Computer Methods in Operations Research - I

Homework 2 Due: October 1, 1998

You may use the Maple package to assist you in calculations, but you should make the decisions for entering and leaving variables yourself. List the pivots performed, and state which pivot rule you are using.

1. Find the dual of the Klee-Minty problem (4.3) on page 47. Solve the dual problem using the largest-coefficient rule. Is there any general relationship between the number of pivots required to solve the primal and dual Klee-Minty problems?

2. Find an economic interpretation of the dual variables for the diet problem(Chapter 1). Interpret the dual variables corresponding to the nutritional constraints (Energy, Protein etc.) and also for the upper bound constraints (1.1).

3. Solve the dual LP problems for each problem in Ex 3.9, p.44. In this way justify the answers you gave for this problem in Assignment 1.