Extra opgaven W9

1. We wish to schedule n jobs on m machines. Each job must be processed on each machine, and the machine order is fixed, that is, job j must first me processed on machine $j(1)$, then on machine $j(2)$, and so on. A machine can only process one job at a time, and once a job is started on any machine it must be processed to completion. The objective is to minimize the sum of the completion times of all the jobs. The input for the model is:

m:	number of machines
n:	number of jobs
p_{ij}:	the processing time of job j on machine i, $i = 1, \ldots, m, \; j = 1, \ldots, n$
$j(1), \ldots, j(m)$:	machine order for each job j

Model this problem as a linear integer optimization problem.

2. If $x \in \{0, 1\}^n$, what is implied by

    i. $x_i + x_j \leq 1$, and $x_i \leq x_j$?

    ii. $x_i + x_j \leq 1$, and $x_i + x_j \geq 1$?

    iii. $x_i \leq x_j$, and $x_j + x_k \leq 1$?

3. Bewijs Stelling 7.5 uit BK1-C9.pdf

4. Opgave 7.1 uit BK1-C9.pdf