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| Autore                  | Astborg Johan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Titolo                  | F# for quantitative finance / / Johan Astborg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Edizione                | [1st edition]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Descrizione fisica      | 1 online resource (287 p.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Collana                 | Community experience distilled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Disciplina              | 005.13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Soggetti                | FA<U+00cc> (Computer program language)<br>Functional programming languages<br>Programming languages (Electronic computers)<br>Electronic books.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Lingua di pubblicazione | Inglese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Formato                 | Materiale a stampa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Livello bibliografico   | Monografia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Note generali           | Includes index.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Nota di contenuto       | Cover; Copyright; Credits; About the Author; About the Reviewers;<br>www.PacktPub.com; Table of Contents; Preface; Chapter 1: Introducing<br>F# using Visual Studio; Introduction; Getting started with Visual Studio;<br>Creating a new F# project; Creating a new project in Visual Studio;<br>Understanding the program template; Adding an F# script file;<br>Understanding F# Interactive; Language overview; Explaining mutability<br>and immutability; Primitive types; Explaining type inference; Explaining<br>functions; Learning about anonymous functions; Explaining higher<br>order functions; Currying; Investigating lists<br>Concatenating listsTuples; The pipe operator; Documenting your code;<br>Your first application; The whole program; Understanding the program;<br>Extending the example program; The entire program; The power of<br>prototyping; Functional languages in quantitative finance;<br>Understanding the imperative code and interoperability; Summary;<br>Chapter 2: Learning More About F#; Structuring your F# program;<br>Looking into modules; Using functions and values in modules;<br>Namespaces; Looking deeper inside data structures; Record types;<br>Discriminated unions; Enumerations; Arrays<br>Interesting functions in an array moduleLists; Pattern matching and<br>lists; Interesting functions in a list module; Sequences; Interesting<br>functions in the sequence module; Sets; Maps; Interesting functions in |

the map module; Options; Strings; Interesting functions in the string module; Choosing data structures; Arrays; Lists; Sets; Maps; More on functional programming; Recursive functions; Tail recursion; Pattern matching; Incomplete pattern matching; Using guards; Pattern matching in assignment and input parameters; Active patterns; Introducing generics; Lazy evaluation; Units of measure  
Asynchronous and parallel programmingEvents; Background workers; Threads; Thread pools; Asynchronous programming; The F# asynchronous workflows; Asynchronous binding; Example of using an async workflow; Parallel programming using TPL; MailboxProcessor; A brief look at imperative programming; Object-oriented programming; Classes; Objects and members; Methods and properties; Overloaded operators; Using XML documentation; Useful XML tags; Typical XML documentation; Summary; Chapter 3: Financial Mathematics and Numerical Analysis; Understanding number representation; Integers; Two's complement  
Floating-point numbersThe IEEE 754 floating-point standard; Learning about numerical types in F#; Arithmetic operators; Learning about arithmetic comparisons; Math operators; Conversion functions; Introducing statistics; Aggregate statistics; Calculating the sum of a sequence; Calculating the average of a sequence; Calculating the minimum of a sequence; Calculating the maximum of a sequence; Calculating the variance and standard deviation of a sequence; Looking at an example application; Using the Math.NET library; Installing the Math.NET library; Introduction to random number generation  
Pseudo-random numbers

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## Sommario/riassunto

To develop your confidence in F#, this tutorial will first introduce you to simpler tasks such as curve fitting. You will then advance to more complex tasks such as implementing algorithms for trading semi-automation in a practical scenario-based format.If you are a data analyst or a practitioner in quantitative finance, economics, or mathematics and wish to learn how to use F# as a functional programming language, this book is for you. You should have a basic conceptual understanding of financial concepts and models. Elementary knowledge of the .NET framework would also be helpful.

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