

**H. JEROME KEISLER ET AL., *MATHEMATICAL
LOGIC AND COMPUTABILITY***

New York: McGraw-Hill, 1996
vii + 484 pp. with computer disk

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In 1976 Prindle, Weber & Schmidt published a book that stood out in the traditionally homogenized realm of calculus texts. That book was H. Jerome Keisler's *Elementary Calculus*. Adapting Abraham Robinson's nonstandard analysis for first-year students, Keisler presented an infinitesimal-based development of the material. Whatever the other pros and cons of the book, its distinctive viewpoint set it apart as a genuine alternative to the usual clones.

Keisler's *Mathematical Logic and Computability*, however, lacks that flair. Perhaps the authorship by committee of this undergraduate text helps account for its hint of blandness. The cover credits Keisler as the author, but the list of titles in the flyleaf also names Joel Robbin. And the title page adds the names of Arnold Miller, Kenneth Kunen, Terrence Millar, and Paul Corazza as contributors. Given so many authors, one is not surprised that this book does not possess the individuality of *Elementary Calculus*.

Not that a text needs to be path-breaking to be a valuable addition to the literature. Books can certainly distinguish themselves by doing things well rather than differently. But Keisler and company have produced a work of uneven quality, with some nice features but also with some very definite drawbacks. This applies both to the text proper and to the accompanying computer software package.

Before describing these in more detail, let me first say what *Mathematical Logic and Computability* is and is not. The authors have clearly targeted an audience of upper-division mathematics majors, rather than aiming for a broader market including students in, say, computer science or philosophy. The treatment presupposes an appropriate level of mathematical maturity, while content prerequisites are minimal. An appendix covers the necessary rudiments of naive set theory, functions, cardinality, and so on. (As the authors rightly point out, this material gets short shrift in the curriculum at many institutions,