

ISS0030 Modeling and Optimization

Homework 1

Problems

1.1: A toy company manufactures two kinds of toys: a standard model and deluxe model. In the manufacturing process each standard model requires 2 hours of grinding and 2 hours of finishing, and each deluxe model needs 2 hours of grinding and 4 hours of finishing. The company has two grinders and three finishers, each of whom works at most 40 hours per week. Each standard model toy truck brings a profit of 3 EUR and each deluxe model a profit of 4 EUR. Assuming that every truck made will be sold, how many of each should be made to maximize profits? Solve this problem graphically and by Simplex method.