UAS → Esai
- Rangkaian kombinasional (adder, decoder, mux)
- Rangkaian sekuensial → Mealy
  → Moore

Tabel kebenaran → Persamaan logika → Pers. logika sederhana → Merangkai Rangkaian kombinasional

Sifat aljabar boolean

K-map

Rangkaian Sekuensial

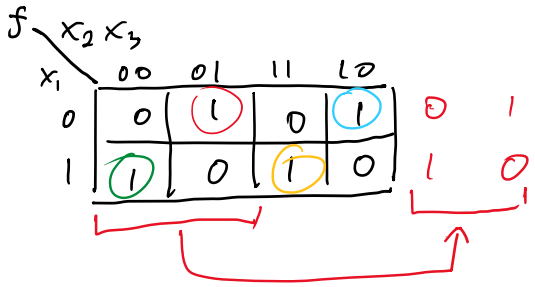
Mealy	Moore
Output nempel di input	Output nempel di state
State = jumlah input	State = jumlah input + 1

SOP
POS

a b c

x_1	x_2	x_3	$f(x_1,x_2,x_3)$
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

$f = \bar{x}_1\bar{x}_2x_3 + \bar{x}_1x_2\bar{x}_3 + x_1\bar{x}_2\bar{x}_3 + x_1x_2x_3$



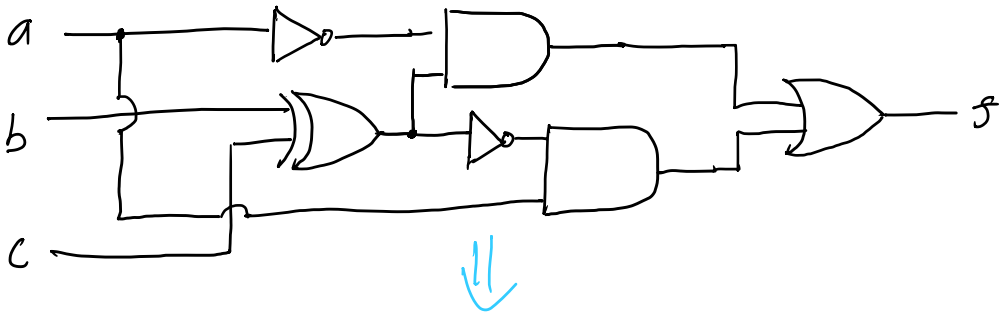
$f = \bar{a}\bar{b}c + \bar{a}b\bar{c} + a\bar{b}\bar{c} + abc$

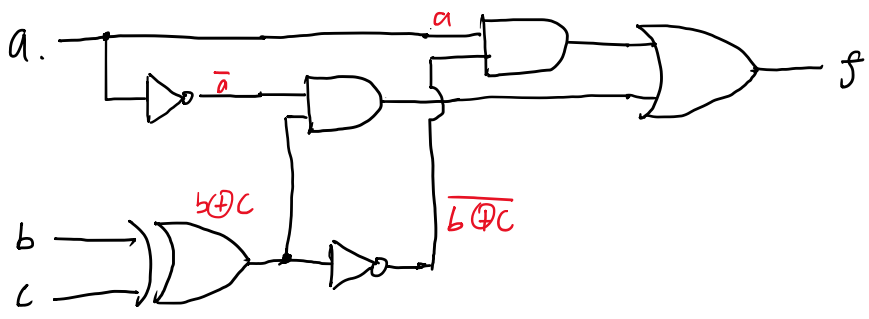
$f = \bar{a}(\bar{b}c + b\bar{c}) + a(\overline{b\bar{c}} + bc)$

$f = \bar{a}(b \oplus c) + a(\overline{b \oplus c})$

XOR → beda
XNOR → sama

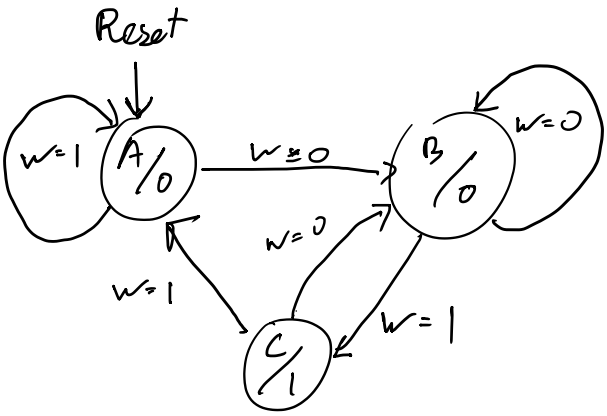
Rangkaian kombinasional f :





Detektor bit : 01 D-FF

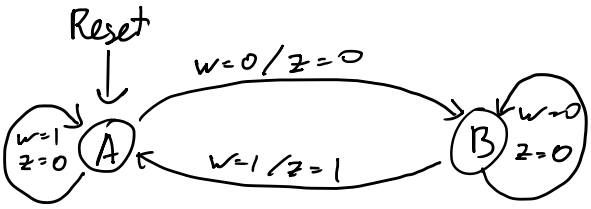
→ Diagram state (Moore)



Simulasi :

1 _ Reset, A
2 0_ B
3 00_ B
4 0 01 _ C/1
5 0 0 1 1 _

Mealy :



→ Tabel Representasi State (Moore)

PS	NS w=0	NS w=1	Z
A	B	A	0
B	B	C	0
C	B	A	1
D	X	X	X

⇒

PS	NS w=0	NS w=1	Z
00	01	00	0
01	01	10	0
10	01	00	1
11	xx	xx	x

Y_1 Y_2 NS_1 NS_2 NS_1 NS_2

→ Pers. Logika

NS_1

Y_1Y_2 \ w	0	1
00	0	0
01	0	1
10	0	0
11	X	X

NS_2

Y_1Y_2 \ w	0	1
00	1	0
01	1	0
10	1	0
11	X	X

Z

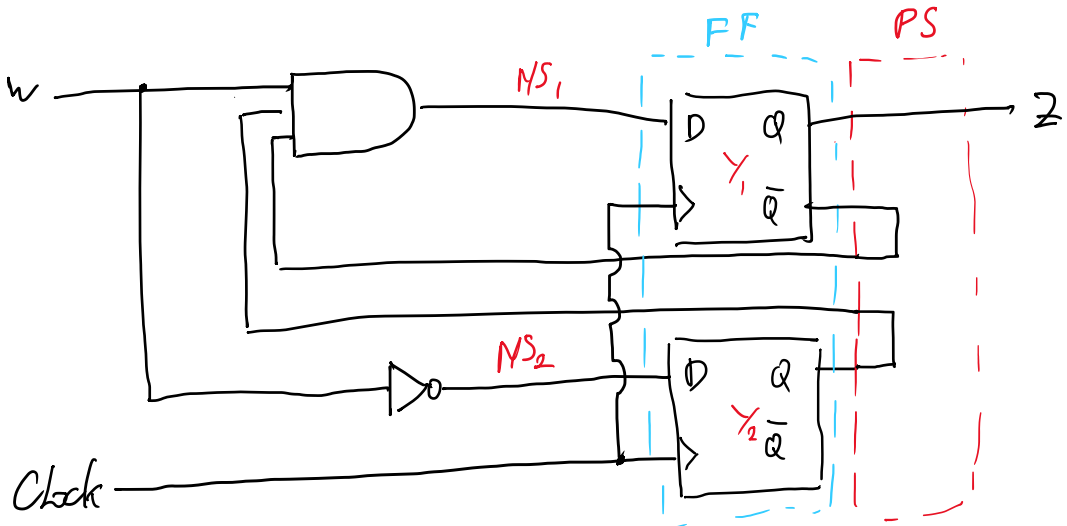
Y_2 \ Y_1	0	1
0	0	1
1	0	X

$NS_1 = \bar{Y}_1 Y_2 w$

$NS_2 = \bar{w}$

$Z = Y_1$

→ Rangkaian Sekuensial



→ Tabel Representasi State (Mealy)

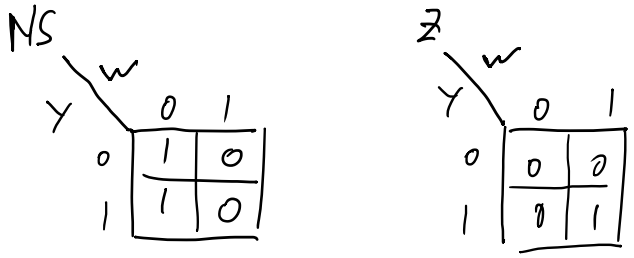
PS	NS		Z	
	w=0	w=1	w=0	w=1
A	B	A	0	0
B	B	A	0	1

⇒

PS	NS		Z	
	w=0	w=1	w=0	w=1
0	1	0	0	0
1	1	0	0	1

Y

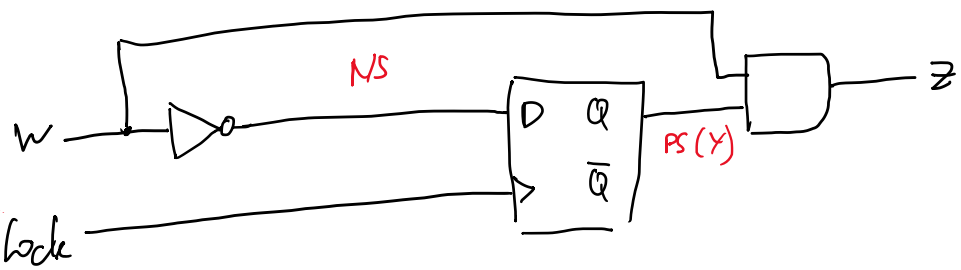
→ K-map



$NS = \bar{w}$

$Z = Yw$

→ Rangkaian Sekuensial



PS → NS	D
0 → 0	0
0 → 1	1
1 → 0	0
1 → 1	1

PS → NS	T
0 → 0	0
0 → 1	1
1 → 0	1
1 → 1	0