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Numerical methods in finance with C++.

Mastering Mathematical Finance. Cambridge: Cambridge University Press (ISBN 978-0-521-17716-0/pbk; 978-1-107-00371-2/hbk; 978-1-139-53398-0/ebook). x, 166 p. £ 24.00; \$ 39.00/pbk; £ 50.00; \$ 80.00/hbk; \$ 32.00/ebook (2012).

The book is about numerical methods combined with C++ programming skills, driven by concrete computational problems in quantitative finance. It begins with straightforward option pricing on binomial trees, and progresses towards non-linear solvers, Monte Carlo techniques for path-dependent derivative securities, finite-difference methods for partial differential equations, and American options pricing by solving a linear complementary problem. Prior knowledge of numerical methods as well as familiarity with C++ is not a prerequisite. The book is addressed to the readers who is interested in both the numerical techniques and programming language in application to finance.

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Classification: M35 N45 N55 N35

Keywords: binomial pricer; American options; non-linear solvers; Monte Carlo methods; finite difference methods

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