

Homework 3

Due Friday, September 28

1. Let there be n couples and 2 benches facing each other with n seats each. In how many ways can the n couples sit on the benches such that no two members of the same couple are facing each other? The answer can be in the form of a sum.
2. (a) How many strings of length n consisting of 0's and 1's have no two consecutive 1's?
(b) How many strings of length n consisting of 0's and 1's have no three consecutive 1's and no three consecutive 0's?
3. Find a_n if

$$a_n = 6a_{n-1} + 7a_{n-2}, a_0 = 2, a_1 = 10.$$