MATH 113: DISCRETE STRUCTURES
HOMEWORK 05

Due: Monday, February 9 at 10pm.

Instructions.

(1) Copy and reread your solutions to the Homework 02, which was due on Monday, February 2 (problems below).
(2) Rewrite your solutions with your new knowledge on how to write solutions.
(3) Write a short explanation about the changes you made.

Problem 1. At a Go tournament, there are eight players and four boards. In how many ways can the players sit down to play if

(a) We count the order in which pairs of players are seated at the boards, but do not care which side each player sits on? (Here A vs B, C vs D, E vs F, G vs H is the same as B vs A, C vs D, E vs F, G vs H but is different from G vs H, E vs F, C vs D, A vs B.)
(b) we count who sits on which side of each board, but do not care about the ordering of the boards? (In this version, A vs B, C vs D, E vs F, G vs H is different from B vs A, C vs D, E vs F, G vs H but is the same as G vs H, E vs F, C vs D, A vs B.)

Problem 2. In how many ways can King Arthur and his twelve knights (13 people, in all) sit down at the legendary Round Table in Camelot? (Since the table is round, we will not consider rotations of a given seating arrangement as different.)