

Mathematical Logic

[DOWNLOAD HERE](#)

1; Table of Contents ;5 2; Preface;8 3; Chapter 1 Syntax of First-Order Languages;12 3.1;1.1 Symbols of first-order languages;15 3.2;1.2 Terms;17 3.3;1.3 Logical formulas;19 3.4;1.4 Free variables and substitutions;20 3.5;1.5 Gdel terms of formulas;24 3.6;1.6 Proof by structural induction;26 4; Chapter 2 Models of First-Order Languages;30 4.1;2.1 Domains and interpretations;33 4.2;2.2 Assignments and models;35 4.3;2.3 Semantics of terms;35 4.4;2.4 Semantics of logical connective symbols;36 4.5;2.5 Semantics of formulas;38 4.6;2.6 Satisfiability and validity;41 4.7;2.7 Valid formulas with;42 4.8;2.8 Hintikka set;44 4.9;2.9 Herbrand model;46 4.10;2.10 Herbrand model with variables;49 4.11;2.11 Substitution lemma;52 4.12;2.12 Theorem of isomorphism;53 5; Chapter 3 Formal Inference Systems;56 5.1;3.1 G inference system;60 5.2;3.2 Inference trees, proof trees and provable sequents;63 5.3;3.3 Soundness of the G inference system;68 5.4;3.4 Compactness and consistency;72 5.5;3.5 Completeness of the G inference system;74 5.6;3.6 Some commonly used inference rules;77 5.7;3.7 Proof theory and model theory;79 6; Chapter 4 Computability & Representability;82 6.1;4.1 Formal theory;83 6.2;4.2 Elementary arithmetic theory;85 6.3;4.3 P-kernel on $\mathbb{N}$;87 6.4;4.4 Church-Turing thesis;91 6.5;4.5 Problem of representability;92 6.6;4.6 States of P-kernel;93 6.7;4.7 Operational calculus of P-kernel;95 6.8;4.8 Representations of statements;97 6.9;4.9 Representability theorem;106 7; Chapter 5 Gdel Theorems ;108 7.1;5.1 Self-referential proposition;109 7.2;5.2 Decidable sets;111 7.3;5.3 Fixed point equation in $\mathcal{L}$;115 7.4;5.4 Gdel's incompleteness theorem;118 7.5;5.5 Gdel's consistency theorem;120 7.6;5.6 Halting problem;123 8; Chapter 6 Sequences of Formal Theories;128 8.1;6.1 Two examples;129 8.2;6.2 Sequences of formal theories;133 8.3;6.3 Proschemes;136 8.4;6.4 Resolvent sequences;139 8.5;6.5 Default expansion sequences;141 8.6;6.6 Forcing sequences;144 8.7;6.7 Discussions on proschemes;147 9; Chapter 7 Revision Calculus;149 9.1;7.1 Necessary antecedents of formal consequences;150 9.2;7.2 New conjectures and new axioms;153 9.3;7.3 Refutation by facts and maximal contraction;154 9.4;7.4 R-calculus;156 9.5;7.5 Some examples;163 9.6;7.6 Special theory of relativity;165 9.7;7.7 Darwin's theory of evolution;166 9.8;7.8 Reachability of R-calculus;170 9.9;7.9 Soundness and completeness of R-calculus;173 10; Chapter 8 Version Sequences;178 10.1;8.1 Versions and version

sequences;180 10.2;8.2 The Proscheme OPEN;181 10.3;8.3 Convergence of the proscheme;185 10.4;8.4 Commutativity of the proscheme;187 10.5;8.5 Independence of the proscheme;189 10.6;8.6 Reliable proschemes;191 11;Chapter 9 Inductive Inference;195 11.1;9.1 Ground terms, basic sentences, and basic instances;198 11.2;9.2 Inductive inference system A;200 11.3;9.3 Inductive versions and inductive process;205 11.4;9.4 The Proscheme GUINA;205 11.5;9.5 Convergence of the proscheme GUINA;212 11.6;9.6 Commutativity of the proscheme GUINA;214 11.7;9.7 Independence of the proscheme GUINA;215 12;Chapter 10 Workflows for Scientific Discovery;217 12.1;10.1 Three language environments;217 12.2;10.2 Basic principles of the meta-language environment;221 12.2.1;1. Principle of environment;221 12.2.2;2. Principle of excluded middle;222 12.2.3;3. Principle of logical connectives;222 12.2.4;4. Church-Turing thesis;224 12.2.5;5. Principle of observability;224 12.2.6;6. Principle of Occam s razor;224 12.3;10.3 Axiomatization;225 12.4;10.4 Formal methods;227 12.5;10.5 Workflow of scientific research;233 12.5.1;1. The Meta-language Environment L;234 12.5.2;2. The Domains;234 12.5.3;3. The Object Language;235 12.5.4;4. Formal Axiomatization;235 12.6;Appendix 1 Sets and Maps;237 12.7;Appendix 2 Substitution Lemma and Its Proof;240 12.8;Appendix 3 Proof of the Representability Theorem;244 12.8.1;A3.1 Representation of the while sta EAN/ISBN : 9783764399771 Publisher(s): Birkhuser Format: ePub/PDF Author(s): Li, Wei

[DOWNLOAD HERE](#)

Similar manuals:

[Aspects Of Mathematical Logic](#)

[Mathematical Logic](#)

[A Course In Mathematical Logic For Mathematicians](#)

[Mathematical Logic For Computer Science](#)

[A Concise Introduction To Mathematical Logic](#)

[A Course On Mathematical Logic](#)

[Mathematical Logic And Model Theory](#)

[A Concise Introduction To Mathematical Logic](#)

[Mathematical Logic](#)

[Lewis Carroll In Numberland: His Fantastical Mathematical Logical Life - Robin Wilson](#)

[E-Study Guide For: Course On Mathematical Logic By Shashi Mohan Srivastava, ISBN 9780387762753 - Cram101 Textbook Reviews](#)