CSE 521: Design and Analysis of Algorithms
Assignment #8
Due: Wednesday, March 3

Reading: from Williamson, see my email.

Problems: do *both* of the following problems.

1. Read Section 9 (starts on page 15) of

   `http://www.daimi.au.dk/~gudmund/Documents/randompearlnotes.pdf`

   and do problem 2 on pp 19-20 of the same document.

   You are of course encouraged to read the whole document.

2. Prove that the first-fit algorithm for binpacking uses at most twice the optimal number of bins. (*The binpacking problem:* Let x_1, x_2,...,x_n be the set of real numbers each between 0 and 1. Partition the numbers into as few subsets (bins) as possible so that the sum of numbers in each subset is at most one. *The first-fit algorithm:* Put x_1 into the first bin, and then, for each i, put x_i in the first bin that has room for it, or start a new bin if there is no room in any of the used bins and put x_i in it.)