Assignment 23, due March 23

There is no new assignment here. It is the same as the previous one, except there is an alternate version for the first problem, which you can do instead, with some additional hints.

1. It is useful to be familiar with the Laws of Large Numbers. Please read Chapter 8 from "Introduction to Probability" by Grinstead and Snell, available at

   `www.dartmouth.edu/~chance/teaching_aids/books_articles/probability_book/book.html`.

   [**The above is an alternate version. It is a link to the entire book.**] The Strong Law of Large Numbers is mentioned in Exercise 15 on page 314. Please turn in your solutions to Exercise 16 on the same page. [**This is an alternate version of the Exercise 16 in the previous link. This seems better specified. Some hints: Part (b) has a typo. Assume** $1 - x \leq e^{-x}$ **instead of the inequality given. For Part (d) use the fact that the variance of a sum of independent random variables is the sum of the variances of the random variables. Also if** k **is constant with respect to the random experiment and** X **is a random variable, then** $\mathbf{Var}[kX] = k^2\mathbf{Var}[X]$**. The Integral Test mentioned in Part (f) is a standard technique from calculus; e.g., search for it at** `mathworld.wolfram.com`.]

2. For CSE60317 only: See Assignment 22.