

Soal no 2

2. Dik:

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

$\Sigma = \{a, b\}$

$S = \{q_0\}$

$F = \{q_0, q_2\}$

δ	a	b
q_0	$\{q_2\}$	$\{q_1\}$
q_1	$\{q_1\}$	$\{q_0\}$
q_2	$\{q_0, q_2\}$	$\{q_1, q_2\}$

Dit:

- a. Berdasarkan table transisi jenis mesin apakah mesin otomata diatas?
- b. Tentukan 10 output yang terbentuk.
- c. Gambarlah mesin otomotanya
- d. Apakah mesin tersebut dapat di ekuivalensi? Jika ya buatlah ekuivalensi mesin diatas.

Jawaban Soal 2

2. a.) Mesin DFA

b.) $q_0(a) = \{q_2\}$

$(b) = \{q_0, q_1\}$

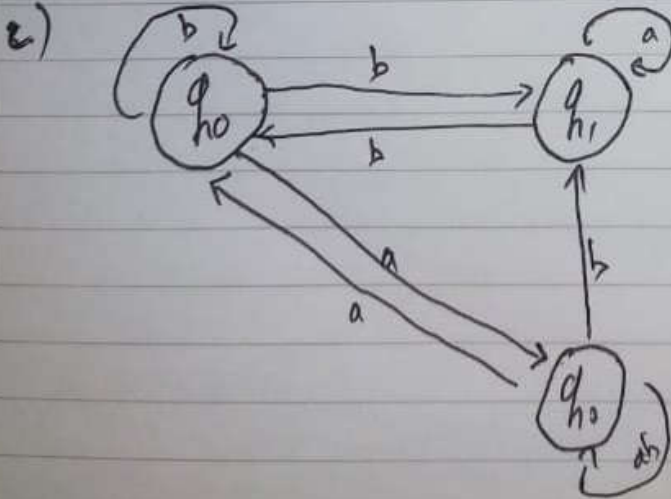
$q_1(a) = \{q_1\}$

$(b) = \{q_0\}$

$q_2(a) = \{q_2, q_0\}$

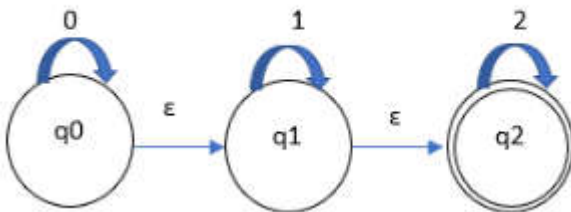
$(b) = \{q_2\}$

d.) Tidak dapat di ekuivalensi.



Soal no 3

3. Buatlah ekuivalensi NFA tanpa e-move gambar berikut ini?



3. 1. Tabel Transisi

δ	0	1	2
q_0	$\{q_0\}$	\emptyset	\emptyset
q_1	\emptyset	$\{q_1\}$	\emptyset
q_2	\emptyset	\emptyset	$\{q_2\}$

2. Tentukan $E\text{-cl}$ =

$$E\text{-cl}(q_0) = \{q_0, q_1, q_2\}$$

$$E\text{-cl}(q_1) = \{q_0, q_1, q_2\}$$

$$E\text{-cl}(q_2) = \{q_0, q_1, q_2\}$$

3. Tentukan transisi =

$$\begin{aligned} \delta(q_0, 0) &= E\text{-cl}(\delta(E\text{-cl}(q_0), 0)) \\ &= E\text{-cl}(\delta(\{q_0, q_1, q_2\})) \\ &= E\text{-cl}(q_0) = \{q_0, q_1, q_2\} \end{aligned}$$

$$\begin{aligned} \delta(q_0, 1) &= E\text{-cl}(\delta(E\text{-cl}(q_0), 1)) \\ &= E\text{-cl}(\delta(\emptyset)) \end{aligned}$$

$$\delta(q_0, 2) = \emptyset$$

$$\delta(q_1, 0) = \emptyset$$

$$\delta(q_1, 1) = \{q_0, q_1, q_2\}$$

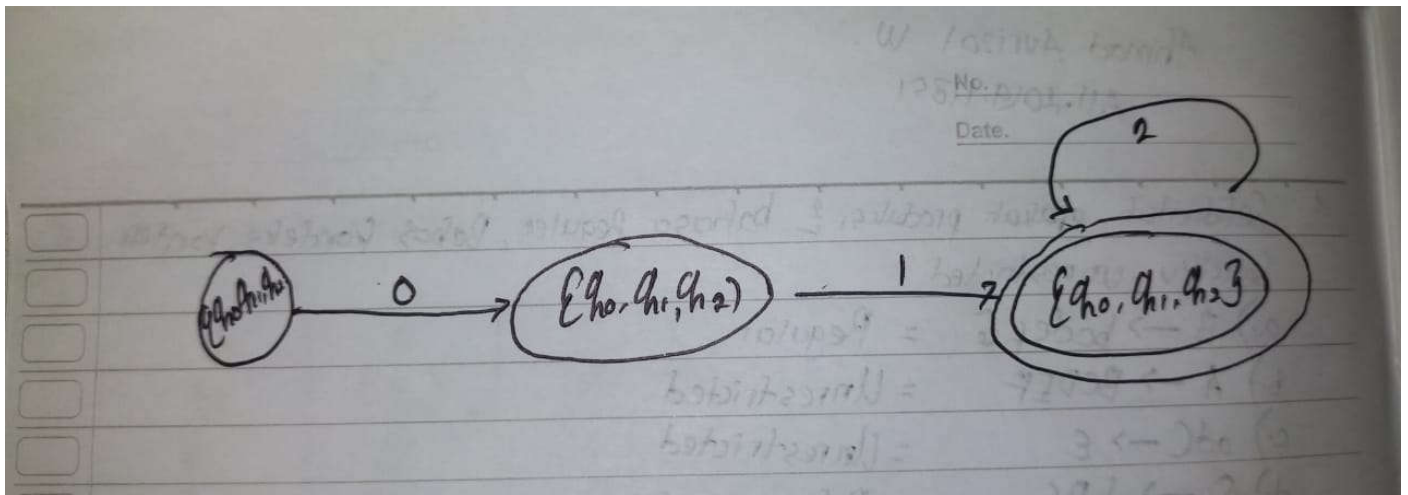
$$\delta(q_2, 0) = \emptyset$$

$$\delta(q_2, 1) = \emptyset$$

$$\delta(q_2, 2) = \{q_0, q_1, q_2\}$$

4. Tabel Transisi Tanpa ϵ -move.

δ	0	1	2
q_0	$\{q_0, q_1, q_2\}$	\emptyset	\emptyset
q_1	\emptyset	$\{q_0, q_1, q_2\}$	\emptyset
q_2	\emptyset	\emptyset	$\{q_0, q_1, q_2\}$



Soal No 4

4. Buatlah mesin otomata dari ekspresi regular berikut:
- ab^*Uba^*bb , tentukan output beserta jenis mesinnya
 - $0(10)^*01^*(0101)^*$, tentukan output beserta jenis mesinnya