

CS 525 - Fall 2009 - Homework 7

assigned 10/30/09 - due Monday 11/9/09

1. 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 the optimal objective of (\bar{D}) is bounded above by $z^* + c'x^*$.

2. Do Exercise 4-5-2.
3. Do Exercise 4-7-4.
4. Do Exercise 4-7-7, parts 1 and 3.
5. Do Exercise 4-8-1.