$$\delta(q_0, 0) = q_1, \quad \delta(q_0, 1) = q_0,$$
$$\delta(q_1, 0) = q_0, \quad \delta(q_1, 1) = q_1,$$
$$\theta(q_0, 0) = a, \quad \theta(q_0, 1) = c,$$
$$\theta(q_1, 0) = b, \quad \theta(q_1, 1) = a$$