1. **Textbook exercises**

From Chapter 3, do problems 3.1 and 3.11. For 3.11, perform the arithmetic as we did in class on Friday.

From Chapter 4, do problems 4.1, 4.8, and 4.12. In your answer to 4.12, also include a brief explanation of why condition numbers are something we care about.

2. **Programming exercises**

On the course website, I’ve posted two MATLAB programs, `guess1.m` and `guess2.m`. Your goal is to modify the programs (or write your own programs in your language of choice) to obey these guidelines:

- Modify both programs so that the guesser is limited to a maximum of 7 guesses, and have the program print out which guess is being made (i.e. 1 to 7). Use a `for` loop to limit the guesses.

- Modify `guess1` so that the computer tells the user whether their guess is too high or too low, instead of whether it is correct or incorrect.

- Modify `guess2` so that the user can tell the computer whether its guess is too high, too low, or correct by entering the letters `h`, `l`, or `c`, and have the computer implement an intelligent strategy for guessing based on the feedback. If you need strategy help, read this: [http://en.wikipedia.org/wiki/Binary_search_algorithm](http://en.wikipedia.org/wiki/Binary_search_algorithm).

- **Optional:** make your modified `guess2` program print out an angry message if the user is found to be cheating.

I will provide instructions on how to submit your program online.