

Eliminating ϵ -transitions pseudo-code

Let $N = (Q, \Sigma, \delta, q_0, F)$ be an NFA.

Definition: a-transition: a transition in the automata graph labeled with $a \in \Sigma_\epsilon$

Eliminate_ ϵ -transitions(NFA N)

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$\forall q \in Q$:

1. $A \leftarrow$ The ϵ -transitions entering q
2. $B \leftarrow$ The a -transitions exiting q
3. $\forall a \in A, b \in B$
 - a. Let $a = (r, q)$ be the ϵ -transition from r to q
 - b. Let $b = (q, s)$ be the a -transition from q to s
 - c. Add an a -transition from r to s
 - d. If q is an accepting state, turn r to an accepting state
4. Delete all the ϵ -transitions entering q

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