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Sommario/riassunto	The chief advantage of stochastic growth models over deterministic models is that they combine both deterministic and stochastic elements of dynamic behaviors, such as weather, natural disasters, market fluctuations, and epidemics. This makes stochastic modeling a powerful tool in the hands of practitioners in fields for which population growth is a critical determinant of outcomes.However, the background requirements for studying SDEs can be daunting for those who lack the rigorous course of study received by math majors. Designed to be accessible to readers who have had only a few courses in calculus and statistics, this book offers a comprehensive review of the mathematical essentials needed to understand and apply stochastic

growth models. In addition, the book describes deterministic and stochastic applications of population growth models including logistic, generalized logistic, Gompertz, negative exponential, and linear.Ideal for students and professionals in an array of fields including economics, population studies, environmental sciences, epidemiology, engineering, finance, and the biological sciences, Stochastic Differential Equations: An Introduction with Applications in Population Dynamics Modeling:• Provides precise definitions of many important terms and concepts and provides many solved example problems• Highlights the interpretation of results and does not rely on a theorem-proof approach• Features comprehensive chapters addressing any background deficiencies readers may have and offers a comprehensive review for those who need a mathematics refresher• Emphasizes solution techniques for SDEs and their practical application to the development of stochastic population modelsAn indispensable resource for students and practitioners with limited exposure to mathematics and statistics, Stochastic Differential Equations: An Introduction with Applications in Population Dynamics Modeling is an excellent fit for advanced undergraduates and beginning graduate students, as well as practitioners who need a gentle introduction to SDEs.