11.6 $f(y) = \max_x y^T A x$

$g(x) = \min_y y^T A x$

goal $\Rightarrow \max_x g(x) = \min_y f(y)$

PR. ① the two LP problems are one the dual of the other

$\Rightarrow$ (w-D) $g(x) \le f(y) \quad \forall x, y$

② minimax THM $\Rightarrow \exists x^*, y^*$ s.t.

$f(y^*) = \max_x y^{*T} A x = \min_y y^T A x^*$

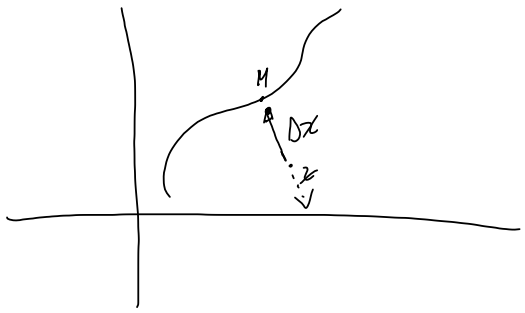
$= g(x^*)$

$\Rightarrow \max_x g(x) = \min_y f(y)$

$A x = b$

$x = inv(A) \cdot b$ NO

$x = A \backslash b$



~~$\bar{\vartheta} = \max\{\vartheta, 0\}$~~

$\vartheta = r\left(\max_{i,j} \left\{ -\frac{\Delta x_j}{x_j}, \dots, -\frac{\Delta z_j}{z_j} \right\}^{-1} \right)$

$\Delta x_j < 0$

$\Delta w_i < 0$

$\vdots$

$\Delta z_j < 0$

$\wedge 1$