

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Mathematics - Formal Languages and Automata Theory

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Co-ordinating Institute - IIT - Guwahati

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - Introduction
- Lecture 2 - Alphabet, Strings, Languages
- Lecture 3 - Finite Representation
- Lecture 4 - Grammars (CFG)
- Lecture 5 - Derivation Trees
- Lecture 6 - Regular Grammars
- Lecture 7 - Finite Automata
- Lecture 8 - Nondeterministic Finite Automata
- Lecture 9 - NFA \Leftrightarrow DFA
- Lecture 10 - Myhill-Nerode Theorem
- Lecture 11 - Minimization
- Lecture 12 - RE \Rightarrow FA
- Lecture 13 - FA \Rightarrow RE
- Lecture 14 - FA \Leftrightarrow RG
- Lecture 15 - Variants of FA
- Lecture 16 - Closure Properties of RL
- Lecture 17 - Homomorphism
- Lecture 18 - Pumping Lemma
- Lecture 19 - Simplification of CFG
- Lecture 20 - Normal Forms of CFG
- Lecture 21 - Properties of CFLs
- Lecture 22 - Pushdown Automata
- Lecture 23 - PDA \Leftrightarrow CFG
- Lecture 24 - Turing Machines
- Lecture 25 - Turing Computable Functions
- Lecture 26 - Combining Turing Machines
- Lecture 27 - Multi Input
- Lecture 28 - Turing Decidable Languages
- Lecture 29 - Variants of Turing Machines

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- Lecture 30 - Structured Grammars
- Lecture 31 - Decidability
- Lecture 32 - Undecidability 1
- Lecture 33 - Undecidability 2
- Lecture 34 - Undecidability 3
- Lecture 35 - Time Bounded Turing Machines
- Lecture 36 - P and NP
- Lecture 37 - NP-Completeness
- Lecture 38 - NP-Complete Problems 1
- Lecture 39 - NP-Complete Problems 2
- Lecture 40 - NP-Complete Problems 3
- Lecture 41 - Chomsky Hierarchy