Homework 7

Due: Thursday 12/1/2022.

Reading assignment: Chapter 18 in the textbook. Chapter 2 (Cholesky factorization), sections 4.2 and 4.3 (Newton's method for nonlinear equations), and chapter 5 (Unconstrained minimization) in the *ECE133A Lecture Notes*.

Homework problems

1. Exercise A11.8 (c,e,h).

2. Exercise A11.14.

3. Exercise A14.8. On line 5, "the inverse of the function f" should be "the inverse of the function $e^x/(1+e^x)$".

   Instead of the Levenberg–Marquardt method, you can use the simpler Gauss–Newton method (page 387 of the textbook). This should converge from the starting points suggested in the assignment.

   Julia users can find the data in the file `logistic_gn.jl` and import t, y using `include("logistic_gn.jl")`.

4. Exercise A12.2.