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ON THE MAXIMAL SUBSEMIGROUPS OF THE SEMIGROUP OF ALL MONOTONE TRANSFORMATIONS

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Abstract

In this paper we consider the semigroup M_n of all monotone transformations on the chain X_n under the operation of composition of transformations. First we give a presentation of the semigroup M_n and some propositions connected with its structure. Also, we give a description and some properties of the class \tilde{J}_{n-1} of all monotone transformations with rank n-1. After that we characterize the maximal subsemigroups of the semigroup M_n and the subsemigroups of M_n which are maximal in \tilde{J}_{n-1} .

Keywords: transformation semigroup, maximal subsemigroups, idempotent, isotone, antitone and monotone transformations, Green's equivalences.

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