**MATH 579 Exam 9 Part I**
**Assigned 5/6/10, Due by classtime 5/11/10**
Please read the exam instructions.

Please write your answers on separate paper and put your name or initials on every sheet. Cross out work you do not wish graded; incorrect work can lower your grade, even compared with no work at all. Keep this sheet for your records. Show all necessary work in your solutions; if you are unsure, show it. Simplify all numerical answers to be integers, if possible. You are welcome to use your book, notes, calculators, computers, etc. This problem is worth 10-20 points.

**You may *NOT* discuss possible solutions to this exam with any human prior to submission. Violations of this policy will cause catastrophic course failure.**

Part I: A semester is $n$ days long. I will divide these days into one or more chapters of consecutive days, and one day of each chapter I will do a particularly good job teaching. Let $a_n$ represent how many ways there are to do this. Find $a_n$ in closed form.

For example, $a_0 = a_1 = 1, a_2 = 3$ (two ways to have one chapter, one way to have two chapters), $a_3 = 8$ (one way to have three chapters, four ways to have two chapters, three ways to have one chapter).