Homework 3

Due date: Wednesday, March 4.

All written homeworks are due at the beginning of class on the due date. There is no provision for homework turned in late. Write your answers on plain or lined paper. Show your work for maximum (partial) credit. **Be as neat as possible**; if I can't read it or can't follow it, it's wrong. If your homework is longer than one page, please staple or paper-clip the pages together.

At the end of your homework, please write and sign the Honor Code pledge:

I have abided by the Wheaton College Honor Code in this work.

In many of the following, you must solve a recurrence relation, where $x(n) = T(n)$. You do **not** have to determine and/or prove $O(x(n))$.

1. Text question 1, parts (a–d), on page 76.
2. Text question 4 on page 77. In part c), be specific about which additions/subtractions you are "counting."
3. Text question 9 on page 78. Be specific about which line is the basic operation.
4. Text question 4 on page 90. Give evidence to support your conclusions.
5. Text question 8 on pages 90-91. Print out an accurate scatterplot. *Note: To solve this problem, you have to first figure out Euclid's algorithm! And then write a short program to count up and average the number of divisions.*