

CS 525 - Fall 2015 - Homework 7

assigned 10/12/15 - due 10/21/15

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 4-1-3.
2. Let x^* be a solution of the problem

$$(P) : \min p'x \text{ s.t. } Ax \geq b, x \geq 0,$$

with optimal objective $z^* = p'x^*$. Consider now the problem

$$(\bar{D}) : \max b'u \text{ s.t. } A'u \leq p + c, u \geq 0.$$

Show that (\bar{D}) cannot be unbounded for any value of the vector c , and find an upper bound on the optimal objective of (\bar{D}) .

3. Is it possible for problem (\bar{D}) in the previous question to be *infeasible* for some value of c ? Explain.
4. Do Exercise 4-4-1.
5. Do Exercise 4-6-4.