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| Autore | Privault Nicolas |
| Titolo | Understanding Markov Chains : Examples and Applications // by Nicolas Privault |
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| Descrizione fisica | 1 online resource (XVII, 372 p. 44 illus.) |
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| Disciplina | 519.233 |
| Soggetti | Probabilities Statistics Probability Theory and Stochastic Processes Statistical Theory and Methods Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences |
| Lingua di pubblicazione | Inglese |
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| Nota di contenuto | Probability Background -- Gambling Problems -- Random Walks -- Discrete-Time Markov Chains -- First Step Analysis -- Classification of States -- Long-Run Behavior of Markov Chains -- Branching Processes -- Continuous-Time Markov Chains -- Discrete-Time Martingales -- Spatial Poisson Processes -- Reliability Theory. |
| Sommario/riassunto | This book provides an undergraduate-level introduction to discrete and continuous-time Markov chains and their applications, with a particular focus on the first step analysis technique and its applications to average hitting times and ruin probabilities. It also discusses classical topics such as recurrence and transience, stationary and limiting distributions, as well as branching processes. It first examines in detail two important examples (gambling processes and random walks) before presenting the general theory itself in the subsequent chapters. It also provides an introduction to discrete-time martingales and their relation to ruin probabilities and mean exit times, together with a chapter on spatial Poisson processes. The concepts presented are illustrated by examples, 138 exercises and 9 problems with their |

solutions.
