

IE 2001: OPERATION RESEARCH

Homework Assignment 1: (Very!) Simple LP Models (Due: January 19, 2012)

Read Chapter 1 and also start to read Chapter 3 (you may skip Sections 3.2 and 3.3 for now). Then answer the following LP modeling questions – **you do not need to solve anything at this point**. These are very simple exercises that will allow you to get a feel for how you should go about building mathematical models. Next week, you will be assigned more challenging modeling exercises!

Make sure you **clearly** define all your decision variables.

1. Question 2, page 113 of the text (Farmer Jones...)
2. Question 4, page 71 of the text (Goldilocks...)
3. Question 4, page 55 of the text (Truckco...)
4. Suppose you have \$1000 to invest in stocks and bonds. Each \$1 invested in stocks yields a profit of 10 cents, while each dollar invested in bonds yields a profit of 15 cents. At least 30% of all money invested must be in stocks, while at least \$400 must be invested in bonds. Formulate an LP to maximize total profits.