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A Deterministic Finite State automaton can be simulated on the Turing Machine with stay put instead of left. The modifications can be done if transitions are added from state in F to q_{accept} and from the states outside F to q_{reject} when a blank symbol is read.

Assume there is a Turing Machine M, such that $M=(Q,\Sigma,\Gamma,\delta,q_0,q_{accept},q_{reject})$ with stay put instead of left. Create a DFA such that the DFA $(Q^{'},\Sigma^{'},\delta^{'},q_0^{'},F)$ recognizes the same language.

The machine M cannot move left and cannot write anything that it can written on the tape while moving to the right. Thus, the access is one-way.

For every DFA, there exists a Turing Machine that accepts the same language because a DFA is a Turing Machine with read only tape and tape head with moves to right.

The transition function δ' for the NFA is as follows:

First, set $\delta'\left(q_{\text{start}},P\right)=\left\{q_{OP}\right\}$ where q_{op} is the start state of TM variant.

Next, set $\delta'\left(q_{accept},i\right)=\left\{q_{\text{accept}}\right\}$ For any *i*

If $\delta\left(p,a\right)=\left(q_{\text{accept}},b,w\right)$ where $w=R \text{ or } S,$ set $\delta'\left(q_{pa},\in\right)=\left\{q_{\text{acceept}}\right\}$

R is RIGHT *S* is stay put.

If $\delta\left(p,a\right)=\left(q_{reject},b,w\right)$where $w=R$ or S, we set $\delta'\left(q_{pa}\in\right)=\left\{q_{reject}\right\}$

• For each $a\in\Sigma,\text{set }\delta'(q_{start},a)=\left\{\left\langle q_0,a\right\rangle\right\},\text{where } q_0 \text{ is start state of S.}$

• For each $p,q\in Q \text{ where } p\notin\{q_{accept},q_{reject}\}$, for each $a\in\Gamma$, if S has transition of form $\delta\left(p,a\right)=\left(q_{\text{accept}},b,w\right)$or $\delta\left(p,a\right)=\left(q_{reject},b,w\right)$, *w* becomes R for each $c\in\sum$, set $\delta'\left(\left\langle p,a\right\rangle,c\right)=\left\{\left\langle q,c\right\rangle\right\}$.

• For each $p,q\in Q \text{ where } p\notin\{q_{accept},q_{reject}\}$, for each $a\in\sum$, if S has transition of form $\delta\left(p,a\right)=\left(q_{\text{accept}},b,w\right)$or $\delta\left(p,a\right)=\left(q_{reject},b,w\right)$, *w* becomes S then set $\delta'\left(\left\langle p,a\right\rangle,\varepsilon\right)=\left\{\left\langle q,b\right\rangle\right\}$

Thus, an NFA is constructed which is defined as follows:

$\left(Q'=Q,\Sigma'=\Sigma,\delta',q_{op}=q_{start},F\right)$ From our TM variant *S*.

The language recognized by NFA is regular languages.