

Primal-dual dictionary — I

If primal is a maximization:

Dual objective is a minimization

If primal constraint is $\left\{ \begin{array}{l} \leq \\ \geq \\ = \end{array} \right\}$ then dual variable is $\left\{ \begin{array}{l} \geq 0 \\ \leq 0 \\ \text{unrestricted} \end{array} \right\}$

If primal variable is $\left\{ \begin{array}{l} \geq 0 \\ \leq 0 \\ \text{unrestricted} \end{array} \right\}$ then dual constraint is $\left\{ \begin{array}{l} \geq \\ \leq \\ = \end{array} \right\}$

Primal-dual dictionary — II

If primal is a minimization:

Dual objective is a maximization

If primal constraint is $\left\{ \begin{array}{l} \leq \\ \geq \\ = \end{array} \right\}$ then dual variable is $\left\{ \begin{array}{l} \leq 0 \\ \geq 0 \\ \text{unrestricted} \end{array} \right\}$

If primal variable is $\left\{ \begin{array}{l} \geq 0 \\ \leq 0 \\ \text{unrestricted} \end{array} \right\}$ then dual constraint is $\left\{ \begin{array}{l} \leq \\ \geq \\ = \end{array} \right\}$