Q3

$F = \{ q_1 \}$ $\delta = \{$

$q_0, 0 \to q_0$
$q_0, \varepsilon \to q_1$
$q_1, 1 \to q_2$
$q_2, 0 \to q_1$
$\}$

Input

ε, q_0
$\Big|\; \varepsilon$
$\emptyset, q_1$ q_1 is accepted

$\therefore \varepsilon$ is accepted