Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science)

José Bacelar Almeida

Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science)

José Bacelar Almeida

Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) José Bacelar Almeida

The use of mathematical methods in the development of software is essential when reliable systems are sought; in particular they are now strongly recommended by the official norms adopted in the production of critical software. Program Verification is the area of computer science that studies mathematical methods for checking that a program conforms to its specification. This text is a self-contained introduction to program verification using logic-based methods, presented in the broader context of formal methods for software engineering.

The idea of specifying the behaviour of individual software components by attaching contracts to them is now a widely followed approach in program development, which has given rise notably to the development of a number of behavioural interface specification languages and program verification tools. A foundation for the static verification of programs based on contract-annotated routines is laid out in the book. These can be independently verified, which provides a modular approach to the verification of software.

The text assumes only basic knowledge of standard mathematical concepts that should be familiar to any computer science student. It includes a self-contained introduction to propositional logic and first-order reasoning with theories, followed by a study of program verification that combines theoretical and practical aspects - from a program logic (a variant of Hoare logic for programs containing user-provided annotations) to the use of a realistic tool for the verification of C programs (annotated using the ACSL specification language), through the generation of verification conditions and the static verification of runtime errors.

Download and Read Free Online Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) José Bacelar Almeida

---

From reader reviews:

Jeffrey Brill:

The book Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) can give more knowledge and information about everything you want. Why must we leave a very important thing like a book Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science)? A few of you have a different opinion about e-book. But one aim this book can give many info for us. It is absolutely proper. Right now, try to closer using your book. Knowledge or info that you take for that, you could give for each other; you could share all of these. Book Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) has simple shape however, you know: it has great and big function for you. You can look the enormous world by open and read a reserve. So it is very wonderful.

Lavone Anderson:

Hey guys, do you desires to finds a new book you just read? May be the book with the subject Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) suitable to you? The particular book was written by well known writer in this era. Often the book untitled Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science)is the main of several books this everyone read now. This kind of book was inspired a number of people in the world. When you read this book you will enter the new dimension that you ever know just before. The author explained their plan in the simple way, consequently all of people can easily to be aware of the core of this publication. This book will give you a large amount of information about this world now. So that you can see the represented of the world with this book.

Cynthia Briscoe:

In this era globalization it is important to someone to obtain information. The information will make you to definitely understand the condition of the world. The fitness of the world makes the information better to share. You can find a lot of sources to get information example: internet, magazine, book, and soon. You can see that now, a lot of publisher which print many kinds of book. Typically the book that recommended for you is Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) this e-book consist a lot of the information from the condition of this world now. This kind of book was represented just how can the world has grown up. The terminology styles that writer require to explain it is easy to understand. The particular writer made some investigation when he makes this book. That's why this book appropriate all of you.

Naomi Harris:

Many people spending their time frame by playing outside having friends, fun activity with family or just watching TV the whole day. You can have new activity to enjoy your whole day by studying a book. Ugh,

do you consider reading a book can actually hard because you have to use the book everywhere? It alright you can have the e-book, delivering everywhere you want in your Smart phone. Like Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) which is keeping the e-book version. So , try out this book? Let's observe.

Download and Read Online Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) José Bacelar Almeida #6ZWUF74EBTK

Read Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) by José Bacelar Almeida for online ebook

Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) by José Bacelar Almeida Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) by José Bacelar Almeida books to read online.

Online Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) by José Bacelar Almeida ebook PDF download

Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) by José Bacelar Almeida Doc

Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) by José Bacelar Almeida Mobipocket

Rigorous Software Development: An Introduction to Program Verification (Undergraduate Topics in Computer Science) by José Bacelar Almeida EPub