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| Nota di contenuto | Cover; Title Page; Copyright; Preface; Chapter 1: Introduction; 1.1 Aims of the Book; 1.2 Why Temporal Logic?; 1.3 What is Temporal Logic?; 1.4 Structure of the Book; Chapter 2: Temporal Logic; 2.1 Intuition; 2.2 Syntactic Aspects; 2.3 Semantics; 2.4 Reactive System Properties; 2.5 What is Temporal Logic?; 2.6 Normal Form; 2.7 Buchi Automata and Temporal Logic; 2.8 Advanced Topics; 2.9 Final Exercises; Chapter 3: Specification; 3.1 Describing Simple Behaviours; 3.2 A Semantics of Imperative Programs; 3.3 Linking Specifications; 3.4 Advanced Topics; 3.5 Final Exercises; 3.6 Where to Next? Chapter 4: Deduction4.1 Temporal Proof; 4.2 Clausal Temporal Resolution; 4.3 The TSPASS System; 4.4 Advanced topics; 4.5 Final Exercises; Chapter 5: Model Checking; 5.1 Algorithmic Verification; 5.2 Automata-Theoretic Model Checking; 5.3 The Spin System; 5.4 Advanced Topics; 5.5 Final Exercises; Chapter 6: Execution; 6.1 From |

Specifications to Programs; 6.2 METATEM: Executing Temporal Formulae; 6.3 The Concurrent MetateM system; 6.4 Advanced Topics; Chapter 7: Selected Applications; 7.1 Model Checking Programs; 7.2 Security Protocol Analysis; 7.3 Recognizing Temporal Patterns 7.4 Parameterized Systems 7.5 Reasoning with Intervals; 7.6 Planning; Chapter 8: Summary; Appendix A: Review of Classical Logic; A.1 Introduction; A.2 Propositional Logic; A.3 Normal Forms; A.4 Propositional Resolution; A.5 Horn Clauses; A.6 First-Order Logic; Appendix B: Solutions to Exercises; B.1 Solutions: Chapter 2; Solutions: Chapter 3; Solutions: Chapter 4; Solutions: Chapter 5; Solutions: Chapter 6; Solutions: Appendix A; References; Index

Sommario/riassunto

The name "'temporal logic'" may sound complex and daunting; but while they describe potentially complex scenarios, temporal logics are often based on a few simple, and fundamental, concepts - highlighted in this book. *An Introduction to Practical Formal Methods Using Temporal Logic* provides an introduction to formal methods based on temporal logic, for developing and testing complex computational systems. These methods are supported by many well-developed tools, techniques and results that can be applied to a wide range of systems. Fisher begins with a full introduction to the subject
