General Mathematics and Computational Science I

Exercise 10

October 16, 2007

1. Show that
$$\binom{n+1}{k+1} = \sum_{j=k}^{n} \binom{j}{k}$$
   for every $0 \leq k \leq n$.

2. Use the method of generating functions to find a closed form expression for the members of the generalized Fibonacci sequence
$$a_0 = A\,,$$
$$a_1 = B\,,$$
$$a_n = a_{n-1} + a_{n-2}\,.$$