COS 341, September 26, 2001
Due: October 3, 2001

Homework Set 2

Reading Assignments Start reading Chapter 5.

Written Assignments Do exercises 10, 19, 23, 26, 28 in Section 3.6, plus the following special problem:

Special Problem (counted as two exercises) Recall that in class (also see Handout Number 3), we derived a formula for $p_{n,k}$, the probability of success for selecting the top person under strategy k for a random permutation of n dates.

Now suppose we are less picky, and will be satisfied if the person we select is among the top two people. Let $q_{n,k}$ be the probability of achieving this goal under k-strategy. Note that clearly $q_{n,k} \geq p_{n,k}$.

(a) What is the value of $q_{4,2}$? You should write down explicitly all 24 permutations, and indicate explicitly which ones result in a success by the 2-strategy.

(b) Derive a mathematical expression for $q_{n,k}$. Check that it leads to the correct value for the case $n = 4, k = 2$.