LOGIKSEMINARIET STOCKHOLM–UPPSALA

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Three proofs of Birkhoff's theorem

Birkhoff's theorem states that if a class of algebras (in the sense of Universal Algebra) is closed under homomorphic images, subalgebras and products, it can be axiomatized by equations. I will discuss this result from the point of view of predicativity. Birkhoff's original proof is too impredicative even for classical set theory. The proof that has become standard can be carried out in ZFC but uses powerset and full separation so it is still very impredicative. I will discuss these two proofs and a third, predicative, proof that requires an additional assumption which follows easily from the other three by impredicative methods. Hence we follow the tradition that has been called 'separating the magic from the computational content'.

Onsdag 11 maj kl. 10.00–11.45,
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