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Autore	Givant Steven
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Nota di contenuto	Preface -- Introduction -- 1. The calculus of relations -- 2. Relation algebras -- 3. Examples of relation algebras -- 4. Arithmetic -- 5. Special elements -- 6. Subalgebras -- 7. Homomorphisms -- 8. Ideals and quotients -- 9. Simple algebras -- 10. Relativizations -- 11. Direct products -- 12. Subdirect products -- 13. Minimal relation algebras -- References -- Index.
Sommario/riassunto	The first volume of a pair that charts relation algebras from novice to expert level, this text offers a comprehensive grounding for readers new to the topic. Upon completing this introduction, mathematics students may delve into areas of active research by progressing to the second volume, Advanced Topics in Relation Algebras; computer scientists, philosophers, and beyond will be equipped to apply these tools in their own field. The careful presentation establishes first the arithmetic of relation algebras, providing ample motivation and examples, then proceeds primarily on the basis of algebraic constructions: subalgebras, homomorphisms, quotient algebras, and direct products. Each chapter ends with a historical section and a substantial number of exercises. The only formal prerequisite is a background in abstract algebra and some mathematical maturity, though the reader will also benefit from familiarity with Boolean algebra

and naïve set theory. The measured pace and outstanding clarity are particularly suited to independent study, and provide an unparalleled opportunity to learn from one of the leading authorities in the field. Collecting, curating, and illuminating over 75 years of progress since Tarski's seminal work in 1941, this textbook in two volumes offers a landmark, unified treatment of the increasingly relevant field of relation algebras. Clear and insightful prose guides the reader through material previously only available in scattered, highly-technical journal articles. Students and experts alike will appreciate the work as both a textbook and invaluable reference for the community.