
Description:

Praise for the Third Edition

Researchers of any kind of extremal combinatorics or theoretical computer science will welcome the new edition of this book. – MAA Reviews

Maintaining a standard of excellence that establishes The Probabilistic Method as the leading reference on probabilistic methods in combinatorics, the Fourth Edition continues to feature a clear writing style, illustrative examples, and illuminating exercises. The new edition includes numerous updates to reflect the most recent developments and advances in discrete mathematics and the connections to other areas in mathematics, theoretical computer science, and statistical physics.

Emphasizing the methodology and techniques that enable problem-solving, The Probabilistic Method, Fourth Edition begins with a description of tools applied to probabilistic arguments, including basic techniques that use expectation and variance as well as the more advanced applications of martingales and correlation inequalities. The authors explore where probabilistic techniques have been applied successfully and also examine topical coverage such as discrepancy and random graphs, circuit complexity, computational geometry, and derandomization of randomized algorithms. Written by two well-known authorities in the field, the Fourth Edition features:

- Additional exercises throughout with hints and solutions to select problems in an appendix to help readers obtain a deeper understanding of the best methods and techniques
- New coverage on topics such as the Local Lemma, Six Standard Deviations result in Discrepancy Theory, Property B, and graph limits
- Updated sections to reflect major developments on the newest topics, discussions of the hypergraph container method, and many new references and improved results

The Probabilistic Method, Fourth Edition is an ideal textbook for upper-undergraduate and graduate-level students majoring in mathematics, computer science, operations research, and statistics. The Fourth Edition is also an excellent reference for researchers and combinatorists who use probabilistic methods, discrete mathematics, and number theory.

Contents:

PREFACE xiii

ACKNOWLEDGMENTS xv

PART I METHODS 1

1 The Basic Method 3

1.1 The Probabilistic Method, 3

1.2 Graph Theory, 5

1.3 Combinatorics, 9

1.4 Combinatorial Number Theory, 11

1.5 Disjoint Pairs, 12

1.6 Independent Sets and List Coloring, 13

1.7 Exercises, 16
5.3 Lower Bounds for Ramsey Numbers, 73
5.4 A Geometric Result, 75
5.5 The Linear Arboricity of Graphs, 76
5.6 Latin Transversals, 80
5.7 Moser's Fix-It Algorithm, 81
5.8 Exercises, 87

Directed Cycles, 88

6 Correlation Inequalities 89
6.1 The Four Functions Theorem of Ahlswede and Daykin, 90
6.2 The FKG Inequality, 93
6.3 Monotone Properties, 94
6.4 Linear Extensions of Partially Ordered Sets, 97
6.5 Exercises, 99

Turán's Theorem, 100

7 Martingales and Tight Concentration 103
7.1 Definitions, 103
7.2 Large Deviations, 105
7.3 Chromatic Number, 107
7.4 Two General Settings, 109
7.5 Four Illustrations, 113
7.6 Talagrand's Inequality, 116
7.7 Applications of Talagrand's Inequality, 119
7.8 Kim-Vu Polynomial Concentration, 121
7.9 Exercises, 123

Weierstrass Approximation Theorem, 124

8 The Poisson Paradigm 127
8.1 The Janson Inequalities, 127
8.2 The Proofs, 129
8.3 Brun's Sieve, 132
8.4 Large Deviations, 135
8.5 Counting Extensions, 137
11.12 Exercises, 219
Long paths in the supercritical regime, 220
12 Circuit Complexity 223
12.1 Preliminaries, 223
12.2 Random Restrictions and Bounded–Depth Circuits, 225
12.3 More on Bounded–Depth Circuits, 229
12.4 Monotone Circuits, 232
12.5 Formulae, 235
12.6 Exercises, 236
Maximal Antichains, 237
13 Discrepancy 239
13.1 Basics, 239
13.2 Six Standard Deviations Suffice, 241
13.3 Linear and Hereditary Discrepancy, 245
13.4 Lower Bounds, 248
13.5 The Beck–Fiala Theorem, 250
13.6 Exercises, 251
Unbalancing Lights, 253
14 Geometry 255
14.1 The Greatest Angle Among Points in Euclidean Spaces, 256
14.2 Empty Triangles Determined by Points in the Plane, 257
14.3 Geometrical Realizations of Sign Matrices, 259
14.4 ε–Nets and VC–Dimensions of Range Spaces, 261
14.5 Dual Shatter Functions and Discrepancy, 266
14.6 Exercises, 269
Efficient Packing, 270
15 Codes, Games, and Entropy 273
15.1 Codes, 273
15.2 Liar Game, 276
15.3 Tenure Game, 278
15.4 Balancing Vector Game, 279
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