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Titolo	Introduction to logic // Michael Genesereth, Eric Kao
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ISBN	1-62705-999-7
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Descrizione fisica	1 online resource (179 pages) : illustrations (some color)
Collana	Synthesis lectures on computer science, , 1932-1686 ; ; # 8
Disciplina	160.9
Soggetti	Logic Herbrand's theorem (Number theory)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Part of: Synthesis digital library of engineering and computer science. Series from website.
Nota di bibliografia	Includes bibliographical references (page 161).
Nota di contenuto	<p>1. Introduction -- 1.1 Introduction -- 1.2 Possible worlds -- 1.3 Logical sentences -- 1.4 Logical entailment -- 1.5 Logical proofs -- 1.6 Formalization -- 1.7 Automation -- 1.8 Reading guide -- 1.9 Exercises --</p> <p>2. Propositional logic -- 2.1 Introduction -- 2.2 Syntax -- 2.3 Semantics -- 2.4 Evaluation -- 2.5 Satisfaction -- 2.6 Example-natural languagE -- 2.7 Example-digital circuits -- 2.8 Exercises --</p> <p>3. Logical properties and relationships -- 3.1 Introduction -- 3.2 Logical properties -- 3.3 Logical equivalence -- 3.4 Logical entailment -- 3.5 Logical consistency -- 3.6 Connections between properties and relationships -- 3.7 Exercises --</p> <p>4. Propositional proofs -- 4.1 Introduction -- 4.2 Linear reasoning -- 4.3 Hypothetical reasoning -- 4.4 Fitch -- 4.5 Reasoning tips -- 4.6 Soundness and completeness -- 4.7 Exercises --</p> <p>5. Propositional resolution -- 5.1 Introduction -- 5.2 Clausal form -- 5.3 Resolution principle -- 5.4 Resolution reasoning -- 5.5 Exercises --</p> <p>--</p> <p>6. Relational logic -- 6.1 Introduction -- 6.2 Syntax -- 6.3 Semantics -- 6.4 Evaluation -- 6.5 Satisfaction -- 6.6 Example- sorority world -- 6.7 Example- blocks world -- 6.8 Example- modular arithmetic -- 6.9 Logical properties -- 6.10 Logical entailment -- 6.11 Relational logic and propositional logic -- 6.12 Exercises --</p>

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  9. Herbrand logic -- 9.1 Introduction -- 9.2 Syntax and semantics -- 9.3 Evaluation and satisfaction -- 9.4 Example- Peano arithmetic -- 9.5 Example- linked lists -- 9.6 Example- pseudo English -- 9.7 Example- metalevel logic -- 9.8 Undecidability -- 9.9 Exercises --
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- Bibliography -- Authors' biographies.

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#### Sommario/riassunto

This book is a gentle but rigorous introduction to Formal Logic. It is intended primarily for use at the college level. However, it can also be used for advanced secondary school students, and it can be used at the start of graduate school for those who have not yet seen the material. The approach to teaching logic used here emerged from more than 20 years of teaching logic to students at Stanford University and from teaching logic to tens of thousands of others via online courses on the World Wide Web. The approach differs from that taken by other books in logic in two essential ways, one having to do with content, the other with form. Like many other books on logic, this one covers logical syntax and semantics and proof theory plus induction. However, unlike other books, this book begins with Herbrand semantics rather than the more traditional Tarskian semantics. This approach makes the material considerably easier for students to understand and leaves them with a deeper understanding of what logic is all about.

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