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Nota di contenuto	Cover; Copyright; Credits; About the Author; About the Reviewers; www.PacktPub.com; Table of Contents; Preface; The Rationale for Julia; Chapter 1: Installing the Julia Platform; Installing Julia; Windows version - usable from Windows XP SP2 onwards; Ubuntu version; OS X; Building from source; Working with Julia's shell; Startup options and Julia scripts; Packages; Adding a new package; Installing and working with Julia Studio; Installing and working with IJulia; Installing Sublime-IJulia; Installing Juno; Other editors and IDEs; How Julia works; Summary Chapter 2: Variables, Types, and Operations Variables, naming conventions, and comments; Types; Integers; Floating point numbers; Elementary mathematical functions and operations; Rational and complex numbers; Characters; Strings; Formatting numbers and strings; Regular expressions; Ranges and arrays; Other ways to create arrays; Some common functions for arrays; How to convert an array of chars to a string; Dates and times; Scope and constants; Summary; Chapter 3: Functions; Defining functions; Optional and keyword arguments; Anonymous functions; First-class functions and closures Recursive functions Map, filter, and list comprehensions; Generic functions and multiple dispatch; Summary; Chapter 4: Control Flow; Conditional evaluation; Repeated evaluation; The for loop; The while

loop; The break statement; The continue statement; Exception handling; Scope revisited; Tasks; Summary; Chapter 5: Collection Types; Matrices; Tuples; Dictionaries; Keys and values - looping; Sets; Making a set of tuples; Example project - word frequency; Summary; Chapter 6: More on Types, Methods, and Modules; Type annotations and conversions; Type conversions and promotions
The type hierarchy - subtypes and supertypes Concrete and abstract types; User-defined and composite types; When are two values or objects equal or identical?; Multiple dispatch example; Types and collections - inner constructors; Type unions; Parametric types and methods; Standard modules and paths; Summary; Chapter 7: Metaprogramming in Julia; Expressions and symbols; Eval and interpolation; Defining macros; Built-in macros; Testing; Debugging; Benchmarking; Starting a task; Reflection capabilities; Summary; Chapter 8: I/O, Networking, and Parallel Computing; Basic input and output
Working with files Reading and writing CSV files; Using DataFrames; Other file formats; Working with TCP sockets and servers; Interacting with databases; Parallel operations and computing; Creating processes; Using low-level communications; Parallel loops and maps; Distributed arrays; Summary; Chapter 9: Running External Programs; Running shell commands; Interpolation; Pipelining; Calling C and FORTRAN; Calling Python; Performance tips; Tools to use; Summary; Chapter 10: The Standard Library and Packages; Digging deeper into the standard library; Julia's package manager
Installing and updating packages

Sommario/riassunto

This book is for you if you are a data scientist or working on any technical or scientific computation projects. The book assumes you have a basic working knowledge of high-level dynamic languages such as MATLAB, R, Python, or Ruby.
