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Generation of union-closed sets and Moore families. (English) Zbl 1384.05015

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Summary: We describe an algorithm to constructively enumerate non-isomorphic union-closed sets and Moore sets. We confirm the number of isomorphism classes of union-closed sets and Moore sets on $n \leq 6$ elements presented by other authors, and give the number of isomorphism classes of union-closed sets and Moore sets on 7 elements. Due to the enormous growth of the number of isomorphism classes, it seems unlikely that constructive enumeration for 8 or more elements will be possible in the foreseeable future.

MSC:

05A15 Exact enumeration problems, generating functions
05-04 Software, source code, etc. for problems pertaining to combinatorics

Keywords:

enumeration; Moore set; union-closed set

Full Text: arXiv Link

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