Julia 1.0 Programming – Second Edition

The release of Julia 1.0 is now ready to change the technical world by combining the high-level productivity and ease of use of Python and R with the lightning-fast speed of C++. *Julia 1.0 Programming* gives you a head start in tackling your numerical and data problems. You will begin by learning how to set up a running Julia platform, before exploring its various built-in types. With the help of practical examples, this book walks you through two important collection types: arrays and matrices. In addition to this, you will be taken through how type conversions and promotions work.

In the course of the book, you will be introduced to the homo-iconicity and metaprogramming concepts in Julia. You will understand how Julia provides different ways to interact with an operating system, as well as other languages, and then you'll discover what macros are. Once you have grasped the basics, you'll study what makes Julia suitable for numerical and scientific computing, and learn about the features provided by Julia. By the end of this book, you will also have learned how to run external programs.

This book covers all you need to know about Julia in order to leverage its high speed and efficiency for your applications.

Things you will learn:

- Set up your Julia environment to achieve high productivity
- Create your own types to extend the built-in type system
- Visualize your data in Julia with plotting packages
- Explore the use of built-in macros for testing and debugging, among other uses
- Apply Julia to tackle problems concurrently
- Integrate Julia with other languages such as C, Python, and MATLAB

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