Math 164-1: Optimization – Homework 4

Due: April 22, 2016

Exercise 1.

Exercise 20.6 from the book of Chong and Zak.

Exercise 2.

Exercises 20.7 and 20.8 from the book of Chong and Zak.

Exercise 3.

(1) Exercise 20.9 from the book of Chong and Zak. *Hint:* try to introduce a constraint, for instance set $x_1^2 + x_2^2 = \ell$, compute the optimizers, then optimize in ℓ.

(2) Exercise 20.10 from the book of Chong and Zak.

(3) Exercise 20.15 from the book of Chong and Zak.

Exercise 4.

Exercises 20.11, 20.12 and 20.13 from the book of Chong and Zak. These are good exercises to review a bit the notions on eigenvalues and eigenvectors from linear algebra.