



Discrete Mathematics and Game Theory /

Owen, Guillermo

Springer US,
1999

Monografía

This book describes highly applicable mathematics without using calculus or limits in general. The study agrees with the opinion that the traditional calculus/analysis is not necessarily the only proper grounding for academics who wish to apply mathematics. The choice of topics is based on a desire to present those facets of mathematics which will be useful to economists and social/behavioral scientists. The volume is divided into seven chapters. Chapter I presents a brief review of the solution of systems of linear equations by the use of matrices. Chapter III introduces the theory of probability. The rest of the book deals with new developments in mathematics such as linear and dynamic programming, the theory of networks and the theory of games. These developments are generally recognized as the most important field in the 'new mathematics' and they also have specific applications in the management sciences

<https://rebiunoda.pro.baratznet.cloud:38443/OpacDiscovery/public/catalog/detail/b2FpOmNlbGVicmF0aW9uOmVzLmJhcmF0ei5yZW4vMzgZnJA1MTI>

Título: Discrete Mathematics and Game Theory by Guillermo Owen

Editorial: Boston, MA Springer US 1999

Descripción física: 1 online resource (vi, 346 pages)

Mención de serie: Theory and Decision Library, Series C: Game Theory, Mathematical Programming and Operations Research 0924-6126 22

Contenido: I. Vectors and Matrices -- 1. Algebraic Operations -- 2. Row Operations and the Solution of Systems of Linear Equations -- 3. Solution of General $m \times n$ Systems of Equations -- II. Linear Programming -- 1. Linear Programs -- 2. The Simplex Algorithm: Slack Variables -- 3. The Simplex Tableau -- 4. The Simplex Algorithm: Objectives -- 5. The Simplex Algorithm: Choice of Pivots -- 6. The Simplex Algorithm: Stage I. -- 7. The Simplex Algorithm: Proof of Convergence -- 8. Equation Constraints -- 9. Degeneracy Procedures -- 10. Some Practical Comments -- 11. Duality -- 12. Transportation Problems -- 13. Assignment Problems -- III. The Theory of Probability -- 1. Probabilities -- 2. Discrete Probability Spaces -- 3. Conditional Probability -- 4. Compound Experiments -- 5. Bayes' Formula -- 6. Repetition of Simple Experiments; The Binomial Distribution -- 7. Drawings with and without Replacement -- 8. Random Variables -- 9. Expected Values. Means and Variances -- 10. Rules for Computing the Mean and Variance -- 11. Two Important Theorems -- 12. Markov Chains -- 13. Regular and Absorbing Markov Chains -- IV. The Theory of Games -- 1. Games: Extensive and Normal Form -- 2. Saddle Points -- 3. Mixed Strategies -- 4. Solution of 2×2 Games -- 5. $2 \times n$ and $m \times 2$ Games -- 6. Solutions by Linear Programming -- 7 Solution of Games by Fictitious Play -- 8. The von Neumann Model of an Expanding

Economy -- 9. Existence of an Equilibrium Expansion Rate -- 10. Two-Person Non-Zero-Sum Games -- 11. Evolutionary Stable Systems -- V. Cooperative Games -- 1. n-Person Games -- 2. The Core -- 3. The Shapley Value -- 4. Voting Structures -- VI. Dynamic Programming -- 1. The Principle of Maximality -- 2. The Fixed-Charge Transportation Problem -- 3. Inventories -- 4. Stochastic Inventory Systems -- VII. Graphs and Networks -- 1. Introduction -- 2. Critical Path Analysis -- 3. The Shortest Path through a Network -- 4. Minimal Spanning Trees -- 5. The Maximal Flow in a Network

Copyright/Depósito Legal: 934970022 1243545606 1244631241

ISBN: 9781461549918 electronic bk.) 1461549914 electronic bk.) 9781461372660 1461372666 1461549914

Materia: Economics Economics Économie politique economics. Economics.

Enlace a formato físico adicional: Print version 9781461372660

Punto acceso adicional serie-Título: Theory and decision library. Series C Game theory, mathematical programming, and operations research 22

Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es