

Finite and infinite groups generated by involutions

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We consider a wide class of groups, which generalizes Coxeter groups. Namely, we study the groups of symmetries of poset numerations, in particular, the groups of symmetries of the set of Young tableaux with given Young diagram with n boxes. The group is generated by $n - 1$ involutions of the replacements $(i, i + 1)$, $i = 1, \dots, n$. The symmetric group corresponds to the simplest diagram $(n, 1)$. The answer for an arbitrary diagram is not known. So far among the obtained groups there only appear symmetric groups, alternating groups and some Coxeter groups (results of the speaker, N.V.Tsilevich, and the graduate students M.Germanskov and P.Pozdeev). The most intriguing questions are related to (infinite) groups which correspond to infinite diagrams, to their structure and representations. This work is carried out as part of a project supported by an RNF grant 21-11-00152

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