Automata & languages
A primer on the Theory of Computation

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Part 2 out of 5
Last week was all about **Deterministic Finite Automaton**
We saw three main concepts

Regular Language

Formal definition

Closure
A language $L$ is *regular* if some finite automaton recognizes it.
A finite automaton is a 5-tuple

\( (Q, \Sigma, \delta, q_0, F) \)
\[(Q, \Sigma, \delta, q_0, F)\]
Regular Language

Formal definition

Closure

If \( L_1 \) and \( L_2 \) are regular, then so are:

\[
L_1 \cup L_2 \quad L_1 \cap L_2 \quad \overline{L_1} \\
L_1 \oplus L_2 \quad L_1 - L_2
\]
Finite Automata
Thu Sept 28

1. Closure

2. Equivalence
   - DFA
   - NFA
   - Regular Expression