

# Mathematical Logic and Computers

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## **Abstract**

Some applications of computers to mathematical logic are explained. The intended audience is logicians who are not experts in automated deduction. We explain how a theorem-prover can be used at the meta-level to find or manipulate proofs at the object level in various logics. Examples are taken from classical, intuitionistic, and multi-valued sentential calculi, and modal logic. Some techniques for finding proofs in these calculi are introduced and illustrated by example. Some meta-theorems in logic suggested by these techniques are also mentioned. We conclude with some open problems.