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| Autore                  | Chan Ngai Hang                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Nota di contenuto       | Cover; Title Page; Copyright; Dedication; Contents; List of Figures; List of Tables; Preface; Chapter 1 Preliminaries of VBA; 1.1 Introduction; 1.2 Basis Excel VBA; 1.2.1 Developer Mode and Security Level; 1.2.2 Visual Basic Editor; 1.2.3 The Macro Recorder; 1.2.4 Setting Up a Command Button; 1.3 VBA Programming Fundamentals; 1.3.1 Declaration of Variables; 1.3.2 Types of Variables; 1.3.3 Declaration of Multivariable; 1.3.4 Declaration of Constants; 1.3.5 Operators; 1.3.6 User-Defined Data Types; 1.3.7 Arrays and Matrices; 1.3.8 Data Input and Output; 1.3.9 Conditional Statements<br>1.3.10 Loops1.3.11 Sub Procedures and Function Procedures; 1.3.12 VBA's Built-In Functions; Chapter 2 Basic Properties of Futures and Options; 2.1 Introduction; 2.1.1 Arbitrage and Hedging; 2.1.2 Forward Contracts; 2.1.3 Futures Contracts; 2.2 Options; 2.3 Exercises; Chapter 3 Introduction to Simulation; 3.1 Questions; 3.2 Simulation; 3.3 Examples; 3.3.1 Quadrature; 3.3.2 Monte Carlo; 3.4 Stochastic Simulations; 3.5 Exercises; Chapter 4 Brownian Motions and Itô's Rule; 4.1 Introduction; 4.2 Wiener and Itô's Processes; 4.3 Stock Price; 4.4 Itô's Formula; 4.5 Exercises<br>Chapter 5 Black--Scholes Model and Option Pricing5.1 Introduction; 5.2 One Period Binomial Model; 5.3 The Black--Scholes--Merton Equation; 5.4 Black--Scholes Formula; 5.5 Exercises; Chapter 6 |

Generating Random Variables; 6.1 Introduction; 6.2 Random Numbers; 6.3 Discrete Random Variables; 6.4 Acceptance-Rejection Method; 6.5 Continuous Random Variables; 6.5.1 Inverse Transform; 6.5.2 The Rejection Method; 6.5.3 Multivariate Normal; 6.6 Exercises; Chapter 7 Standard Simulations in Risk Management; 7.1 Introduction; 7.2 Scenario Analysis; 7.2.1 Value at Risk; 7.2.2 Heavy-Tailed Distribution 7.2.3 Case Study: VaR of Dow Jones 7.3 Standard Monte Carlo; 7.3.1 Mean, Variance, and Interval Estimation; 7.3.2 Simulating Option Prices; 7.3.3 Simulating Option Delta; 7.4 Exercises; 7.5 Appendix; Chapter 8 Variance Reduction Techniques; 8.1 Introduction; 8.2 Antithetic Variables; 8.3 Stratified Sampling; 8.4 Control Variates; 8.5 Importance Sampling; 8.6 Exercises; Chapter 9 Path Dependent Options; 9.1 Introduction; 9.2 Barrier Option; 9.3 Lookback Option; 9.4 Asian Option; 9.5 American Option; 9.5.1 Simulation: Least Squares Approach; 9.5.2 Analyzing the Least Squares Approach 9.5.3 American Style Path Dependent Options 9.6 Greek Letters; 9.7 Exercises; Chapter 10 Multiasset Options; 10.1 Introduction; 10.2 Simulating European Multiasset Options; 10.3 Case Study: On Estimating Basket Options; 10.4 Dimension Reduction; 10.5 Exercises; Chapter 11 Interest Rate Models; 11.1 Introduction; 11.2 Discount Factor and Bond Prices; 11.3 Stochastic Interest Rate Models and Their Simulations; 11.4 Hull-White Model; 11.5 Fixed Income Derivatives Pricing; 11.6 Exercises; Chapter 12 Markov Chain Monte Carlo Methods; 12.1 Introduction; 12.2 Bayesian Inference 12.3 Simulating Posteriors

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## Sommario/riassunto

Praise for the First Edition""...a nice, self-contained introduction to simulation and computational techniques in finance..."

- Mathematical ReviewsSimulation Techniques in Financial Risk Management, Second Edition takes a unique approach to the field of simulations by focusing on techniques necessary in the fields of finance and risk management. Thoroughly updated, the new edition expands on several key topics in these areas and presents many of the recent innovations in simulations and risk management, such as advanced option pricing models beyond the Black-Scholes paradigm, interest ra

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