

List Homomorphisms and the Lexicographic Method

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(joint work with T. Feder and J. Huang)

List homomorphisms are related to homomorphisms in the same way list colourings are related to colourings. Just as with list colourings, we have found that many questions about homomorphisms have nicer answers in the context of list homomorphisms. I will review some of these results first; then I will present some newer results on list homomorphisms to mixed graphs (where each vertex may or may not have a loop). I will also explain how a new technique (the “lexicographic method”) allows us to find new characterizations of certain circular arc graphs related to list homomorphisms.