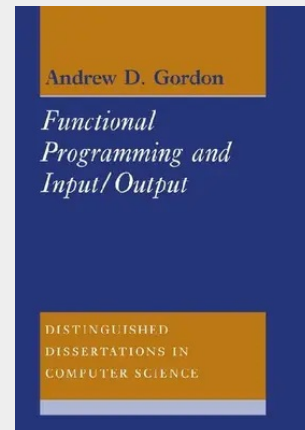


Functional Programming and Input/Output

A common attraction to functional programming is the ease with which proofs can be given of program properties. A common disappointment with functional programming is the difficulty of expressing input/output (I/O), while at the same time being able to verify programs. Here, the author shows how a theory of functional programming can be smoothly extended to admit both an operational semantics for functional I/O and verification of programs engaged in I/O. He obtains operational semantics for the three most widely implemented I/O mechanisms for lazy languages, and proves that the three are equivalent in expressive power. He develops semantics for a form of monadic I/O and verifies a simple programming example. These theories of functional I/O are based on an entirely operational theory of functional programming, developed using Abramsky's 'applicative bisimulation'.

A common attraction to functional programming is the ease with which proofs can be given of program properties. A common disappointment with functional programming is the difficulty of expressing input/output (I/O), while at the same time being able to verify programs. Here, the author shows how a theory of functional programming can be smoothly extended to admit both an operational semantics for functional I/O and verification of programs engaged in I/O. He obtains operational semantics for the three most widely implemented I/O mechanisms for lazy languages, and proves that the three are equivalent in expressive power. He develops semantics for a form of monadic I/O and verifies a simple programming example. These theories of functional I/O are based on an entirely operational theory of functional programming, developed using Abramsky's 'applicative bisimulation'.



50,90 €

50,90 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780521070072

Medium: Buch

ISBN: 978-0-521-07007-2

Verlag: Cambridge University Press

Erscheinungstermin: 15.04.2008

Sprache(n): Englisch

Auflage: Erscheinungsjahr 2008

Serie: Distinguished Dissertations in Computer Science

Produktform: Kartoniert

Gewicht: 309 g

Seiten: 171

Format (B x H): 170 x 244 mm

