OR 2 6-APR-2022

- IBM ILOG CPLEX

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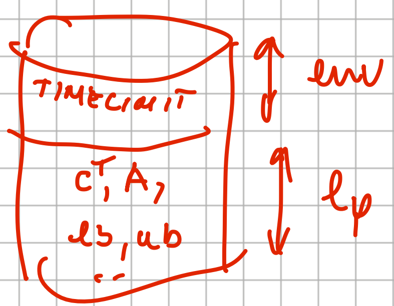
- ↳ GuRoBi
- FICO Xpress

$$\left\{ \begin{array}{l} \min \sum_{j=1}^{n} c_j x_j \\ Ax \begin{smallmatrix} \geq \\ = \\ \leq \end{smallmatrix} b \\ x_j \text{ integer}, \ \forall j \in J \\ lb_j \leq x_j \leq ub_j, \ \forall j = 1, \dots, n \end{array} \right.$$

→ integer
→ binary
⇝ continuous *

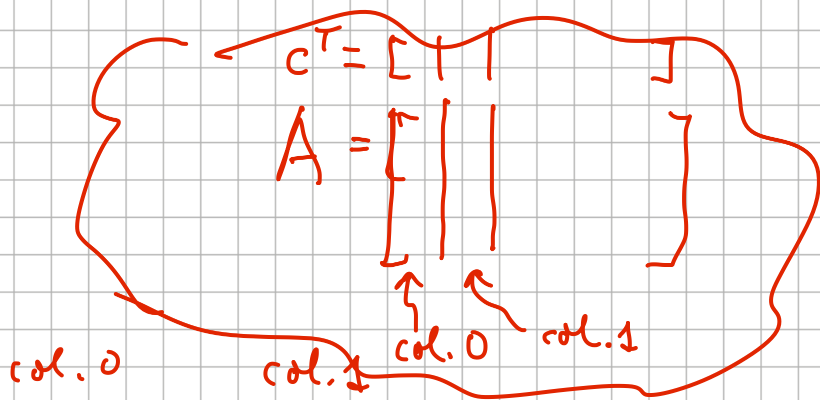
(env, lp)
↑ ↑



CPXmipopt(env, lp) ⇝ solve it!

xpos (i , j , inst)

CPLEX



$x(1,2) \cdot x(1,3)$ - - - -

MIP model (ILP model)

$$\min \sum_{e \in E} c_e x_e \qquad x_e \equiv x_{[i,j]} \quad (i < j)$$

$$\sum_{e \in \delta(h)} x_e = 2 \, , \qquad \forall h \in V$$

$$0 \le x_e \le 1 \text{ integer} \, , \qquad \forall e \in E$$

(lb_e → 0, ub_e → 1, integer → binary)

~~< SEC's >~~

collection of cycles