

Seminar on Semigroups, Automata and Languages

Answering Four Open Problems Involving Semigroup Conjugacy

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Abstract: We will discuss solutions to Problems 6.4, 6.10, 6.21, and 6.22 from the paper "Four Notions of Conjugacy for Abstract Semigroups" by João Araújo, Michael Kinyon, Janusz Konieczny, and António Malheiro. Specifically, we will: (1) identify a semigroup that is embeddable in a group for which p -conjugacy is not transitive; (2) identify a semigroup for which p -conjugacy is not transitive even though it is transitive for all of the semigroup's variants; (3) describe an infinite chain of first-order definable conjugacies; and (4) prove that, for any set X , any partition of X , and any of the conjugacies discussed in the aforementioned paper, there exists an associative binary operation on X such that the set of conjugacy classes of the resulting semigroup equal the partition.

Date: Friday, 31 May 2024, 14:30

Place: Online Zoom meeting