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| Soggetti | Computers Software engineering Computer programming Algorithms Computer logic Theory of Computation Software Engineering/Programming and Operating Systems Programming Techniques Software Engineering Algorithm Analysis and Problem Complexity Logics and Meanings of Programs |
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| Nota di contenuto | On the aesthetics of diagrams -- Generalising monads -- A proof rule for control loops -- Relation-algebraic derivation of spanning tree algorithms -- An application of program derivation techniques to 18th-century mathematics -- Nested datatypes -- An approach to object-orientation in action systems -- Layered graph traversals and Hamiltonian path problems — An algebraic approach -- A unifying framework for correct program construction -- Computation calculus bridging a formalization gap -- An elementary derivation of the alternating bit protocol -- A set-theoretic model for real-time specification and reasoning -- Polytypic downwards accumulations -- Formal derivation of a loadable asynchronous counter -- A semantic |

approach to secure information flow -- Slack elasticity in concurrent computing -- Beyond fun: Order and membership in polytypic imperative programming -- Convergence of program transformers in the metric space of trees -- Realizability of monotone coinductive definitions and its application to program synthesis -- Calculating a round-robin scheduler.

Sommario/riassunto

This book constitutes the refereed proceedings of the 4th International Conference on Mathematics of Program Construction, MPC'98, held in Marstrand, near Goteborg, Sweden, in June 1998. The 17 revised full papers presented were selected from 57 submissions; also included are three invited contributions. The volume is devoted to the use of crisp, clear mathematics in the discovery and design of algorithms and in the development of corresponding software and hardware; various approaches to formal methods for systems design and analysis are covered.
