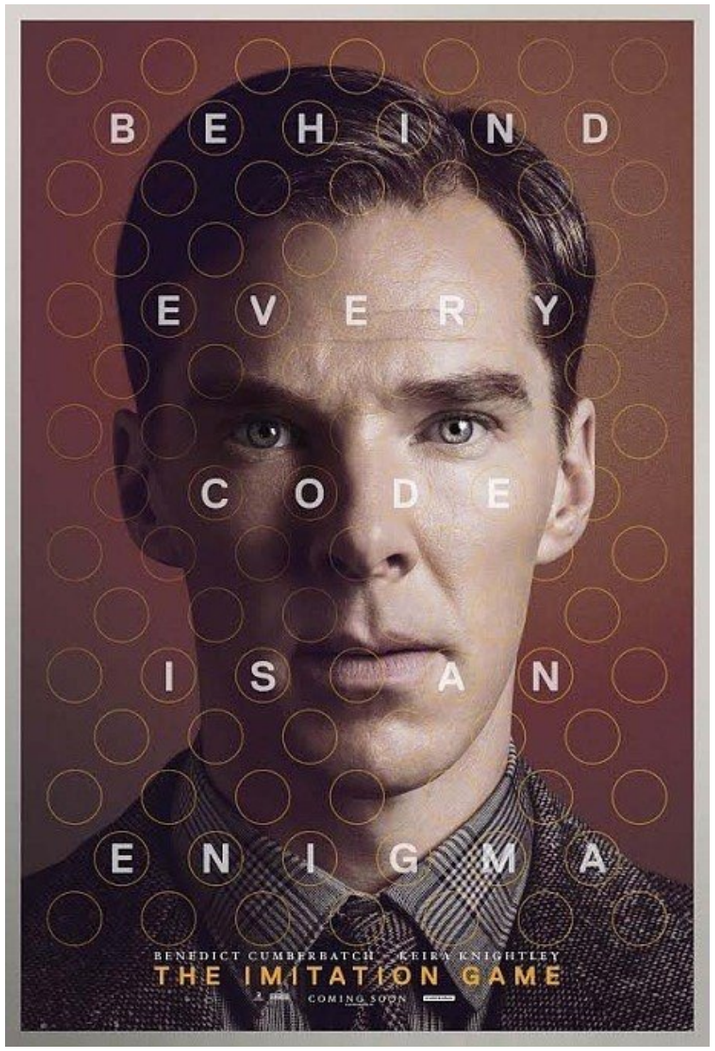
Automata & languages

A primer on the Theory of Computation



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Last week was all about

Deterministic Finite Automaton

We saw three main concepts

Regular Language

Formal definition

Closure

Regular Language

A language *L* is *regular*
if some finite automaton
recognizes it

Formal definition

Closure

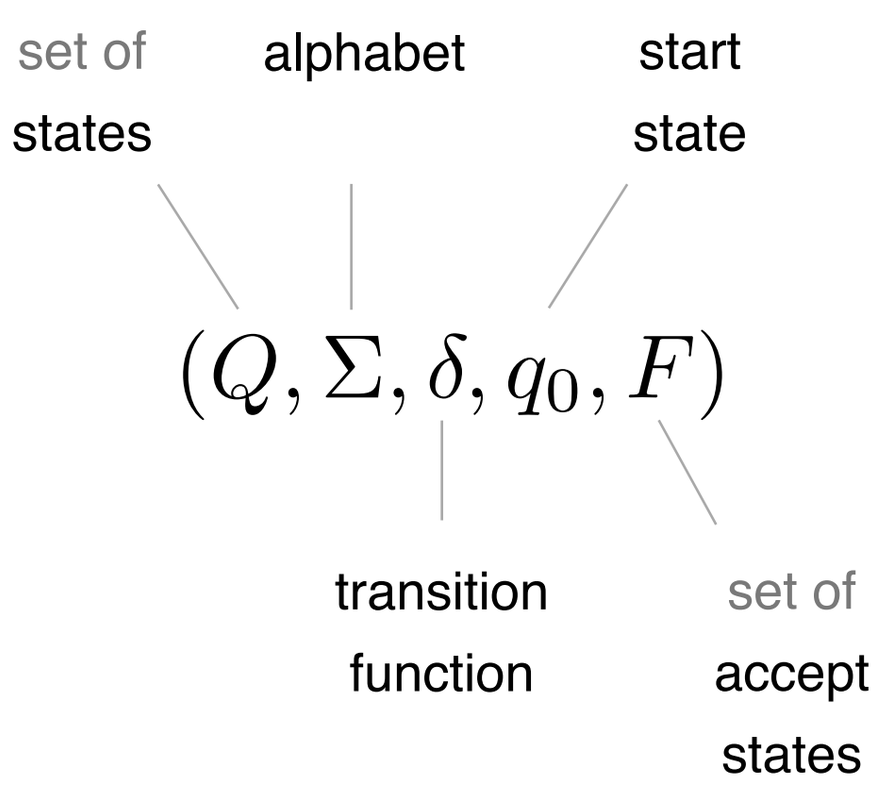
Regular Language

Formal definition

A finite automaton is a 5-tuple

$$(Q, \Sigma, \delta, q_0, F)$$

Closure


set of states
alphabet
start state
$(Q, \Sigma, \delta, q_0, F)$
transition function
set of accept states

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