ICS_HM03_solutions

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1.

a.
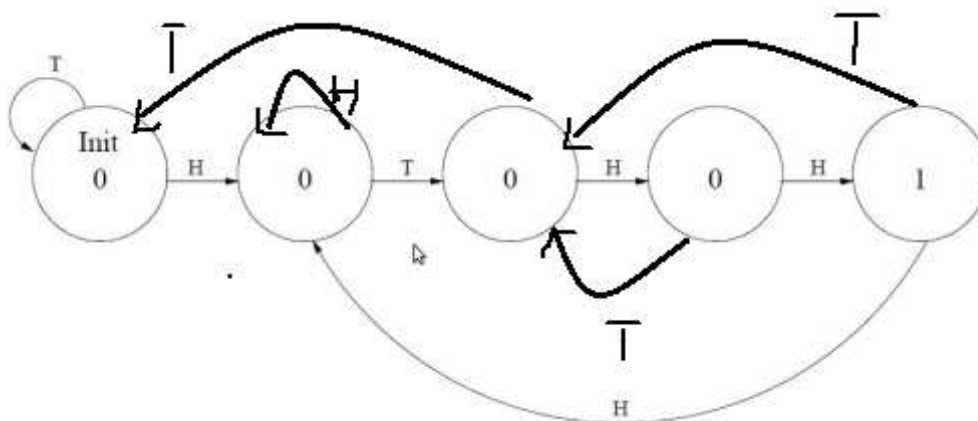
b.

3个，有5种状态，n个状态变量可以编码2^n个。

2.

2^{16} * 7 /8 bytes = 57344 bytes

3.

a.

A :01   WE:1

b.

10   2^{10}

c.

4.

a.

4

b.

16

c.

8 bytes

d.

WE	A[1:0]	Di[15:0]	D[15:0]	r/w
0	01	xFADE	x4567	R
1	10	xDEAD	xDEAD	w
0	00	xBEEF	x0123	R
1	11	xFEED	xFEED	w

5.
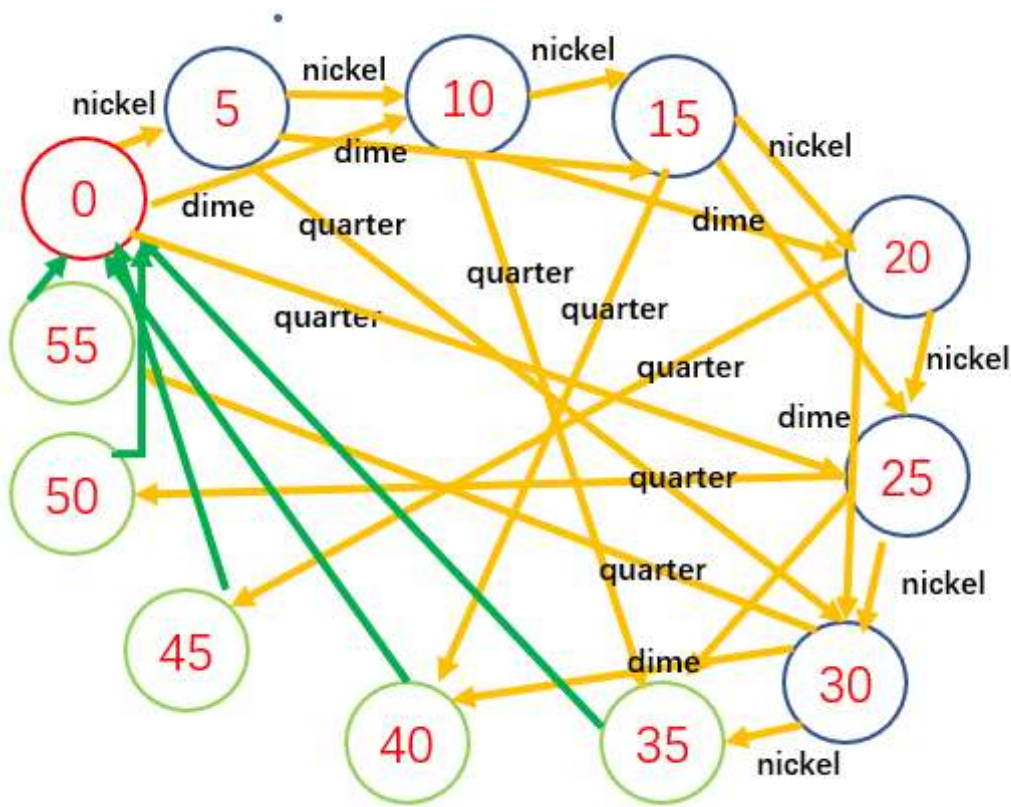
6.

	PC	IR	MAR	MDR	R0	R1	R2	R3	R4	R5	R6	R7
Fetch	x3004	x62BE	x3003	x62BE	x3000	x3000	x3002	x3000	x3000	x3000	x3000	x3000
Decode	x3004	x62BE	x3003	x62BE	x3000	x3000	x3002	x3000	x3000	x3000	x3000	x3000
Evaluate address	x3004	x62BE	x3000	x62BE	x3000	x3000	x3002	x3000	x3000	x3000	x3000	x3000
Fetch operands	x3004	x62BE	x3000	x62BF	x3000	x3000	x3002	x3000	x3000	x3000	x3000	x3000
Execute	x3004	x62BE	x3000	x62BF	x3000	x3000	x3002	x3000	x3000	x3000	x3000	x3000
Store result	x3004	x62BE	x3000	x62BF	x3000	x3000	x3002	x3000	x3000	x3000	x3000	x3000

7.

a.

11

b.

6

c.

3

8.

```
0011 0000 0000 0000   ;.ORIG x3000
1001 001 001 111111   ;NOT R1,R1
0101 000 001 0 00 011;AND R0 ,R!,R3
0101 000 000 1 00000 ;AND R0,R0,#1
1111 0000 0010 0101 ;HALT
```

9.

cacalute R2+R1 , and the overflow digit is stored in R4