: unboundedness

Example. Maximize
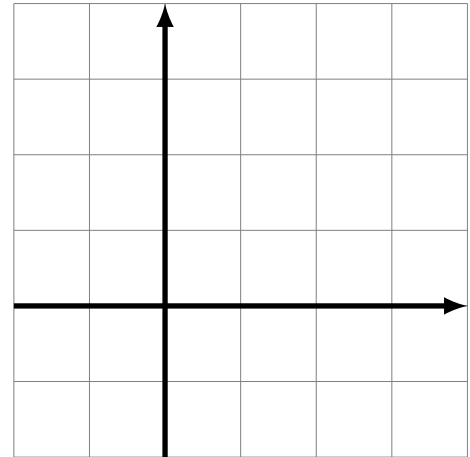
$$z = x_1$$

subject to:

$$x_1 - x_2 \leq 1$$
$$-x_1 + x_2 \leq 2$$
$$x_1,\ x_2 \geq 0$$

Exception handling: degeneracy

Example. Maximize

$$z = x_2$$

subject to:

$$-x_1 + x_2 \leq 0$$
$$x_1 \leq 2$$
$$x_1, \ x_2 \geq 0$$