UTS TBA B

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1. $Q = \{a, b, c, d\}$

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

$q_0 = \{a\}$

$F = \{c\}$

δ :

q_0	input 0	input 1
a	d	b
b	c	b
c	a	d
d	c	d

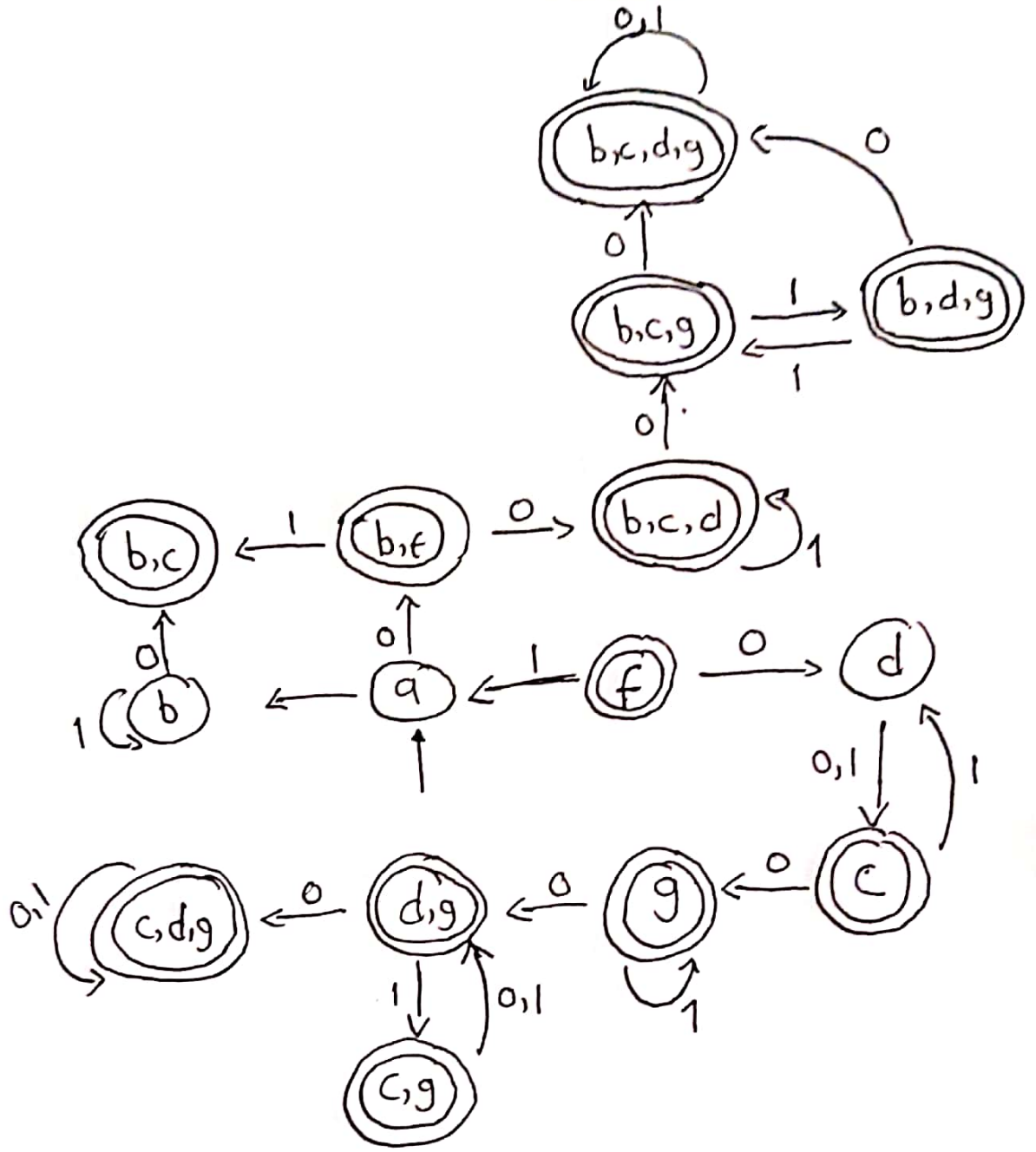
2.

q	$\delta(q,0)$	$\delta(q,1)$
a	$\{b,f\}$	$\{b\}$
b	$\{b,c\}$	$\{b\}$
c	$\{g\}$	$\{d\}$
d	$\{c\}$	$\{c\}$
f	$\{d\}$	$\{a\}$
g	$\{d,g\}$	$\{g\}$

↑ Transisi

Hasil Konversi ↓

q	$\delta(q,0)$	$\delta(q,1)$
[a]	[b,f]	[b]
[b,f]	[b,c,d]	[b,c]
[b,c,d]	[b,c,g]	[b,c,d]
[b,c]	[b,c,g]	[b,d]
[b,c,g]	[b,c,d,g]	[b,d,g]
[b,d]	[b,c]	[b,c]
[b,c,d,g]	[b,c,d,g]	[b,c,d,g]
[b,d,g]	[b,c,d,g]	[b,c,g]
[b]	[b,c]	[b]
[c]	[g]	[d]
[d]	[c]	[c]
[f]	[d]	[a]
[g]	[d,g]	[g]
[d,g]	[c,d,g]	[c,g]
[c,d,g]	[c,d,g]	[c,d,g]
[c,g]	[d,g]	[d,g]



3.

q0	input : 0		input : 1	
	δ	X	δ	X
a	∅	∅	d	x_2
b	c	x_3	∅	∅
c	b	x_1	d	x_3
d	a c	x_2 x_3	b	x_1

$Q = \{a, b, c, d\}$

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

$O = \{x_1, x_2, x_3\}$

4. RE1 = a (aaa)*

RE2 = (a)*

L1 = {a, aaaa, aaaaaaa ...}

L2 = {ε, a, aa, aaa ...}

L1 ∪ L2 = {ε, a, a, aa, aaa, aaaa ....}

RE(L1 ∪ L2) = (a)*

5. N = {X}

T = {a, b}

X -> X + X | X*X | aX | aXb | a | b

Leftmost Derivation:

X ->

X + X ->

aX + X ->

aa + X ->

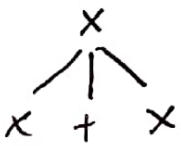
aa + X*X ->

aa + aXb*X ->

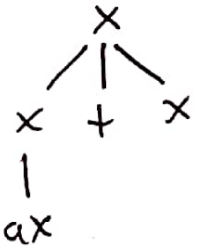
aa + abb*X ->

aa + abb*b

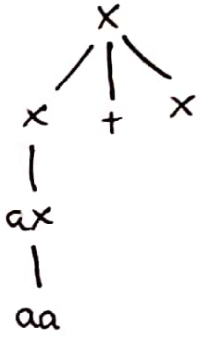
Step 1 :



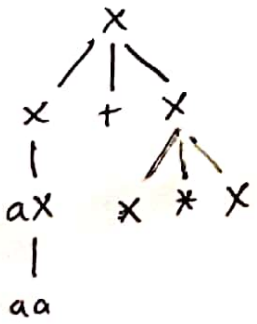
Step 2 :



Step 3 :



Step 4 :



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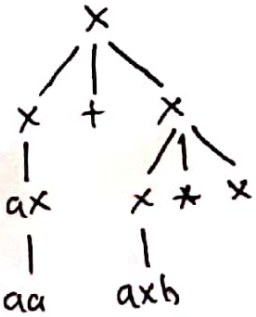

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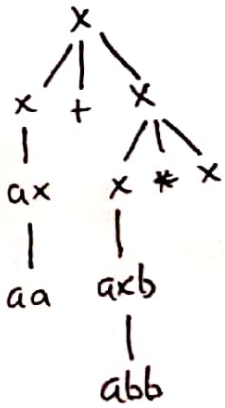

Step 7 :