Problems in probability

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Abstrak

Problems in probability comprises one of the most comprehensive, nearly encyclopedic, collections of problems and exercises in probability theory. Many problems contain helpful hints and other relevant comments and a portion of the material covers some important applications from optimal control and mathematical finance. Readers of diverse backgrounds-from students to researchers-will find a great deal of value in this book and can treat the work as an exercise manual, a handbook, or as a supplementary text to a course in probability theory, control, and mathematical finance. The problems and exercises in this book vary in nature and degree of difficulty. Some problems are meant to test the reader's basic understanding, others are of medium-to-high degrees of difficulty and require more creative thinking. Other problems are meant to develop additional theoretical concepts and tools or to familiarize the reader with various facts that are not necessarily covered in mainstream texts. Additional problems are related to the passage from random walk to Brownian motions and Brownian bridges. The appendix contains a summary of the main results, notation and terminology that are used throughout the book. It also contains additional material from combinatorics, potential theory and Markov chains-subjects that are not covered in the book, but are nevertheless needed for many of the exercises included here.