Discrete Mathematics 21-228: Spring 2002
Homework.
HW1 due Monday 1/21/02

Q1: If m indistinguishable 12 sided die are rolled, how many distinct outcomes are there? For example when $m = 2$ there are 78.

Q2: How many distinct terms are there when the expression $(y_1 + y_2 + \cdots + y_n)^m$ is expanded?
When $m = n = 2$ we get $y_1^2 + 2y_1y_2 + y_2^2$ and the answer is 3.

Q3: How many sequences of p 1's and q 0's are such that no two 1's occur in adjacent positions?
(Hint: add a 0 to both ends, it can make life easier, if necessary.)