
PREFACE

Our overall goal in the sixth edition of *The Logic Book* remains the same as in earlier versions: presenting deductive symbolic logic in an accessible yet formally rigorous way. To this end, we have extensively reorganized and rewritten several chapters. We have also condensed presentations throughout the book.

Chapter 1 now focuses almost exclusively on deductive logic. Chapter 2 presents and discusses the formal syntax for the language *SL* before turning to symbolizations. Chapter 4 presents all of the truth-tree rules in the first section, and Chapter 5 does the same for the derivation rules of *SD*. The discussion of the completeness proof in Chapter 6 has been rewritten to make the flow of the proof more apparent. Like Chapter 2, Chapter 7 now presents the formal syntax of *PL* before discussing symbolization, and the Aristotelian square of opposition figures less prominently than it did in previous editions. Chapter 8 begins with a presentation of the formal semantics for predicate logic, discussing the formal semantics at greater length and with more examples. (However, those who want to skip most of the formal semantics can do so—we indicate this in the middle of Section 8.1, and we continue to display interpretations in the style of symbolization keys in most of the remainder of the chapter.) All interpretations presented in Chapter 8, except for some exercises for the first section, now use the set of positive integers as the UD. Chapter 9 recovers only extensions of predicates, rather than English readings of those predicates, from completed open branches of truth-trees. Finally, we have added an appendix with some facts about the positive integers; this can serve as a refresher for students as they work through symbolization in Chapter 7 and the construction of interpretations in Chapter 8.

The Logic Book presupposes no previous training in logic, and because it covers sentential logic through the metatheory of first-order predicate logic, it is suitable for both introductory and intermediate courses in symbolic logic.

The instructor who does not want to emphasize metatheory can simply omit Chapters 6 and 11. The chapters on truth-trees and the chapters on derivations are independent, so it is possible to cover truth-trees but not derivations and vice versa. However, the chapters on truth-trees do depend on the chapters presenting semantics; that is, Chapter 4 depends on Chapter 3 and Chapter 9 depends on Chapter 8. In contrast, the derivation chapters can be covered without first covering semantics.

The Logic Book includes large exercise sets for all chapters. Answers to unstarred exercises appear in the *Student Solutions Manual*, available at www.mhhe.com/bergmann6e, while answers to starred exercises appear in the *Instructor's Manual*, which can be obtained by following the instructions on the same web page.

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