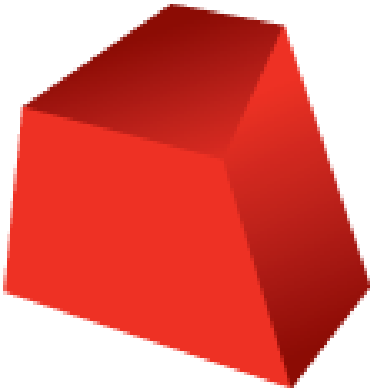

GUROBI

OPTIMIZATION

$x^T Q x + c^T x + \text{alpha}$

$$Ax = b$$

$$\ell \leq x \leq u$$

x_j

$$x^T Qc\, x + q^T x \leq \text{beta}$$

x_i

b

alpha

$$x[\text{resvar}] = \max\{\text{con}, x[j] : j \in \text{vars}\}$$

$$x[\text{resvar}] = \min\{\text{con}, x[j] : j \in \text{vars}\}$$

$$x[\text{resvar}] = |x[\text{argvar}]|$$

$$x[\text{resvar}] = \text{and}\{x[i] : i \in \text{vars}\}$$

$$x[\text{resvar}] = \text{or}\{x[i] : i \in \text{vars}\}$$

$x[\text{binvar}] = \text{binval} \Rightarrow \sum (x(j) \cdot \text{a}(j)) \;\; \text{sense rhs}$

$$\sum (x[\mathrm{vars}(j)] \cdot \mathrm{val}(j)) \;\; \mathrm{sense} \; \mathrm{rhs}$$

$$x[\mathrm{yvar}] = f(x[\mathrm{xvar}])$$

x

y

$$x[\text{yvar}] = p_0 x[\text{xvar}]^d + p_1 x[\text{xvar}]^{d-1} + \ldots + p_{d-1} x[\text{xvar}] + p_d$$

x^d

$d+1$

$x[\mathrm{yvar}] = \exp(x[\mathrm{xvar}])$

$$x[\mathrm{yvar}] = \mathrm{a}^{x[\mathrm{xvar}]}$$

$a > 0$

$$x[\text{yvar}] = \log(x[\text{xvar}])$$

$$x[\mathrm{yvar}] = \log(x[\mathrm{xvar}]) \setminus \log(a)$$

x[yvar] = x[xvar]a

$x[\mathrm{yvar}] = \sin(x[\mathrm{xvar}])$

$$x[\mathrm{yvar}] = \cos(x[\mathrm{xvar}])$$

$x[\mathrm{yvar}] = \tan(x[\mathrm{xvar}])$

$$|ObjBound - ObjVal|/|ObjVal|$$

ObjBound

$ObjVal$