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Autore	Cerrato Mario
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Nota di contenuto	An Introduction to Probability Theory -- Stochastic Processes -- Ito Calculus and Ito Integral -- The Black and Scholes Economy -- The Black and Scholes Model -- Monte Carlo Methods -- Monte Carlo Methods and American Options -- American Option Pricing: The Dual Approach -- Estimation of Greeks using Monte Carlo Methods -- Exotic Options -- Pricing and Hedging Exotic Options -- Stochastic Volatility Models -- Implied Volatility Models -- Local Volatility Models -- An Introduction to Interest Rate Modelling -- Interest Rate Modelling --

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Sommario/riassunto	"The book is divided into two parts - the first part introduces probability theory, stochastic calculus and stochastic processes before moving on to the second part which instructs readers on how to apply the content learnt in part one to solve complex financial problems such as pricing and hedging exotic options, pricing American derivatives, pricing and hedging under stochastic volatility, and interest rate modelling. Each chapter provides a thorough discussion of the topics covered with practical examples in MATLAB so that readers will build up to an analysis of modern cutting edge research in finance, combining probabilistic models and cutting edge finance illustrated by MATLAB applications. Most books currently available on the subject require the reader to have some knowledge of the subject area and rarely consider computational applications such as MATLAB. This book stands apart from the rest as it covers complex analytical issues and complex financial instruments in a way that is accessible to those without a background in probability theory and finance, as well as providing detailed mathematical explanations with MATLAB code for a variety of topics and real world case examples"--