

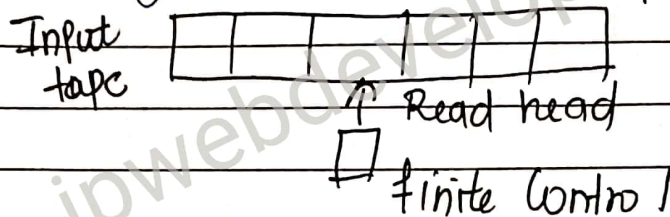
2-Way Finite Automata

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@jpnotes

→ Two-way finite Automata (2DFA) is a machine that can read input strings in either direction. It is similar to other machines, but it can re-read its input.

→ It have a read head, which can move left or right over the input string.

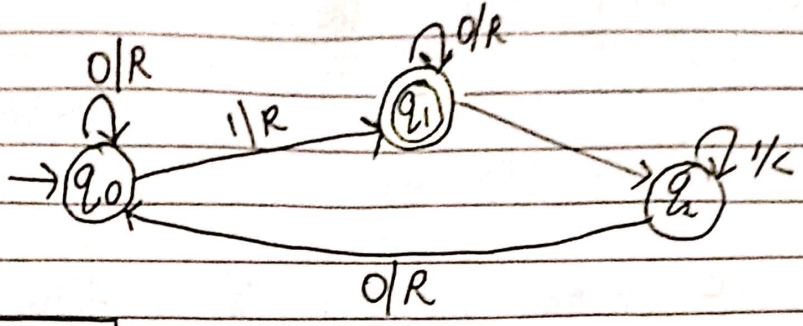


→ 2DFA is defined by 8-tuples:-

- Q : finite set of states
- $(\Sigma) S$: finite set of input alphabets
- L : left end marker
- R : right endmarker
- δ : transition function: $\delta: Q \times \Sigma \rightarrow Q \times \{L, R\}$
- q_0 : initial state
- F : final state
- R : set of Reject states $R_1 \neq F$

@jpnotes

Example



w = 101001

q0 101001

1 q0 01001

10 q0 1001

1 q2 01001

10 q0 1001

101 q1 001

1010 q1 01

10100 q1 1

1010 q2 01

10100 q0 1

101001 q1

final state

This string is acceptable by 2DFA.

Notes by (JPwebdevelopers)