CS 361, HW5

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Due:April 17th , 2003

You are free to work with your group, or use any book or the web as a resource in doing this homework assignment. However, you must write up the work yourself.

1. *Group Project*: Each group must turn in a printout of a tentative project design (what measures, what experimental conditions, what goals, what expectations, what software will be used, etc.). This project design should be about 2 pages. The group must also turn in a printout of three or more example plots from initial experiments. This will involve: setting up the software and data (or data generators) needed to run the experiments; running initial sets of experiments for calibration and checking if anything crucial has been overlooked. **Each group must turn in a printout of both the project design and three preliminary plots in class on April 17th**

2. CLRS Exercise 8.4-1

3. CLRS Problem 7-2 (hard)

4. CLRS Problem 7-3. For part a) use proof by induction on the size of the list to be sorted. For part b) use either the recursion tree method and proof by induction or annihilators.

5. CLRS Problem 8-4 (hard) hint for part c: use recursion!

6. CLRS Ex 11.2-2

7. CLRS Ex 11.2-1 hint: use indicator random variables and linearity of expectation.