Matrix Calculus and Optimization
Statistics 202B
Professor: Mark S. Handcock

Homework 5

Due Friday, March 4, 2016

Note: **O** stands for the Kenneth Lange "Optimization 2nd Edition" (2014) text.

1) Question 10 from Chapter 6 of **O**.
In addition, write down Newton's method to find the minimum.
Use R to implement your algorithm and the minimum for $n = 2$.
Plot the function and the steps taken by your method starting from $x = 1$.

2) Question 3 from Chapter 11 of **O**.

3) Question 8 from Chapter 11 of **O**.
Instead of doing it by hand, you may do it in R while printing out each step in the algorithm.
Use the `optim` function in R to find the optimum also.