DESCRIPTION

This book presents an extensive survey and report of related research on important developments in cellular automata (CA) theory. The authors introduce you to this theory in a comprehensive manner that will help you understand the basics of CA and be prepared for further research. They illustrate the matrix algebraic tools that characterize group CA and help develop its applications in the field of VLSI testing.

The text examines schemes based on easily testable FSM, bit-error correcting code, byte error correcting code, and characterization of 2D cellular automata. In addition, it looks into CA-based universal pattern generation, data encryption, and synthesis of easily testable combinational logic. The book covers new characterizations of group CA behavior, CA-based tools for fault diagnosis, and a wide variety of applications to solve real-life problems.

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