Michigan Math Club

Thursday at 4pm in the Nesbitt Room
Free Pizza and Pop

Pattern Avoidance and Combinatorial Statistics for Set Partitions and RGF

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Abstract for 22 February 2018

Pattern avoidance is a popular topic in combinatorics that can be studied for many objects - the most popular perhaps being permutations. In this talk, we will look at pattern avoidance in set partitions and restricted growth functions (RGFs). These objects are in bijection with each other but in some cases, their avoidance classes actually differ.

Describing the size of the avoidance class of a set partition/RGF is in itself an interesting and (usually) difficult task. Instead of doing this, we will be looking at the distribution over the avoidance classes of a set of combinatorial statistics on RGFs introduced by Michelle Wachs and Dennis White called lb,ls,rb, and rs. These distributions often have interesting combinatorial or number theoretic interpretations. This was work done during an REU at Michigan State University my freshman year, so it has no prerequisites and should be accessible to anyone with an interest in counting things and finding patterns!