Math 391 – Mixing Times for Markov Chains
Homework Set #1
Assigned: Tuesday, Feb. 5
Due: Tuesday, Feb. 19 (by 5pm in my office 1017 Hylan)

Do the following Exercises from Levin, Peres and Wilmer:
Chapter 2: #2.4 on pg. 4.
Chapter 3: #3.1 and **#3.2** on pg. 12, **#3.3** on pg. 13.

In addition, do the following problem(s).

A1. The Fibonacci sequence is defined as $(x_0, x_1, x_2, \dots)$ where $x_0 = x_1 = 1$ and $x_n = x_{n-1} + x_{n-2}$ for $n \geq 2$. Calculate x_{1000} (using some matrix analysis). What, if anything, does this have in common with a 2-state Markov chain?