

$$f(x) = x + 4, w \in \{0,1\}^*$$

	ε	1	1	1	0	ε	ε	
--	---------------	---	---	---	---	---------------	---------------	--

$$(q_0, 0) \rightarrow (q_0, 0, P)$$

$$(q_0, 1) \rightarrow (q_0, 1, P)$$

$$(q_0, \varepsilon) \rightarrow (q_1, \varepsilon, L)$$

$$(q_1, 0) \rightarrow (q_2, 0, L)$$

$$(q_1, 1) \rightarrow (q_2, 1, L)$$

$$(q_2, 0) \rightarrow (q_3, 0, L)$$

$$(q_2, 1) \rightarrow (q_3, 1, L)$$

$$(q_3, 0) \rightarrow (q_F, 1, N)$$

$$(q_3, 1) \rightarrow (q_3, 0, L)$$

$$(q_3, \varepsilon) \rightarrow (q_F, 1, N)$$

$$1011(11) \rightarrow 1111(15)$$

$$q_0 1011 \vdash 1q_0 011 \vdash 10q_0 11 \vdash 101q_0 1 \vdash 1011q_0 \vdash 101q_1 1 \vdash 10q_2 11 \vdash 1q_3 011 \vdash 1q_F 111$$