An Introduction to Symbolic Logic

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Notes to the instructor

This project has its roots in the authors' experience teaching discrete mathematics from primary historical sources. It was designed to serve the needs of college freshmen and sophomores who are meeting mathematical proofs for the first time. However, no specific prerequisites are assumed.

The authors have attempted to include only those exercises which directly expand on the development of the material. As such, almost all exercises should be assigned to students.

Instructors should note that the notation introduced in *Principia Mathematica* is in some instances antiquated. In contemporary literature, the quantifier (x) is more commonly written as $\forall x$, and the symbols $\sim, \supset, \equiv$ have been largely supplanted by $\neg, \rightarrow$, and $\leftrightarrow$, respectively. Moreover, in *Principia Mathematica* propositional functions are denoted by juxtaposing the function name and its argument (e.g., ϕx). Instead of following this convention throughout the project, the authors have opted to enclose the argument of a propositional function in parentheses (e.g., $\phi(x)$), a notation that is more familiar to students. For pedagogical reasons, we have also chosen to drop Russell and Whitehead's distinction between a propositional function $\phi\widehat{x}$ and its ambiguous value ϕx.

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