Session 7 $\qquad$ Advanced Linear Programming I

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1. Section 3.11 Problem 4

   - x_i bond i — sell
   - y_i bond i — buy
   - s_i slack in the ith year

   Objective Function:

   $$\max \quad 990x_1 + 985x_2 + 972x_3 + 954x_4 - 980y_1 - 970y_2 - 960y_3 - 940y_4$$

   s.t.

   $$100x_1 + 80x_2 + 70x_3 + 60x_4 + s_1 = 100y_1 + 80y_2 + 70y_3 + 60y_4$$

   $$0.9(110x_1 + 90x_2 + 80x_3 + 50x_4) + s_2 = 0.9(110y_1 + 90y_2 + 80y_3 + 50y_4) + s_1$$

   $$0.81(1100x_1 + 1120x_2 + 1090x_3 + 1110x_4) + s_3 = 0.81(1100y_1 + 1120y_2 + 1090y_3 + 1110y_4) + s_2$$

   $$0 \le x_i \le 1000 \quad \forall i \in 1, 2, 3, 4$$

   $$0 \le y_i \le 1000 \quad \forall i \in 1, 2, 3, 4$$

   $$0 \le s_i \quad \forall i \in 1, 2, 3$$