Mathematics, Statistics, and Computer Science   **@ UIC**

Midwest Model Theory Day

Scott sentence of finitely-generated groups

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Abstract: Scott showed that for every countable structure A, there is a L_{\omega_1,\omega} sentence, called the Scott sentence, whose countable models are the isomorphic copies of A. The quantifier complexity of a Scott sentence can be thought of as a measure of the complexity of the structure. Knight et al. have studied the Scott sentences of many structures. In particular, Knight and Saraph showed that a finitely-generated structure always has a \Sigma_3 Scott sentence. In this talk, we will focus on finitely-generated groups. On the one hand, most "natural" finitely-generated groups have a d-\Sigma_2 Scott sentence. On the other hand, we give a characterization of finitely-generated structures where the \Sigma_3 Scott sentence is optimal. We then give a construction of a finitely-generated group where the \Sigma_3 Scott sentence is optimal.

This is joint work with Matthew Harrison-Trainor.

This talk is part of Midwest Model Theory Day, http://homepages.math.uic.edu/~freitag/MWMT13

Tuesday, April 23 at 4:00 PM in 636 SEO