Math 2001: Homework W5

Due April 29, 2016, 11am

The following assignment will be graded with an emphasis on clarity of exposition. You should write in complete sentences, be as precise as possible, and be mathematically correct (both in content and format). Be sure to include a title, a short introduction to the topic, and to define all the relevant mathematical terms. The assignment should be **typed**.

The purpose of this assignments is to pick two of the infinite families of sets we discussed in class, and show that as a sequence they have the same sizes (without finding that size). We had C_n which involved coins, P_n which involved noncrossing pairings, D_n which involved lattice paths. Pick two and show that they are in bijection (using one of the equivalent notions of bijection). Be sure to

(a) Give clear and precise definitions for the sets involved.

(b) State and proof the main theorem in the correct mathematical format (the theorem is not a section).

(c) Give a large example that helps illustrate your constructions.

I will pay especially close attention with how well you convey the constructed functions abstractly.