Homework 1: Due October 9th, 2017

First, do these problems. These will be graded for completion.

• 1.1: 8 (just submit “I did it” if you did it.), 9 (notice there’s just one short question at the end.), 10
• 1.2: 4 (obviously, not using Theorem 1.2.3)

Then do these problems. These will be graded for correctness.

1. Using basic programming only (i.e., not using MATLAB’s built in matrix multiplication), write a MATLAB function that takes as input two matrices, and outputs their product.

2. What are the two main ways we can measure the speed of an algorithm/program? What are their respective strengths and weaknesses?

3. Explain why an algorithm of $O(n^2)$ may not be faster than an algorithm of $O(n^3)$, even though they are calculating the same thing.