1078-06-67 **William J. DeMeo\*** (`williamdemeo@gmail.com`). *Expansions of finite algebras and their congruence lattices.*

We present a novel approach to the construction of new finite algebras and describe the congruence lattices of these algebras. Given a finite algebra $\langle B, \dots \rangle$, let $B_1, B_2, \dots, B_K$ be sets which intersect $B$ at specific points. We construct an *overalgebra* $\langle A, F_A \rangle$, by which we mean an expansion of $\langle B, \dots \rangle$ with universe $A := B \cup B_1 \cup \cdots \cup B_K$, and a certain set $F_A$ of unary operations which include idempotent mappings $e$ and $e_i$ satisfying $e(A) = B$ and $e_i(A) = B_i$. We explore a number of such constructions and prove results about the shape of the new congruence lattices $\mathrm{Con}\,\langle A, F_A \rangle$ that result. Thus, descriptions of some new classes of finitely representable lattices is one contribution. Another, perhaps more significant contribution is the announcement of a novel approach to the discovery of new classes of representable lattices, the full potential of which we have only begun to explore. (Received November 17, 2011)