KTH Mathematics

5B5860 INTEGER PROGRAMMING—PRACTICAL ALGORITHMS Spring 2006
Instructor: Anders Forsgren

Homework Assignment 1
Due Thursday April 6 2006

Exercise 1.1. Solve Exercise I.1.8.1 in *Integer and Combinatorial Optimization* with the additional constraint $x_1 + x_2 \geq 1$. (Page 22)

Exercise 1.2. Solve Exercise I.1.8.3 in *Integer and Combinatorial Optimization*. (Page 22)

Exercise 1.3. Solve Exercise I.1.8.20 in *Integer and Combinatorial Optimization*. (Page 26)

Exercise 1.4. Given a polyhedron $P = \{x : Ax \leq b\}$, give a practically useful procedure for determining an interior point of P if such a point exists, or otherwise concluding that no interior points exist.

Exercise 1.5. Solve Exercise I.4.8.1 in *Integer and Combinatorial Optimization*. (Page 109)

Exercise 1.6. Solve Exercise I.4.8.2 in *Integer and Combinatorial Optimization*. (Page 110)

Exercise 1.7. Solve Exercise I.4.8.6 in *Integer and Combinatorial Optimization*. (Page 110)

Exercise 1.8. Solve Exercise I.4.8.7 in *Integer and Combinatorial Optimization*. (Page 110)

Exercise 1.9. Solve Exercise I.4.8.11.i-ii in *Integer and Combinatorial Optimization*. (Page 112)

Exercise 1.10. Solve Exercise I.4.8.18 in *Integer and Combinatorial Optimization*. (Page 112)

Good luck!