Pattern avoidance and regular languages

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L02 Carson Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

The problem of enumerating classes of permutation which avoid certain patterns is not new to algebraic combinatorics but very few general techniques exist for attacking this problem. I will present a proof that permutations which avoid any given pattern and have a fixed number of descents are regular and show how this can be used to generalize the standard notion of pattern avoidance and containment. This will also give a procedure for determining the generating function for patterns which avoid a pattern and have a fixed number of descents.

This is joint work with M. H. Albert, M. Elder, A. Rechnitzer and P. Westcott.

This talk should be accessible to graduate students.   1116272558