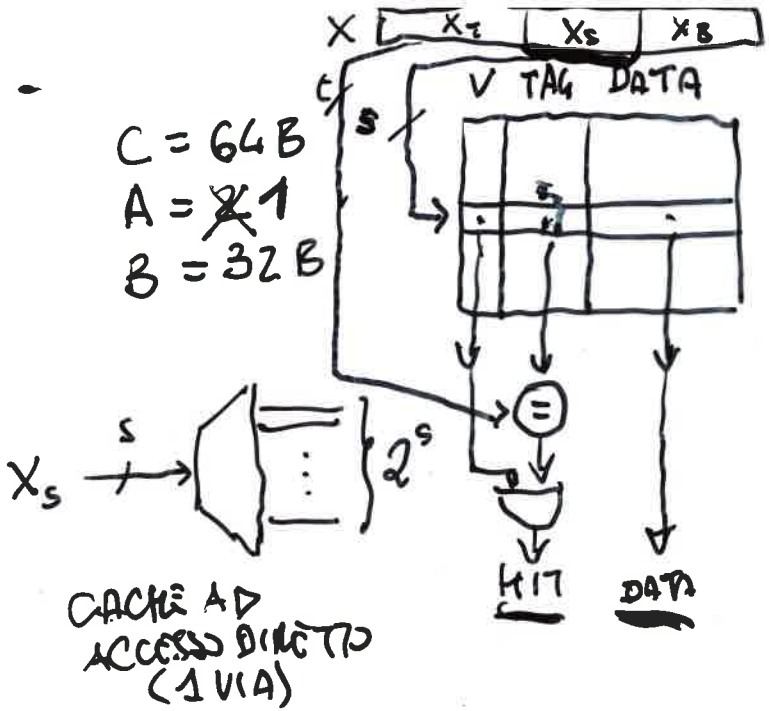


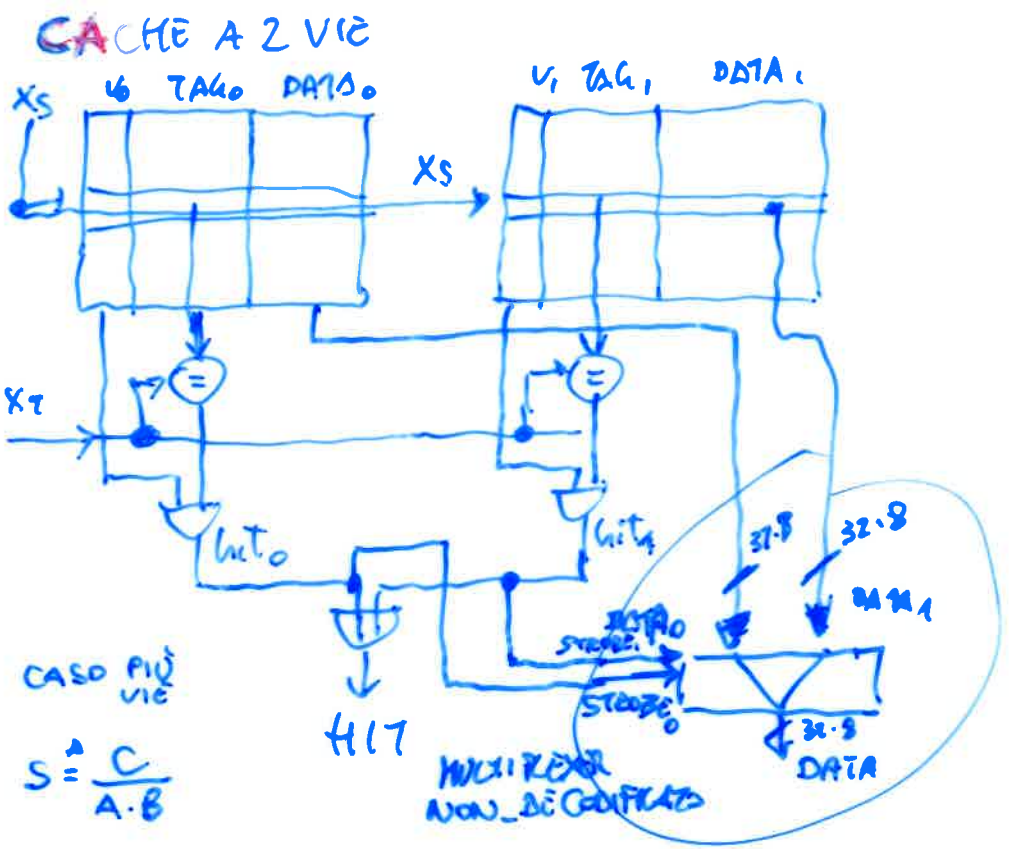
CACHE AD ACCESSO DIRETTO (1 VIA)

X_B INDIRIZZO ACBYTE ALL'INTERNO DEL BLOCCO

X_S INDIRIZZO DEL BLOCCO (OFFSET)

X_T RESTANTI BIT USATI TAG

FACCIO IN MODO CHE X_S POSSA INDIRIZZARE TUTTI I DATI IN CACHE



X_M = IND. BLOCCO IN MEM. = X/B

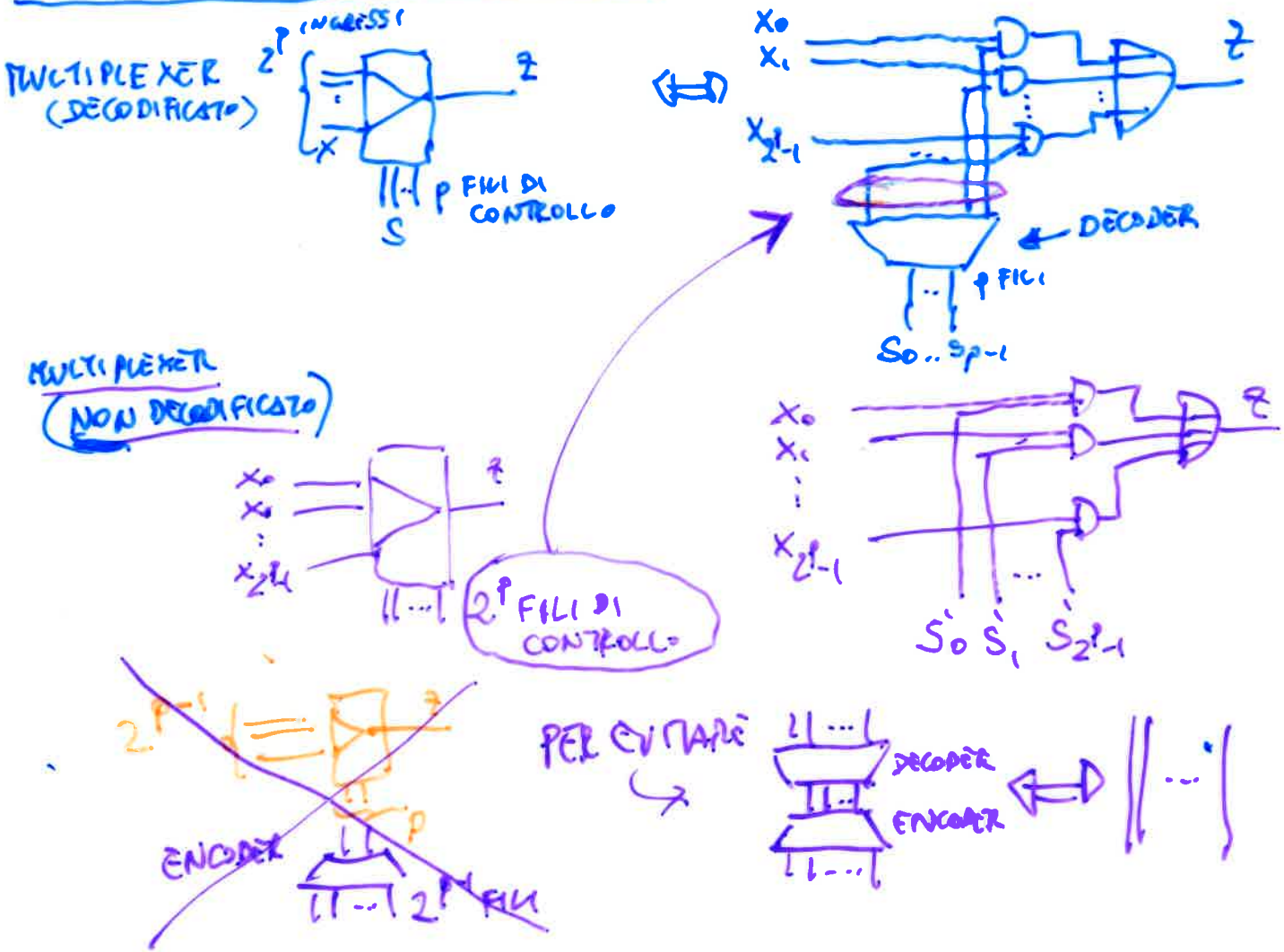
X_T = PARTE TAG DELL'IND. = X_M/S $\quad S \triangleq \frac{C}{B}$

X_S = IND. SET (BLOCCO) $\Rightarrow X_M \bmod S$

(X_B = IND. BYTE NEL BLOCCO)

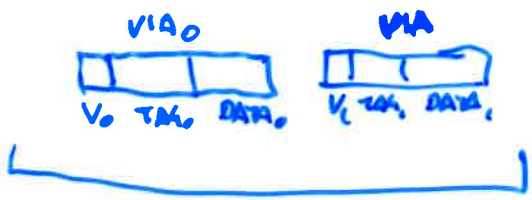
$S \triangleq \frac{C}{A \cdot B}$

MULTIPLEXER NON DECODIFICATO



$C = 64\,B$
$A = 2$
$B = 32$

$$S = \frac{C}{A \cdot B} = \frac{64}{2 \cdot 32} = 1$$



$t_{hit} = 5\,ms$
$t_{pen} = 60\,ms$

$P_{RIMP.} = LRU \Rightarrow$ LEAST RECENTLY USED
(IN CASO DI RIMPIAZZAMENTO SCARTO IL BLOCCO MENO USATO

X	X/B X_M	X_M/S X_T	$X_M\%S$ X_S	H/M	LRU0 DATA0	LRU1 DATA1	
21	0 =	0	0	0	0		
77	2 =	2	0	0	1 0	1 2	RIMPIAZZAMENTI
66	2 =	2	0	1	0 1 ~~X~~	1 2	
146	4	4	0	0	1 1 4	0 1 2	→ $X_M=0, X_T=0$
82	2	2	0	1	0 1 ~~X~~	1 1 2	LRU = 0,1
15	0	0	0	0	1 0	1 ~~X~~	1,0 → $X_M=4, X_T=4$
130	4	4	0	0	0 1	1 4	0,1 → $X_M=2, X_T=2$
64	2	2	0	0	1 2	1 ~~X~~	1,0 → $X_M=0, X_T=0$
192	6	6	0	0	1 2	1 6	0,1 → $X_M=4, X_T=4$
209	6	6	0	1	1 ~~X~~	1 6	0,1
225	7	7	0	0	1 7	1 6	1,0 → $X_M=2, X_T=2$
241	7	7	0	1	1 7	1 ~~X~~	1,0
113	3	3	0	0	1 7	1 3	0,1 → $X_M=6$ $X_T=6$
97	3	3	0	1	1 ~~X~~	1 3	0,1
273	8	8	0	0	1 8	1 ~~X~~	1,0 → $X_M=7, X_T=7$
66	2	2	0	0	1 8	0 1 2	0,1 → $X_M=3, X_T=3$
257	8	8	0	1	1 8	1 ~~X~~	1,0
129	4	4	0	0	1 ~~X~~	1 4	0,1 → $X_M=2, X_T=2$
64	2	2	0	0	1 2	1 ~~X~~	1,0 → $X_M=8, X_T=8$
161	5	5	0	0	1 ~~X~~	1 5	0,1 → $X_M=4, X_T=4$
240	7	7	0	0	1 7	1 ~~X~~	1,0 → $X_M=2, X_T=2$
299	9	9	0	0	1 7	1 9	0,1 → $X_M=5$ $X_T=5$

6 HIT
16 MISS

$$AMAT = t_{hit} + m \cdot t_{pen} = 5 + \frac{16}{22} \cdot 60 = \sim 48.6\,ms$$

DOMANDA (i)

DA ALTERNING

7	9
VIA0	VIA1

(ii)