

# CS 525 - Fall 2015 - Homework 6

assigned 10/5/15 - due 10/14/15

Generate MATLAB output as outlined in the MATLAB setup sheet and submit this along with your written answers. Hard copy due in class on due date.

1. Do Exercise 3-6-6.
2. Do Exercise 3-6-9. You can represent the bound  $y_1 \leq 8$  either as a general constraint or do a variable transformation to replace it with a new nonnegative variable.
3. Solve the following problem using Scheme II:

$$\begin{aligned} \min \quad & 2x_1 + x_2 - 3x_3 \text{ subject to} \\ & x_1 + x_3 = 3 \\ & -x_1 + 2x_3 \geq 6, \\ & x_1 \geq 0, x_3 \geq 0, x_2 \text{ free.} \end{aligned}$$

(When I did it, this problem turned out to be one of the special cases discussed on p.83 of the text, and required quite a few pivots to resolve. But there may be an easier way.)

4. Do Exercise 3-6-14.
5. Do Exercise 4-2-2.