

Using diverse and seemingly disparate results from different fields, this book combines concepts from mathematics and computer science to present the first integrated treatment of sequences generated by "finite automata."

The authors apply the theory to the study of automatic sequences and their generalizations, such as Sturmian words and finitely-regular sequences. And further, they provide applications to number theory (particularly to formal power series and transcendence in their characteristic), physics, computer graphics, and music.

Starting from first principles whenever feasible, basic tools from combinatorics on words, numeration systems, and models of computation are discussed. Thus this book is suitable for graduate students or advanced undergraduates, as well as for mature researchers wishing to know more about this fascinating subject.

Jean-Paul Allouche is Directeur de Recherche at CNRS, I.R.I., Orsay. He has written some 40 papers in number theory and combinatorics on words. He is on the editorial board of *Advances in Applied Mathematics* and on the scientific committee of the *Journal de Théorie des Nombres de Bordeaux*.

Jeffrey Shallit is Professor of Computer Science at the University of Waterloo. He has written 60 articles on number theory, algorithms, formal languages, combinatorics on words, computer graphics, history of mathematics, digits and automatic theory. He is the editor-in-chief of the *Journal of Integer Sequences* and co-author of *Algorithmic Number Theory*.

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# Automatic Sequences Automatic Sequences

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**Language and Automata Theory and Applications** Adrian-Horia Dediu,Carlos Martín-Vide,Bianca Truthe,2013-03-15 This book constitutes the refereed proceedings of the 7th International Conference on Language and Automata Theory and Applications LATA 2013 held in Bilbao Spain in April 2013 The 45 revised full papers presented together with 5 invited talks

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**Linear Cellular Automata and**

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**The Electric Power Club Handbook of Standards** Electric Power Club,1925

Sequences and Their Applications T. Helleseth,P.V. Kumar,2002 Pseudorandom sequences have widespread

applications for instance in spread spectrum code division multiple access optical and ultrawide band communication systems as well as in ranging systems global positioning systems circuit testing and stream ciphers Such sequences also have strong ties to error correcting codes This volume contains survey and research papers on sequences and their applications It brings together leading experts from discrete mathematics computer science and communications engineering and helps to bridge advances in these different areas Papers in this volume discuss the theory of sequences and their applications in cryptography coding theory communications systems numerical computation and computer simulation

*Power Switchboard and Switching Equipment Handbook* Electric Power Club,1925

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