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Generating Finite Cyclic and Dihedral Groups using Sequential Insertion Systems with Interactions

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Abstract

The operation of insertion has been studied extensively throughout the years for its impact in many areas of theoretical computer science such as DNA computing. First introduced as a generalization of the concatenation operation, many variants of insertion have been introduced, each with their own computational properties. In this paper, we introduce a new variant that enables the generation of some special types of groups called sequential insertion systems with interactions. We show that these new systems are able to generate all finite cyclic and dihedral groups.

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- | | | |
|----|---|------------------------|
| 1. | Automata for Subgroups
By: Fong, W. H.; Gan, Y. S.; Sarmin, N. H.; et al.
AIP C P Published: 2014
[Show additional data] | Times Cited: 1 |
| 2. | Automata Diagram over Abelian Groups
By: Fong, W. H.; Gan, Y. S.; Sarmin, N. H.; et al.
AIP C P Published: 2013
[Show additional data] | Times Cited: 1 |
| 3. | On bonded sequential and parallel insertion systems
By: Fong, W. Heng; Holzer, M.; Truthe, B.; et al.
8 WORKSH NONCL MOD A Volume: 321 Pages: 163-178 Published: 2016
Publisher: Osterreichische Computer Gesellschaft, Austria
[Show additional data] | Times Cited: 3 |
| 4. | Title: [not available]
By: Fraleigh, J. B.; Fraleigh, A.
A first course in abstract algebra Published: 2003 | Times Cited: 41 |
| 5. | Title: [not available]
By: Gan, Y. S.; Fong, W. H.; Sarmin, N. H.; et al.
Malaysian Journal of Fundamental and Applied Sciences Volume: 9 Pages: 35-40 Published: 2013
[Show additional data] | Times Cited: 2 |
| 6. | Geometrical Representation of Automata over Some Abelian Groups
By: Gan, Y. S.; Fong, W. H.; Sarmin, N. H.; et al.
MALAYSIAN JOURNAL OF FUNDAMENTAL AND APPLIED SCIENCES Volume: 8 Issue: 1 Pages: 24-30 Published: JAN-MAR 2012 | Times Cited: 3 |
| 7. | Contextual insertions/deletions and computability
By: Kari, L; Thierrin, G
INFORMATION AND COMPUTATION Volume: 131 Issue: 1 Pages: 47-61 Published: NOV 25 1996 | Times Cited: 67 |
| 8. | Title: [not available]
By: Kari, L.
On insertion and deletion in formal languages Published: 1991
Ph. D. Thesis
Publisher: University of Turku, Finland | Times Cited: 20 |
| 9. | At the Crossroads of DNA Computing and Formal Languages: Characterizing RE using Insertion-Deletion Systems
By: Kari, L.; Paun, Gh.; Thierrin, G.; et al.
P 3 DIMACS WORKSH DN Pages: 318-333 Published: 1999
[Show additional data] | Times Cited: 1 |

10. Title: [not available] Times Cited: 4
By: Krassovitskiy, A.
Complexity and modeling power of insertion-deletion systems Published: 2011
Ph. D. thesis
Publisher: Universitat Rovira i Virgili
11. Title: [not available] Times Cited: 557
By: Rozenberg, G.; Salomaa, A.
The Mathematical Theory of L-Systems Published: 1980
Publisher: Academic Press, New York
12. Title: [not available] Times Cited: 478
Edited by: Rozenberg, G.; Salomaa, A.
HDB FORMAL LANGUAGES Published: 1997
3 volumes
Publisher: Springer-Verlag
13. **On the computational power of insertion-deletion systems** Times Cited: 20
By: Takahara, A.; Yokomori, T.
Natural Computing Volume: 2 Issue: 4 Pages: 321-36 Published: 2003
14. **Recent Developments on Insertion-Deletion Systems** Times Cited: 14
By: Verlan, Sergey
COMPUTER SCIENCE JOURNAL OF MOLDOVA Volume: 18 Issue: 2 Pages: 210-245 Published: 2010
15. **Two Variants of Bonded Parallel Insertion Systems and Their Generative Power** Times Cited: 1
By: Yosman, A. F.; Holzer, M.; Truthe, B.; et al.
P 6 INT GRAD C ENG S Pages: 418-420 Published: 2016
Publisher: Universiti Teknologi Malaysia, Johor Bahru, Malaysia
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