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Soggetti	Software engineering Computer logic Mathematical logic Computers Programming languages (Electronic computers) Software Engineering/Programming and Operating Systems Logics and Meanings of Programs Mathematical Logic and Formal Languages Software Engineering Computation by Abstract Devices Programming Languages, Compilers, Interpreters
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Invited Talk -- Extended Static Checking for Java -- Contributed Papers -- Constructing Polymorphic Programs with Quotient Types -- Optimizing Generic Functions -- Inferring Type Isomorphisms Generically -- Friends Need a Bit More: Maintaining Invariants Over Shared State -- Chasing Bottoms -- Describing Gen/Kill Static Analysis Techniques with Kleene Algebra -- A Free Construction of Kleene Algebras with Tests -- Streaming Representation-Changers -- Probabilistic Predicative Programming -- An Algebra of Scans -- Compiling Exceptions Correctly -- Modelling Nondeterminism -- Lazy Kleene Algebra -- Augmenting Types with Unbounded Demonic and

Angelic Nondeterminacy -- An Injective Language for Reversible Computation -- Prototyping Generic Programming in Template Haskell -- Transposing Relations: From Maybe Functions to Hash Tables -- Pointer Theory and Weakest Preconditions without Addresses and Heap -- Travelling Processes.

Sommario/riassunto

This volume contains the proceedings of MPC 2004, the Seventh International Conference on the Mathematics of Program Construction. This series of conferences aims to promote the development of mathematical principles and techniques that are demonstrably useful in the process of constructing computer programs, whether implemented in hardware or software. The focus is on techniques that combine precision with conciseness, enabling programs to be constructed by formal calculation. Within this theme, the scope of the series is very diverse, including programming methodology, program specification and transformation, programming paradigms, programming calculi, and programming language semantics. The quality of the papers submitted to the conference was in general very high, and the number of submissions was comparable to that for the previous conference. Each paper was refereed by at least four, and often more, committee members. This volume contains 19 papers selected for presentation by the program committee from 37 submissions, as well as the abstract of one invited talk: *Intended Static Checking for Java* by Greg Nelson, Imaging Systems Department, HP Labs, Palo Alto, California. The conference took place in Stirling, Scotland. The previous six conferences were held in 1989 in Twente, The Netherlands; in 1992 in Oxford, UK; in 1995 in Kloster Irsee, Germany; in 1998 in Marstrand near Göteborg, Sweden; in 2000 in Ponte de Lima, Portugal; and in 2002 in Dagstuhl, Germany. The proceedings of these conferences were published as LNCS 375, 669, 947, 1422, 1837, and 2386, respectively.
