

hands were dealt from a complete shuffled deck. As the game is actually played, however, the later hands come from a decreasing deck. Thus, the probability of winning and the optimal strategy should fluctuate. Further, the player should have the advantage frequently. Using an IBM 704, the author computed, as a function of the cards in the depleted deck, the situations when the player has the advantage.

The book begins with a discussion of the rules of the game and then proceeds to describe the optimal strategy as a function of the amount of information (the cards depleted from deck) the player is able to remember. If no information is remembered, the optimal strategy yields 0.21 percent advantage to the casino. However, keeping track of the fives, the player obtains an advantage of 3 percent. If a player is able to keep track of more than four cards, tens and aces, he can obtain an advantage which ranges from 4 to 15 percent.

The book contains an account of the author's successful test in Nevada. The chapter on how to spot cheating is unique. The book also contains an appendix giving the probabilities for hands dealt from a complete deck.

MELVIN DRESHER

The RAND Corporation  
Santa Monica, California

**48[L].**—ROLIN F. BARRETT, *Tables of Modified Struve Functions of Orders Zero and Unity*, MS of 55 typewritten sheets  $8\frac{1}{2}$  x 11 in., deposited in the UMT File.

Following a one-page introduction, which gives the general definition of the Struve functions, their expansions in both power series and asymptotic series, and an outline of the contents of the tables, the author presents decimal approximations to  $L_0(x)$  and  $L_1(x)$  to 5 and 6S for  $x = 0.02(0.005) 4(0.05) 10(0.1) 19.2$ , calculated by power series, and approximations to 2S, in floating-point form, for  $x = 6(0.25) 59.50(0.5) 100$ , calculated by asymptotic series. All calculations were performed on an IBM 650 at North Carolina State College, where the author is a member of the Department of Mechanical Engineering.

No bibliography is presented, and apparently no comparison of these data was made with existing tables such as those of the National Bureau of Standards [1]. A single comparison with the latter tables revealed numerous last-place errors (ranging up to 5 units) in the tables under review.

Apart from these discrepancies, the manuscript tables appear to be reliable, and they supply tabular information corresponding to a range of the argument extending considerably beyond that of previous tables of these functions.

J. W. W.

1. National Bureau of Standards, *Tables of Functions and of Zeros of Functions*, Applied Mathematics Series, v. 37, U. S. Government Printing Office, Washington, D. C., 1954, p. 113-119.

**49[L].**—AVNER FRIEDMAN, *Generalized Functions and Partial Differential Equations*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1963, xii + 340 p., 23 cm. Price \$10.00.

The main subject of this book by Avner Friedman is a somewhat specialized topic in the theory of partial differential equations; namely, the Cauchy problem