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1. Soal satu

q_0, q_1, q_3 **indistinguishable**

$$q_0, q_1, q_3 \begin{cases} (q_0, q_1) \\ (q_0, q_3) \\ (q_1, q_3) \end{cases}$$

q_2, q_4, q_5 **indistinguishable**

$$q_0, q_1, q_3 \begin{cases} (q_2, q_4) \\ (q_4, q_5) \\ (q_2, q_5) \end{cases}$$

$$\delta(q_0, 0) \cup \delta(q_1, 0) \cup \delta(q_3, 0)$$

$$q_1 \cup \quad q_3 \cup \quad q_3$$

$$\{q_1, q_3\}$$

$$\delta(q_2, 0) \cup \delta(q_4, 0) \cup \delta(q_5, 0)$$

$$q_4 \cup \quad q_5 \cup \quad q_5$$

$$\{q_4, q_5\}$$

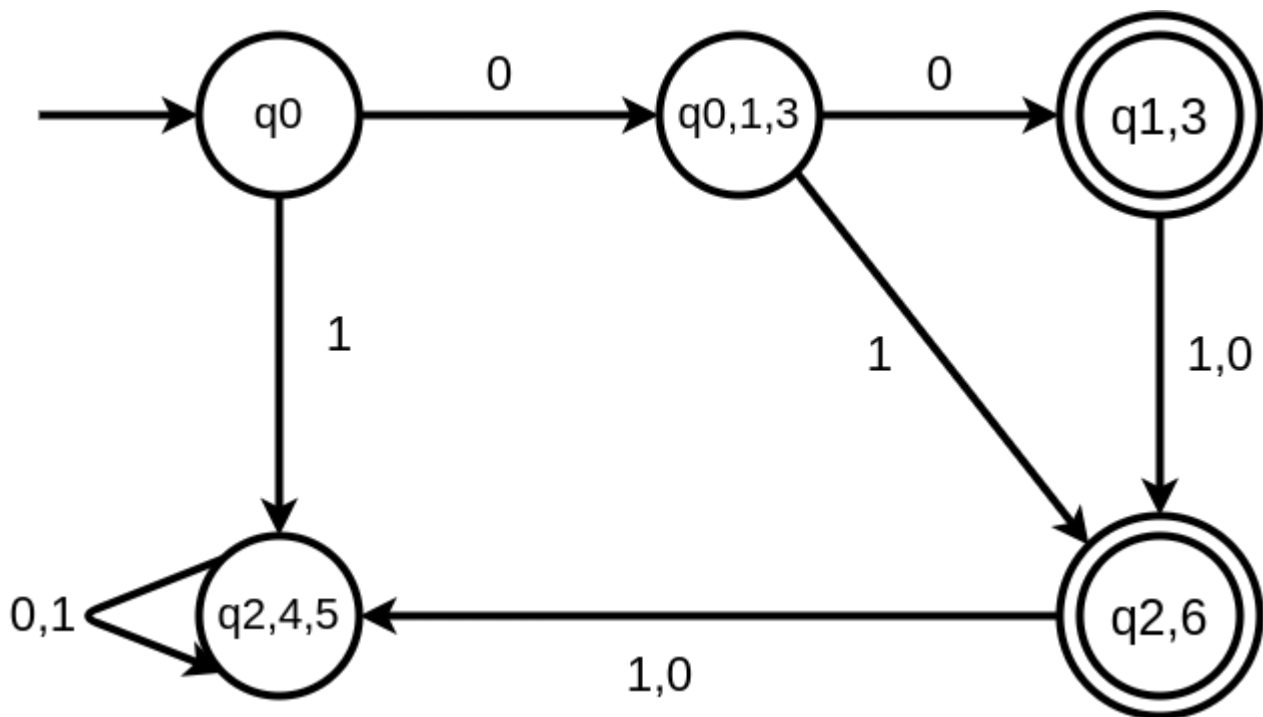$$\delta(q_0, 1) \cup \delta(q_1, 1) \cup \delta(q_3, 1)$$

$$q_2 \cup \quad q_6 \cup \quad q_6$$

$$\{q_2, q_6\}$$

$$\delta(q_2, 1) \cup \delta(q_4, 1) \cup \delta(q_5, 1)$$

$$q_4 \cup \quad q_4 \cup \quad q_5$$

$$\{q_4, q_5\}$$

q0 —0→ q0,1,3 —0→ q1,3

q0 —1→ q2,4,5

q0,1,3 —1→ q2,6

q1,3 —1,0→ q2,6

q2,6 —1,0→ q2,4,5

q2,4,5 —0,1→ q2,4,5

2. Buat DFA yang ekivalen dengan NFA berikut

$Q = \{q_0, q_1, q_2\}$

$\Sigma = \{0, 1\}$

$S = \{q_0\}$

$F = \{q_1\}$

δ	0	1
q_0	$\{q_1, q_2\}$	$\{q_2\}$
q_1	$\{q_1\}$	$\{q_2\}$
q_2	$\varnothing$	$\{q_0, q_2\}$

$$(q_1, q_2)$$

$$(q_1, 0)(q_2, 0) \qquad (q_1, 1)(q_2, 1)$$

$$(q_1) \cup \varnothing \qquad (q_2) \cup (q_0, q_2)$$

$$(q_1) \qquad (q_0, q_2)$$

$$(q_0, q_2)$$

$$(q_0, 0)(q_2, 0) \qquad (q_0, 1)(q_2, 1)$$

$$(q_1, q_2) \cup \varnothing \qquad (q_2) \cup (q_0, q_2)$$

(q_1, q_2) (q_0, q_2)