Week 13
May 8-12, 2006

Topics: Markov Chains (Steady State Behavior and Absorption Probabilities)

- **Recitation 20: Tuesday, May 9**

  1. A simple illustrative exercise in finding steady state probabilities.
  2. An exercise in formulating a Markov chain model and finding steady state probabilities of a birth-death process that is a generalization of Example 6.6.
  3. Another (interesting) exercise in formulating a Markov chain model and finding steady state probabilities. Again we have a birth-death process.

- **Recitation 21: Thursday, May 11**

  1. This problem requires the formulation of a Markov chain model, and finding absorption probabilities and expected time until absorption (also involves the use of the classics- conditioning, total probability law, iterated expectation).

- **Tutorial 12: May 11/12**

  1. An easy "warm-up" exercise that involves finding conditional probabilities for a birth-death process. There are too many parts that are somewhat repetitve; in the interest of time, some may be omitted.
  2. An exercise in finding steady state probabilites with and without conditioning on an event. The chain here is similar to problem 2 of Tutorial 11; this problem is, in some sense, a "continuation" of Tutorial 11 problem.

- **Problem Set 11: Wednesday May 10 DUE FRIDAY MAY 12**

  1. Another problem that requires the formulation of a Markov chain model and finding steady state probabilities.
  2. This problem requires the formulation of a Markov chain model and finding absorption probabilities.
  3. Due to the assignment being due in 2 days, there is no grad problem.