

Aðgerðagreining glósur

January 16, 2018

Dæmi úr kafla 1 í AMPL bók: Stálsmiðja

Vörur

Gögn

Framleiðslutími (tons per hour): Bands 200, Coils 140

Arðsemi (\$ per ton) : Bands \$25, Coils \$30

Vikurleg hámarks framleiðsla: Band 6000 einingar, coils 400 einingar

How many tons of bands and coils should be produced, given 40 hour production time per week to bring in the greatest profit?

Ákvarðanarbreitur

X_b : quantity of Bands to produce

C_c : quantity of coils to produce

Skorður

$$\frac{1}{200} * X_b + \frac{1}{140} * X_c \leq 40 \text{klst}$$

$$0 \leq X_B \leq 6000$$

$$0 \leq C_C \leq 4000$$

Leysum myndrænt

Maximize: $25X^B + 30X^C$

$$\frac{1}{200}X_B + \frac{1}{140}X^C \leq 40$$

$$0 \leq X_B \leq 6000$$

$$0 \leq X_C \leq 4000$$

Leisa algebruna

$$\frac{1}{200}X_B + \frac{1}{140}X_C = 40$$

$$X_B = 200(40) - \frac{20}{140}X_C$$

$$X_B = 8000 - 1.42X_C$$

AMPL

Gögn:

- set
- fasti, parameter, param
- var, breytur, var
- markfall, objective, maximize eða minimize
- Skorður, constrains, subject to

Skilgreining gagna:

- P set of products
- a_j = tons per hour of product j, for each j in P
- b = hours available at the mill
- c_j = profit per ton of product j, for each j in P
- u_j = maximize tons of product j, for each j in p
- Variable X_j = tons of product j to b made for each j in P

maximize $\sum^{j \in P} C_j X_j$
subject to $\sum^{j \in P} (\frac{1}{a_j}) X_j \leq b$ $0 \leq X_j \leq u_j, \forall j \in P$