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

Logic Seminar

Some finite basis results for quasi-orders

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Abstract: What is a finite basis result for a quasi-order? A quasi-order is a transitive and reflexive relation on a set (or a class). Given a quasi-order $\leq_Q$ on a set Q and a subset A of Q, a basis for A is a subset B of A such that for all $a \in A$ there exists $b \in B$ so that $b \leq_Q a$. The quasi-order $\leq_Q$ has a symmetrization: $p \equiv_Q q$ if and only if $p \leq_Q q$ and $q \leq_Q p$, which is an equivalence relation. We say that the basis B is finite if its quotient by $\equiv_Q$ is finite.

We consider the existence of a morphism between two structures in a given class as a quasi-order on the class of structures. I will talk about some finite basis results on classes of graphs and classes of functions for various notions of morphisms, and the interplay between them.

Tuesday, April 6 at 11:00 AM in Zoom