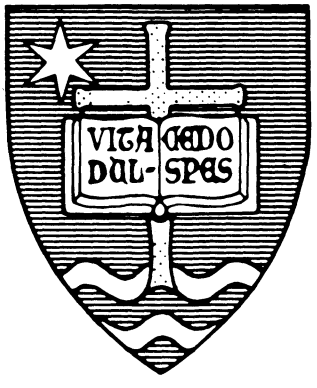
Notre Dame

JOURNAL OF FORMAL LOGIC



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Open Maths Problems Computer Competition

The field of Automated Theorem Proving and Computational Logic has advanced to a point where general-purpose computer programs have successfully solved long-standing, open mathematical problems. The Association for Automated Reasoning is a society to promote this field and to enable researchers to exchange ideas in a biannual conference.

Some of the most recently solved problems presented at the last Conference on Automated Deduction (Springer Lecture Notes in Computer Science, volume 138 (1982)) stimulated the foundation of a special interest group whose purpose is to find further open problems suitable for solving with the aid of a general-purpose computer program for automating the reasoning process. Although many problems are not immediately amenable to an attack by a general-purpose program, this interest group wishes to collect open problems, especially those which appear promising. The intention is both to contribute to mathematical research and to stimulate research in automated deduction systems.

We are looking for problems that can be presented by a finite set of axioms and a first-order formulation of a theorem such that it is open whether or not this theorem follows from the given axioms. Another type of problem which has been solved recently is that of constructing a small finite model which provides a counterexample to such a conjecture. In contrast, we are not looking for problems like the four-color problem, in which a special-purpose program was written, which merely enumerate and deal with a very large number of special cases or else determine a (e.g., numerical) solution up to a certain degree of exactness.

If you know of any such open problems or can suggest a society or an individual who may be helpful in collecting open problems of this kind, please send any information you may have to: Michael M. Richter (RWTH Aachen, Lehrstuhl fur Angewandte, Mathematik, Templergraben 55, 5100 Aachen, West Germany) or Jörg H. Siekmann (Universität Karlsruhe, Institut für Informatik I, Postfach 6380, 7500 Karlsruhe 1, West Germany).

Each open problem that is judged suitable for attack by a computer program will be listed under the name of the person suggesting it, and this list will contain the actual axioms and theorem, as well as additional information concerning the sources, its relevance, etc. The list will be published and widely distributed among computer scientists working in the field of Automated Theorem Proving and Computational Logic, and among mathematicians and logicians.

Anyone interested in contacting the Association for Automated Reasoning can write to Larry Wos, President (Association for Automated Reasoning, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne IL 60439).

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GUIDE TO AUTHORS

The *Journal* encourages submission of articles in all areas of philosophical and mathematical logic, the philosophy, foundations and history of logic and mathematics, and semantics for natural language. Manuscripts (including footnotes) should be double-spaced with wide margins. The editors request that the author's name and institutional affiliation be kept on a separate cover sheet whenever possible. Two copies should be sent to the Editors, Box 5, Notre Dame, Indiana 46556, U.S.A. We regret that manuscripts cannot be returned unless postage is included.

Page proofs are sent to authors for correction of errors that occur in composition. Any special composition costs arising from an author's revision of the text in proof will be charged to the author. Fifty reprints, without covers, will be supplied free of charge; covers or additional reprints may be purchased.

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