

Non-deterministic Finite Automata (NFA)

Lecture 5

* deterministic - ~~unique next state for a given state q and an input signal~~

$\delta(q, a) = q'$ the key feature of DFA is given current state and next input symbol, can transition to other state (according to transition func.)
 $\delta: Q \times E \rightarrow Q$

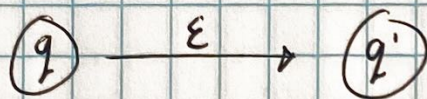
- that is, deterministic when behavior is completely det. by current state and next input sym.

- In NFA, given a state q and input sym a , next state is not necessarily unique

instead, δ returns a set of states

$$\delta: Q \times \Sigma \rightarrow 2^Q$$

- NFA allows ϵ -transitions i.e. NFA can go from a state q to another q' w/o scanning any sym.



non

NFA ex.

