

Exercise sheet 5

The due date of the graded homework (Exercise 2) is December 7, 2011 **before** the exercise session starts. Solutions can also be sent by email to stephan@math.tu-berlin.de.

Exercise 1

(Depot Location Problem) This exercise is taken from Chapter 1 of the AIMMS Language Reference.

Consider the distribution of a single product from one or more depots to multiple customers. The objective is to select depots from a predefined set of possible depots (each with a given capacity) such that

- the demand of each customer is met,
- the capacity of each selected depot is not exceeded, and
- the total cost for both depot rental and transport to the customers is minimized.

The data for this problem is provided on the homepage of this course:

<http://www3.math.tu-berlin.de/Vorlesungen/WS11/gpe/>.

Task: Write up a mixed integer program for this problem and solve your model using AIMMS.

Graded homework

Exercise 2

(14 points) Solve the Frequency assignment problem from the lecture for the data provided on the homepage of this course. Use the MIP-formulation and solve the model with AIMMS. What is the smallest number of frequencies that are required to avoid conflicts?

Hint: For better understanding of the data file and easier modeling, read Chapters 3 and 5 of the AIMMS Language Reference.