

Non-deterministic Finite Automata

A non-deterministic finite automata (NFA) is a mathematical model that consists of

1. a set of states S
2. a set of input symbol Σ (the input symbol alphabet)
3. a transition function move that maps state-symbol pairs to sets of states
4. a state s_0 that is distinguished as the start (or initial) state
5. a set of states F distinguished as accepting (or final) states

“An NFA accepts an input string x if and only if there is some path in the transition graph from the start state to some accepting state, such that the edge labels along this path spell out x . ”

References

- [1] Jeffrey D. Ulman, Ravi Sethi, Alfred V. Aho *Compilers: Principles, Techniques and Tools* copyright 1986 by Bell Telephone Laboratories, Incorporated page 114-115