

Minor Field of Comprehensive Examination

Automata and formal languages

Syllabus

Algebraic theory of automata; automata networks; automata and formal languages, the Chomsky hierarchy; combinatorial properties of languages, grammar systems, regulated rewriting, contextual grammars, tree and graph languages; quantum, DNA, and membrane computing models.

Bibliography

1. C. S. Calude, Gh. Paun: Computing with Cells and Atoms. Taylor & Francis Publishers, London, 2001.
2. Dömösi, P. és Nehaniv, C.L.: Algebraic theory of automata networks. An introduction, Siam 2005.
3. J. C. Martin: Introduction to Languages and the Theory of Computation, 4th edition. McGraw-Hill, 2011.
4. C. Martín-Vide, V. Mitrana, Gh. Paun (szerk.): Formal Languages and Applications. Springer-Verlag, Berlin Heidelberg, 2004.
5. J. Shallit: A Second Course in Formal Languages and Automata Theory. Cambridge University Press, 2008.
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