

Homework 4 – Linear programming in excel

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COMPUTATIONAL ASPECTS OF OPTIMIZATION

Simple LP exercise

A company is involved in the production of two items (X and Y). The resources need to produce X and Y are twofold, namely machine time for automatic processing and craftsman time for hand finishing. The table below gives the number of minutes required for each item:

Item	Machine time	Craftsmen time
X	13	20
Y	19	29

The company has 40 hours of machine time available in the next working week but only 35 hours of craftsman time. Machine time is costed at \$10 per hour worked and craftsman time is costed at \$2 per hour worked. Both machine and craftsman idle times incur no costs. The revenue received for each item produced (all production is sold) is \$20 for X and \$30 for Y. The company has a specific contract to produce 10 items of X per week for a particular customer.

Homework 5

- ① Solve the exercise using excel by maximizing the profit. Use the add-in solver and simplex. You can start with the prepared template.
- ② Include a screen-shot of the solver with the excel file.