



CSE322

Linear Bounded

Automaton & NDTM

Lecture #38

Linear Bounded Finite Automaton

- A set of Context Sensitive Language is accepted by LBA.
- The infinite storage is restricted in size but not in accessibility to storage in comparison with Turing Machine Model.
- Is used to restrict(to bound) the length of the tape.

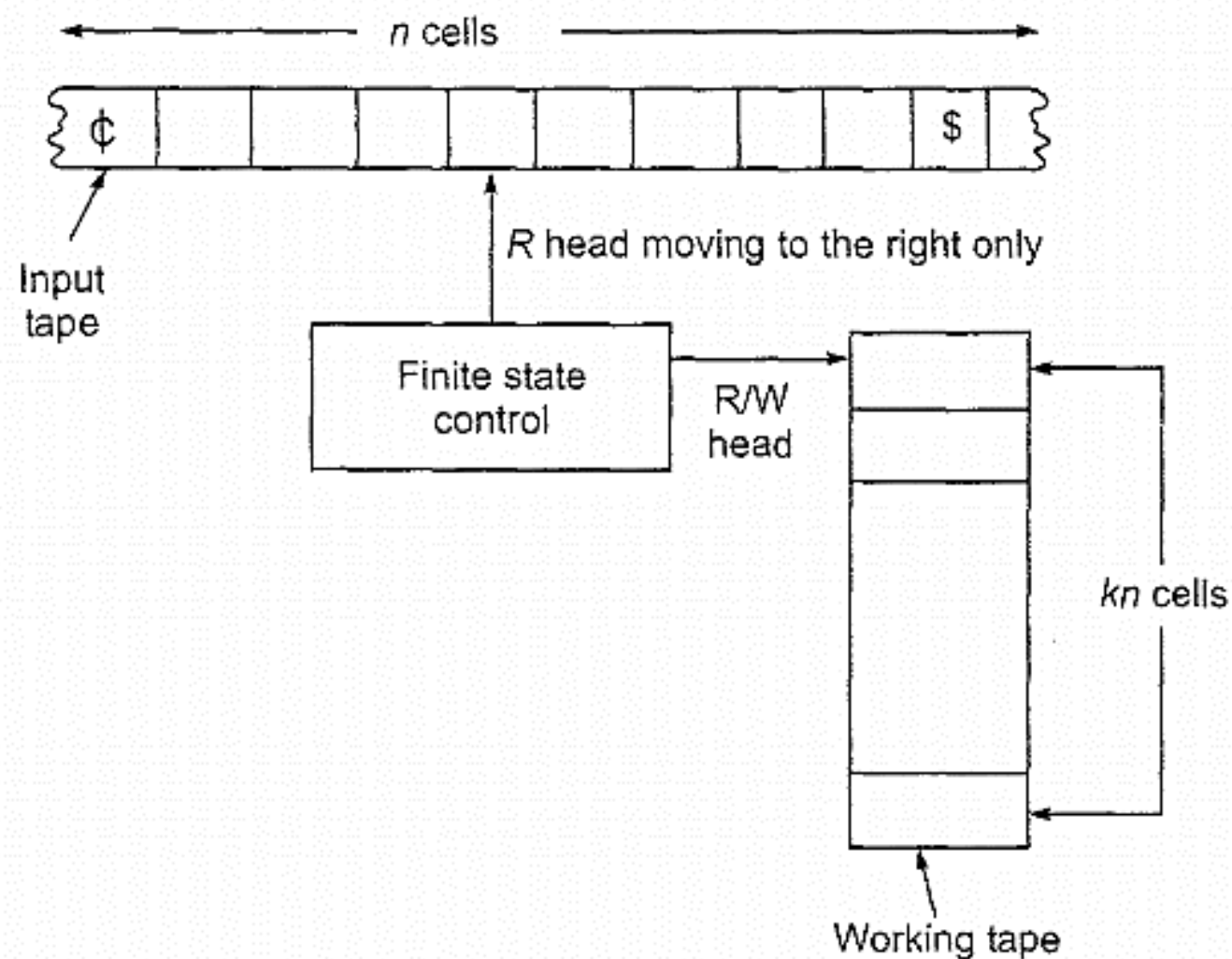


Fig. Model of linear bounded automaton.

Non Deterministic Turing Machine

Definition A nondeterministic Turing machine is a 7-tuple $(Q, \Sigma, \Gamma, \delta, q_0, b, F)$ where

1. Q is a finite nonempty set of states
2. Γ is a finite nonempty set of tape symbols
3. $b \in \Gamma$ is called the blank symbol
4. Σ is a nonempty subset of Γ , called the set of input symbols. We assume that $b \notin \Sigma$.
5. q_0 is the initial state
6. $F \subseteq Q$ is the set of final states
7. δ is a partial function from $Q \times \Gamma$ into the power set of $Q \times \Gamma \times \{L, R\}$.