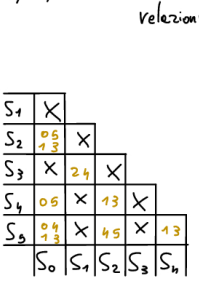
Lezione 17

Esercizio minimizzazione stati, Realizzazione automa con resto con diversi tipi di FF

Esercizio minimizzazione stati, Realizzazione automa con resto con diversi tipi di FF

Es. 2 Fila A 18/12/14

	0	1
S_0	$S_0/0$	$S_3/1$
S_1	$S_1/0$	$S_2/0$
S_2	$S_5/0$	$S_1/1$
S_3	$S_3/0$	$S_4/0$
S_4	$S_5/0$	$S_3/1$
S_5	$S_4/0$	$S_1/1$



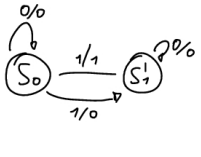
relazione

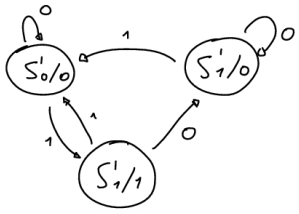
$S'_0 = \{S_0, S_2, S_4, S_5\}$

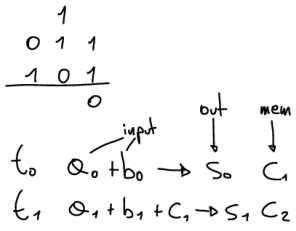
$S'_1 = \{S_1, S_3\}$

	0	1
S'_0	$S'_0/0$	$S'_1/1$
S'_1	$S'_1/0$	$S'_0/0$

Moore





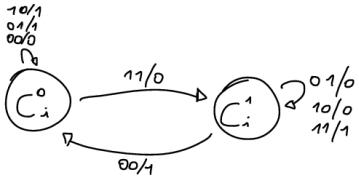


	00	01	10	11
C_i^0	$C_i^0/0$	$C_i^0/1$	$C_i^0/1$	$C_i^1/0$
C_i^1	$C_i^0/1$	$C_i^1/0$	$C_i^1/0$	$C_i^1/1$

ingressi Q_i b_i

uscita S_i

stato Riporto - Stato C_i^0 C_i^1



Realizzazione con diversi tipi di FF

Tavola degli stati futuri

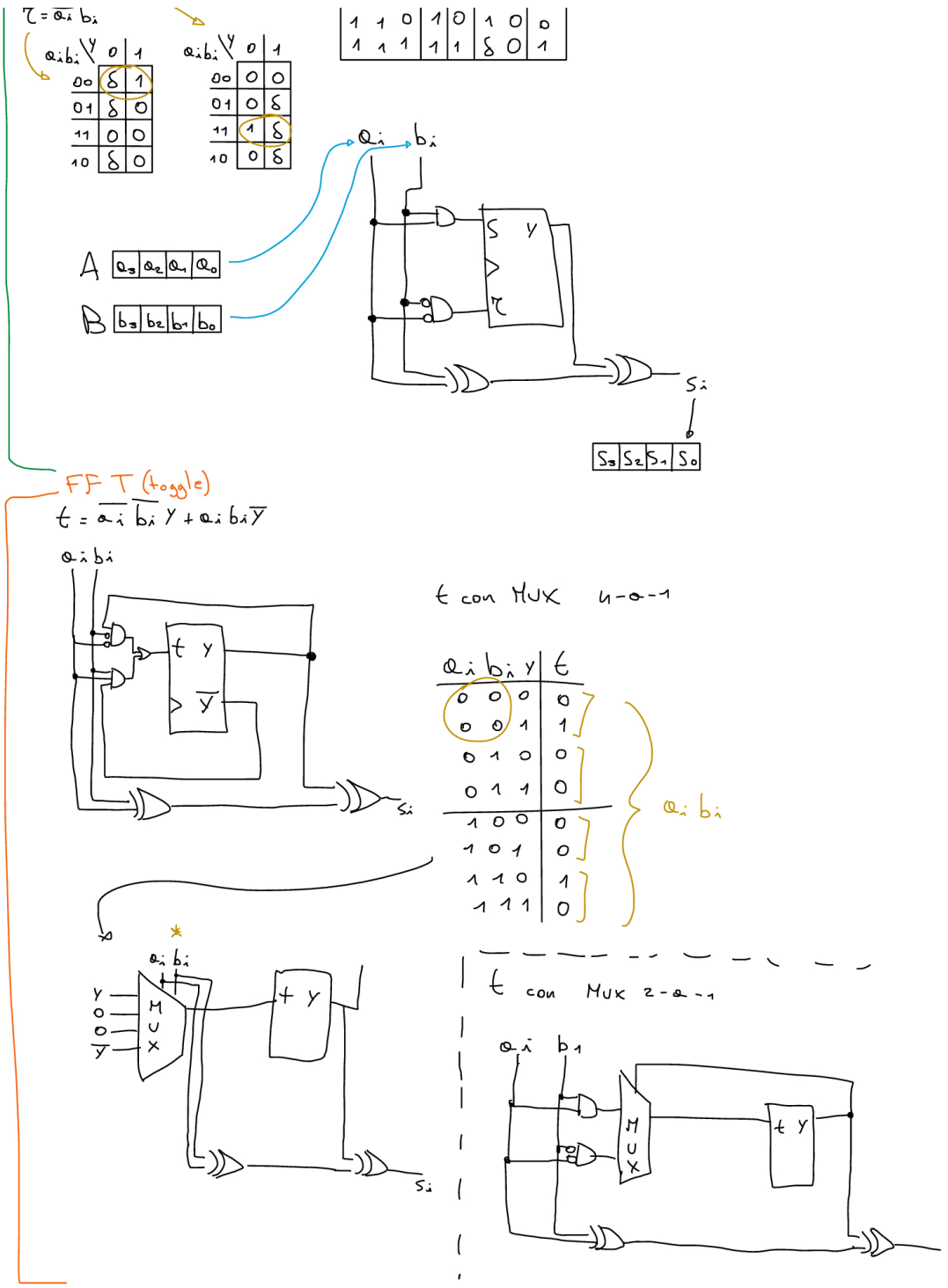
$S_i = Q_i \oplus b_i \oplus y$

Q_i	b_i	y	Y	S_i	S	R	t
0	0	0	0	0	0	δ	0
0	0	1	0	1	0	1	1
0	1	0	0	1	0	δ	0
0	1	1	1	0	δ	0	0
1	0	0	0	1	0	δ	0
1	0	1	1	0	δ	0	0
1	1	0	1	0	1	0	0
1	1	1	1	1	δ	0	1

FF SR

$S = Q_i b_i$

$R = \overline{Q_i}\,\overline{b_i}$


τ = āi bi
aibi \ y | 0 | 1
00 | δ | 1
01 | δ | 0
11 | 0 | 0
10 | δ | 0
aibi \ y | 0 | 1
00 | 0 | 0
01 | 0 | δ
11 | 1 | δ
10 | 0 | δ
1 1 0 1 0 1 0 0
1 1 1 1 1 δ 0 1
ai bi
A a3 a2 a1 a0
B b3 b2 b1 b0
S y
τ
Si
S3 S2 S1 S0
FF T (toggle)
t = āi b̄i y + ai bi ȳ
ai bi
t y
ȳ
Si
t con MUX 4-a-1
ai bi y | t
0 0 0 | 0
0 0 1 | 1
0 1 0 | 0
0 1 1 | 0
1 0 0 | 0
1 0 1 | 0
1 1 0 | 1
1 1 1 | 0
ai bi
*
ai bi
y
0
0
ȳ
MUX
t y
Si
t con MUX 2-a-1
ai b1
MUX
t y