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Constraint Logic Programming; 4.8 Beyond Finite Domains; 4.9 Distributed Constraint Programming; 4.10 Application Areas; 4.11 Conclusions; Bibliography; Chapter 5. Conceptual Graphs; 5.1 From Existential Graphs to Conceptual Graphs; 5.2 Common Logic; 5.3 Reasoning with Graphs; 5.4 Propositions, Situations, and Metalanguage; 5.5 Research Extensions; Bibliography; Chapter 6. Nonmonotonic Reasoning; 6.1 Introduction; 6.2 Default Logic; 6.3 Autoepistemic Logic; 6.4 Circumscription; 6.5 Nonmonotonic Inference Relations; 6.6 Further Issues and Conclusion; Acknowledgements; Bibliography; Chapter 7. Answer Sets; 7.1 Introduction; 7.2 Syntax and Semantics of Answer Set Prolog; 7.3 Properties of Logic Programs; 7.4 A Simple Knowledge Base; 7.5 Reasoning in Dynamic Domains; 7.6 Extensions of Answer Set Prolog; 7.7 Conclusion; Acknowledgements; Bibliography; Chapter 8. Belief Revision; 8.1 Introduction; 8.2 Preliminaries; 8.3 The AGM Paradigm; 8.4 Belief Base Change; 8.5 Multiple Belief Change; 8.6 Iterated Revision; 8.7 Non-Prioritized Revision; 8.8 Belief Update; 8.9 Conclusion; Acknowledgements; Bibliography; Chapter 9. Qualitative Modeling; 9.1 Introduction; 9.2 Qualitative Mathematics; 9.3 Ontology; 9.4 Causality; 9.5 Compositional Modeling; 9.6 Qualitative States and Qualitative Simulation; 9.7 Qualitative Spatial Reasoning; 9.8 Qualitative Modeling Applications; 9.9 Frontiers and Resources; Bibliography; Chapter 10. Model-based Problem Solving; 10.1 Introduction; 10.2 Tasks; 10.3 Requirements on Modeling; 10.4 Diagnosis; 10.5 Test and Measurement Proposal, Diagnosability Analysis; 10.6 Remedy Proposal; 10.7 Other Tasks; 10.8 State and Challenges; Acknowledgements; Bibliography; Chapter 11. Bayesian Networks

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## Sommario/riassunto

Knowledge Representation, which lies at the core of Artificial Intelligence, is concerned with encoding knowledge on computers to enable systems to reason automatically. The Handbook of Knowledge Representation is an up-to-date review of twenty-five key topics in knowledge representation, written by the leaders of each field. This book is an essential resource for students, researchers and practitioners in all areas of Artificial Intelligence.\* Make your computer smarter\* Handle qualitative and uncertain information\* Improve computational tractability to solve yo

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