COMP566   **Discrete Optimization - I**
Homework 3   **Due: Tuesday, Nov 2, 2004**

1. The last part of question 4, in Homework 1 required the solution of an integer program. Find the integer optimum solution via linear programming and Gomory's cutting plane algorithm. You may use any software you like to solve the LPs, but you should generate the cuts yourself. At each step give only the current optimum solution, the row of the dictionary you use to generate a cut, and the cut you generate. (You can stop after generating 10 cuts even if you do not find an integer solution).

2. Chvatal P. 238, problem 15.8. Include a proof of the claim that the given strategy is optimal for the row player.

3. Chvatal P. 239 problem 15.13. In particular relate the minimax theorem for the given game to the strong duality theorem for the given linear program. Prove the strong duality theorem for LPs in the form max cx, $Ax \leq b$, $x \geq 0$ from the minimax theorem.