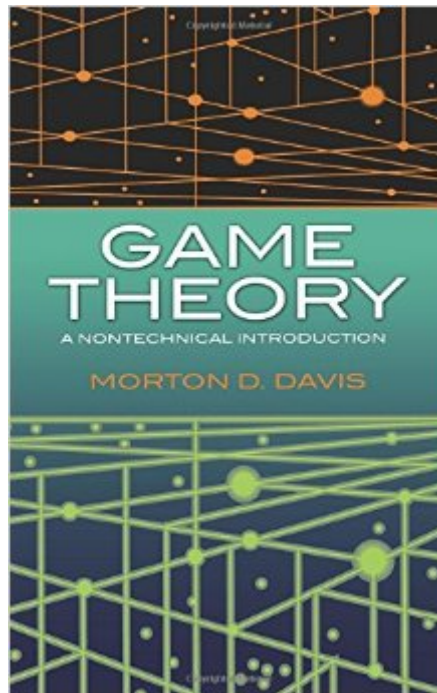# Game Theory: A Nontechnical Introduction (Dover Books On Mathematics)

Synopsis

"A lucid and penetrating development of game theory that will appeal to the intuition . . . a most valuable contribution." â ” Douglas R. Hofstadter, author of GÃ¶del, Escher, BachThe foundations of game theory were laid by John von Neumann, who in 1928 proved the basic minimax theorem, and with the 1944 publication of the Theory of Games and Economic Behavior, the field was established. Since then, game theory has become an enormously important discipline because of its novel mathematical properties and its many applications to social, economic, and political problems.Game theory has been used to make investment decisions, pick jurors, commit tanks to battle, allocate business expenses equitably â ” even to measure a senator's power, among many other uses. In this revised edition of his highly regarded work, Morton Davis begins with an overview of game theory, then discusses the two-person zero-sum game with equilibrium points; the general, two-person zero-sum game; utility theory; the two-person, non-zero-sum game; and the n-person game.A number of problems are posed at the start of each chapter and readers are given a chance to solve them before moving on. (Unlike most mathematical problems, many problems in game theory are easily understood by the lay reader.) At the end of the chapter, where solutions are discussed, readers can compare their "common sense" solutions with those of the author. Brimming with applications to an enormous variety of everyday situations, this book offers readers a fascinating, accessible introduction to one of the most fruitful and interesting intellectual systems of our time.

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Customer Reviews

As the name implies, this is a non-technical introduction to a very complex and technical subject. As such, the writer walks a very fine line between making the subject matter understandable to the lay-person and providing scientific support for his arguments. He is able to do this with a mixed level of success.The first few chapters of the book deal with relatively simple subject matter, two person zero sum games. In these chapters, the author is easily able to explain the concepts and solutions without getting technical. However, as the book progresses, the author grapples with ever more complex problems, such as two person non-zero-sum games and with n-person games. As the problems become more complex, the author's explanations become less well organized and clear. It is obvious that behind the arguments stand solid mathematical reasoning, however since the book tries to avoid mathematics as much as possible, many of the explanations and assumptions remain vague.Although I was familiar with many of the concepts in the book, this is the first book I have read on game theory. Was it worth it? Absolutely. Although I would have liked to receive more in-depth explanations in many cases, I felt that the book opened a window for me into this fascinating world. I was especially pleased with the many real world examples the author uses to illustrate the wide-ranging applications of game theory. These examples include an application of game theory to the evolution of species; and the use of game theory to determine who holds the power in a political system. More well known concepts, such as the Prisoners' Dilemma, are also comprehensively discussed.Bottom line, this is a really enjoyable book that covers a very challenging subject.

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