Due in class: Sep 24.

Read Chapters 2 and 3.

(1) Problem 2.2-4 (page 37).

(2) Problem 2-1 (page 38). Do parts (a), (b) and (c).

(3) Prove that the function $f(n) = 3n^2 + 6n + 63 \in O(n^2)$. To prove this pick a c that is at most 10. For the value of c that you chose, compute the smallest integer n_0.

(4) Compare the following pairs of functions in terms of order of magnitude. In each case, say whether $f(n) = O(g(n))$, $f(n) = \Omega(g(n))$, and/or $f(n) = \Theta(g(n))$.

	$f(n)$	$g(n)$
$a)$	$n + (\log n)^2$	$2n + (\log n)^3$
$b)$	$\log n^2$	$\log(n^5)$
$c)$	$\frac{n^2}{\log^3 n}$	$n(\log n)^3$
$d)$	$n^{0.6}$	$(\log n)^3$