

## 邏輯設計 HW8\_Solution

1.

(a)  $2M \times 32$

A1:21 address lines, 32 data input

lines, 32 data outputlines A2:  $2^{21}$

$\times 2^5 = 2^{26}$  bits

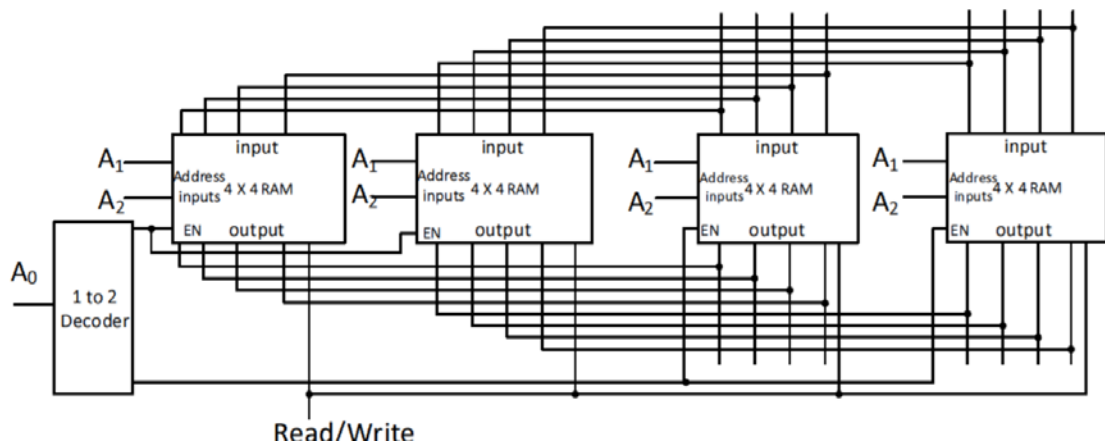
(b)  $2G \times 16$

A1:31 address lines, 16 data input

lines, 16 data inputlines A2:  $2^{31}$

$\times 2^4 = 2^{35}$  bits

2.

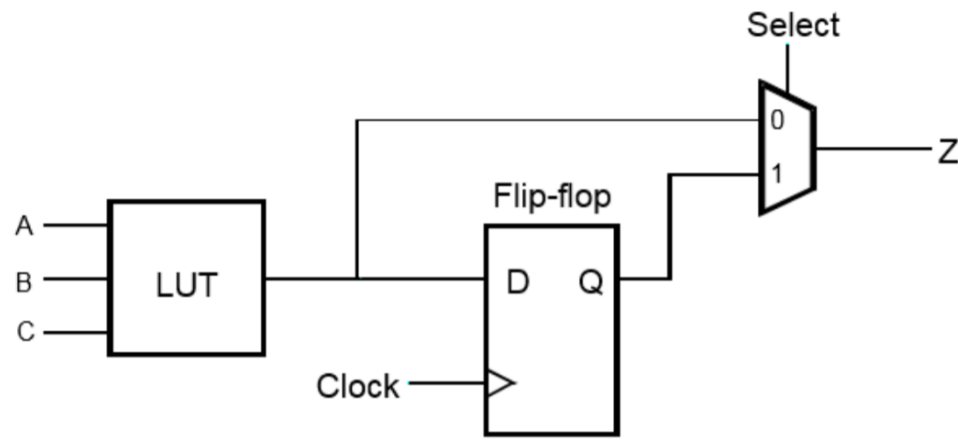


3.

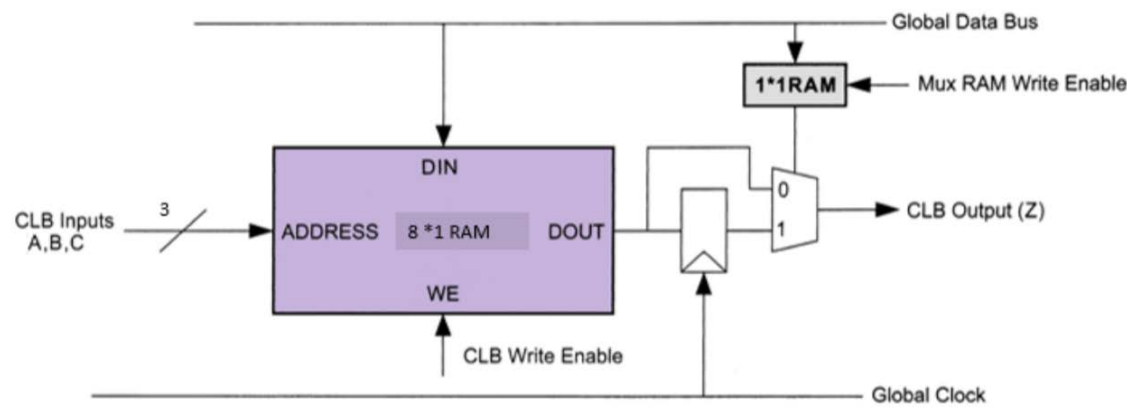
Input			Output			
x	y	z	A	B	C	D
0	0	0	0	0	0	0
0	0	1	1	0	1	0
0	1	0	0	0	1	1
0	1	1	1	1	0	1
1	0	0	0	1	0	0
1	0	1	1	0	1	1
1	1	0	0	0	0	1
1	1	1	0	1	1	1

4.

(a)



or



(b)

Sel=select,

input			output	
			Z	
A	B	C	(Sel=0)	(Sel=1)
0	0	0	0	Q(n)
0	0	1	1	Q(n)
0	1	0	1	Q(n)
0	1	1	0	Q(n)
1	0	0	1	Q(n)
1	0	1	0	Q(n)
1	1	0	0	Q(n)
1	1	1	1	Q(n)