MA-UY 4423 Homework 2

Due: 6:00pm Feb. 24th, 2015

You are free to implement any of the problems that require writing code in your language of choice: `C`, `Fortran`, `Matlab`, `Python`, etc. The only requirement is that you are able to produce plots when necessary, and do *not* use high-level routines (such as linear solvers, other software packages, etc.) when the assignment requires that you implement those yourself.

If you are submitting your code as well, it should be *easily* compilable and executable (on Linux or OS X) with commands such as `gfortran myhomework.f; ./a.out`. The simpler the better. Each problem should be contained in a **single** file whose name is of the form `hw1_prob1.c`, using whatever extension is appropriate for your programming language. Any header files should have the same format, `hw1_prob1.h`.

Each question that is graded will be worth 10 points.

1. Greenbaum & Chartier, 5.8.4

2. Greenbaum & Chartier, 5.8.10

3. Greenbaum & Chartier, 5.8.15

4. Greenbaum & Chartier, 6.3.2

5. Greenbaum & Chartier, 7.7.2

6. Greenbaum & Chartier, 7.7.5