Theorem 6.3.1

Let $G = (V, \sum \quad, P, S)$ be a regular grammar.

Define the NFA $M = (Q, \sum \quad, \delta, S, F)$ as follows:

i). $Q = \begin{cases} V \cup \quad \{Z\} where \ Z \ not \ in \ V, if \ P \ contains \ a \ rule \ A \rightarrow a \\ V \ otherwise \end{cases}$

ii).

$\delta(A, a) = B$, whenever $A \ \rightarrow aB \ \in P$

$\delta(A, a) = Z$, whenever $A \ \rightarrow a \ \in P$

(iii).

$$F = \begin{cases} \{A \,|A \ \rightarrow \lambda \in P\} \cup \{Z\} \ if \ Z \in \ Q \\ \{A \,|A \ \rightarrow \ \lambda \ \in P\} \ otherwise \end{cases}$$

Then $L(M = L(G)$