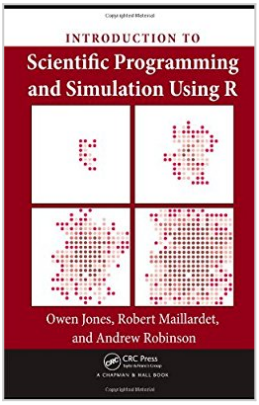

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series)

By Owen Jones, Robert Maillardet, Andrew Robinson

Download now

Read Online

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson

Known for its versatility, the free programming language R is widely used for statistical computing and graphics, but is also a fully functional programming language well suited to scientific programming.

An Introduction to Scientific Programming and Simulation Using R teaches the skills needed to perform scientific programming while also introducing stochastic modelling. Stochastic modelling in particular, and mathematical modelling in general, are intimately linked to scientific programming because the numerical techniques of scientific programming enable the practical application of mathematical models to real-world problems.

Following a natural progression that assumes no prior knowledge of programming or probability, the book is organised into four main sections:

- **Programming In R** starts with how to obtain and install R (for Windows, MacOS, and Unix platforms), then tackles basic calculations and program flow, before progressing to function based programming, data structures, graphics, and object-oriented code
- **A Primer on Numerical Mathematics** introduces concepts of numerical accuracy and program efficiency in the context of root-finding, integration, and optimization
- **A Self-contained Introduction to Probability Theory** takes readers as far as the Weak Law of Large Numbers and the Central Limit Theorem, equipping them for point and interval estimation
- **Simulation** teaches how to generate univariate random variables, do Monte-Carlo integration, and variance reduction techniques

In the last section, stochastic modelling is introduced using extensive case studies on epidemics, inventory management, and plant dispersal. A tried and tested pedagogic approach is employed throughout, with numerous examples, exercises, and a suite of practice projects. Unlike most guides to R, this volume is not about the application of statistical techniques, but rather shows how to turn algorithms into code. It is for those who want to make tools, not just use them.

Download Introduction to Scientific Programming and Simulat ...pdf

Read Online Introduction to Scientific Programming and Simul ...pdf

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series)

By Owen Jones, Robert Maillardet, Andrew Robinson

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson

Known for its versatility, the free programming language R is widely used for statistical computing and graphics, but is also a fully functional programming language well suited to scientific programming.

An Introduction to Scientific Programming and Simulation Using R teaches the skills needed to perform scientific programming while also introducing stochastic modelling. Stochastic modelling in particular, and mathematical modelling in general, are intimately linked to scientific programming because the numerical techniques of scientific programming enable the practical application of mathematical models to real-world problems.

Following a natural progression that assumes no prior knowledge of programming or probability, the book is organised into four main sections:

- **Programming In R** starts with how to obtain and install R (for Windows, MacOS, and Unix platforms), then tackles basic calculations and program flow, before progressing to function based programming, data structures, graphics, and object-oriented code
- **A Primer on Numerical Mathematics** introduces concepts of numerical accuracy and program efficiency in the context of root-finding, integration, and optimization
- **A Self-contained Introduction to Probability Theory** takes readers as far as the Weak Law of Large Numbers and the Central Limit Theorem, equipping them for point and interval estimation
- **Simulation** teaches how to generate univariate random variables, do Monte-Carlo integration, and variance reduction techniques

In the last section, stochastic modelling is introduced using extensive case studies on epidemics, inventory management, and plant dispersal. A tried and tested pedagogic approach is employed throughout, with numerous examples, exercises, and a suite of practice projects. Unlike most guides to R, this volume is not about the application of statistical techniques, but rather shows how to turn algorithms into code. It is for those who want to make tools, not just use them.

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson Bibliography

- Sales Rank: #1223971 in Books
- Published on: 2009-03-11

- Original language: English
- Number of items: 1
- Dimensions: 9.21" h x 1.06" w x 6.14" l, 2.05 pounds
- Binding: Hardcover
- 474 pages

Download Introduction to Scientific Programming and Simulat ...pdf

Read Online Introduction to Scientific Programming and Simul ...pdf

Download and Read Free Online Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson

Editorial Review

Review

This book is a good resource for someone who wants to learn R and use R for statistical computing and graphics. It will also serve well as a textbook or a reference book for students in a course related to computational statistics.
?Hon Keung Tony Ng, *Technometrics*, May 2011

… a very coherent and useful account of its chosen subject matter. … The programming section … is more comprehensive than Braun & Murdoch (2007), but more accessible than Venables & Ripley (2000). … The book deserves a place on university library shelves … One very useful feature of the book is that nearly every chapter has a set of exercises. There are also plenty of well-chosen examples throughout the book that are used to explain the material. I also appreciated the clear and attractive programming style of the R code presented in the book. I found very little in the way of typos or solecisms. … I can strongly recommend the book for its intended audience. If I ever again have to teach our stochastic modelling course, I will undoubtedly use some of the exercises and examples from **Scientific Programming and Simulation Using R**.
?David Scott, *Australian & New Zealand Journal of Statistics*, 2011

It is not often that I think that a statistics text is one that most scientifc statisticians should have in their personal libraries. **Introduction to Scientific Programming and Simulation Using R** is such a text. … This text provides scientific researchers with a working knowledge of R for both reviewing and for engaging in the statistical evaluation of scientific data. …It is particularly useful for understanding and developing modeling and simulation software. I highly recommend the text, finding it to be one of the most useful books I have read on the subject.
?*Journal of Statistical Software*, September 2010, Volume 36

The authors have written an excellent introduction to scientific programming with R. Their clear prose, logical structure, well-documented code and realistic examples made the book a pleasure to read. One particularly useful feature is the chapter of cases studies at the end, which not only demonstrates complete analyses but also acts as a pedagogical tool to review and integrate material introduced throughout the book. … I would strongly recommend this book for readers interested in using R for simulations, particularly for those new to scientific programming or R. It is also very student-friendly and would be suitable either as a course textbook or for self-study.
?*Significance*, September 2009

I think that the techniques of scientific programming presented will soon enable the novice to apply statistical models to real-world problems. The writing style is easy to read and the book is suitable for private study. If you have never read a book on scientific programming and simulation, then I recommend that you start with this one.
?*International Statistical Review*, 2009

About the Author
University of Melbourne, Parkville, Australia

Users Review

From reader reviews:

Kathleen Land:

Your reading 6th sense will not betray an individual, why because this Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) guide written by well-known writer who knows well how to make book that could be understand by anyone who else read the book. Written in good manner for you, still dripping wet every ideas and creating skill only for eliminate your personal hunger then you still hesitation Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) as good book not only by the cover but also by content. This is one guide that can break don't judge book by its protect, so do you still needing a different sixth sense to pick this specific!? Oh come on your examining sixth sense already alerted you so why you have to listening to a different sixth sense.

Alice Christensen:

This Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) is great guide for you because the content that is full of information for you who else always deal with world and still have to make decision every minute. This kind of book reveal it facts accurately using great coordinate word or we can declare no rambling sentences within it. So if you are read that hurriedly you can have whole details in it. Doesn't mean it only provides straight forward sentences but tricky core information with lovely delivering sentences. Having Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) in your hand like obtaining the world in your arm, details in it is not ridiculous just one. We can say that no reserve that offer you world inside ten or fifteen moment right but this e-book already do that. So , this really is good reading book. Hey Mr. and Mrs. active do you still doubt that will?

Samantha Bond:

Beside this kind of Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) in your phone, it could possibly give you a way to get nearer to the new knowledge or data. The information and the knowledge you might got here is fresh from the oven so don't always be worry if you feel like an older people live in narrow village. It is good thing to have Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) because this book offers to you readable information. Do you often have book but you don't get what it's exactly about. Oh come on, that won't happen if you have this in your hand. The Enjoyable arrangement here cannot be questionable, like treasuring beautiful island. Techniques you still want to miss the idea? Find this book in addition to read it from today!

Georgia Evans:

That book can make you to feel relax. This kind of book Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) was multi-colored and of course has pictures on

there. As we know that book Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) has many kinds or genre. Start from kids until adolescents. For example Naruto or Investigator Conan you can read and think you are the character on there. So , not at all of book tend to be make you bored, any it can make you feel happy, fun and chill out. Try to choose the best book for you personally and try to like reading this.

Download and Read Online Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson #RO861XVGF7S

Read Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson for online ebook

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson 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 Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson books to read online.

Online Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson ebook PDF download

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson Doc

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson Mobipocket

Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson EPub

RO861XVGF7S: Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) By Owen Jones, Robert Maillardet, Andrew Robinson