Computer Algorithms	**Caltech CS138b, Fall 2001**
Leonard J. Schulman	**Problem Set # 13, February 8, 2001**

Due Friday February 16 at 4pm at the electronic server or in the box in the VLSI lab

Note: I will be assigning some problems out of the Kozen textbook. That book includes solutions to many of its exercises. Please remember to abide by the general policy I announced for the course: "Regardless of the source, don't read existing solutions before turning in your work."

1. **(**10 **points)** Kozen HW 5 problem 1.
2. **(**10 **points)** Kozen HW 5 problem 2.
3. **(**10 **points)** Kozen HW 5 problem 3.
4. **(**10 **points)** The following process was described in the *American Mathematical Monthly* in 1974:

    > "At Smith College, the graduation exercises traditionally proceed as follows: Although each diploma is made out to a particular girl, all the diplomas are initially given out at random. All of the girls who do not get their own diplomas then form a circle, and each passes the diploma she has to the girl on her right. Those who now have their own diplomas drop out, and the remaining girls again pass their diplomas to the right, and so on. This procedure is repeated until each girl has her own diploma."

    If there are n girls in the graduating class, what is the expectation of the total number of individual diploma handoffs?