



$$q_{11} = q_{11} \text{ digit} + q_{11} \text{ letter} + q_{10} \text{ digit} \rightarrow \textcircled{1}$$

$$q_{10} = q_1 \varepsilon \rightarrow \textcircled{2}$$

$$q_9 = q_9 \text{ letter} + q_9 \text{ digit} + q_8 \text{ letter} \rightarrow \textcircled{3}$$

$$q_8 = q_1 \varepsilon \rightarrow \textcircled{4}$$

$$q_7 = q_6 e \rightarrow \textcircled{5}$$

$$q_6 = q_5 l \rightarrow \textcircled{6}$$

$$q_5 = q_4 i \rightarrow \textcircled{7}$$

$$q_4 = q_3 h \rightarrow \textcircled{8}$$

$$q_3 = q_2 w \rightarrow \textcircled{9}$$

$$q_2 = q_1 \varepsilon \rightarrow \textcircled{10}$$

$$q_1 = \varepsilon \rightarrow \textcircled{11}$$

$$\textcircled{1} \rightarrow q_{11} = q_{11} \text{ digit} + q_{11} \text{ letter} + q_{10} \text{ digit}$$

$$= q_{11} \text{ digit} + q_{11} \text{ letter} + (q_1 \varepsilon) \rightarrow \textcircled{2}$$

$$\textcircled{2} \rightarrow q_{10} = q_1 \varepsilon$$

$$= \varepsilon \varepsilon = 2\varepsilon \rightarrow \textcircled{15}$$

$$\textcircled{3} \rightarrow q_9 = q_9 \text{ letter} + q_9 \text{ digit} + q_8 \text{ letter}$$

$$= q_9 \text{ letter} + q_9 \text{ digit} + (q_1 \varepsilon) b \rightarrow \textcircled{14}$$

$$\textcircled{4} \rightarrow q_8 = q_1 \varepsilon$$

$$= \varepsilon \varepsilon = 2\varepsilon \rightarrow \textcircled{15}$$

$$\textcircled{5} \rightarrow q_7 = q_6 e$$

$$= (q_5 l) e \rightarrow \textcircled{16}$$

$$\textcircled{6} \rightarrow q_6 = q_5 l$$

$$= (q_4 i) l \rightarrow \textcircled{17}$$

$$\textcircled{7} \rightarrow q_5 = q_4 i$$

$$= (q_3 h) i \rightarrow \textcircled{18}$$

$$\textcircled{8} \rightarrow q_4 = q_3 h$$

$$= (q_2 w) h \rightarrow \textcircled{19}$$

$$\textcircled{9} \rightarrow q_3 = q_2 w$$

$$= (q_1 \varepsilon) w \rightarrow \textcircled{20}$$

$$\textcircled{10} \rightarrow q_2 = q_1 \varepsilon$$

$$= \varepsilon \varepsilon = 2\varepsilon \rightarrow \textcircled{21}$$