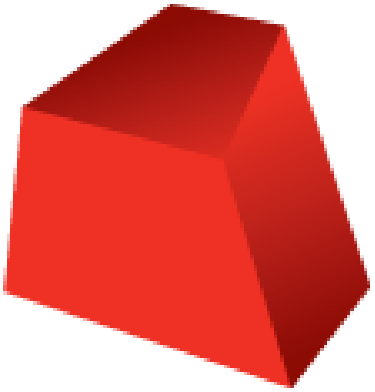

GUROBI

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

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

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

x[resvar] = |x[argvar]|

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

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

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

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

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

$x$

$y$

$$\mathrm{x[yvar]} = \mathrm{p}_0 x[\mathrm{xvar}]^d + p_1 x[\mathrm{xvar}]^{d-1} + \ldots + p_{d-1} x[\mathrm{xvar}] + p_d$$

$x^d$

$d+1$

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

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

$a > 0$

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

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

x[yvar] = sin(x[xvar])

x[yvar] = cos(x[xvar])

x[yvar] = tan(x[xvar])

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

ObjBound

$ObjVal$