2. (a) $A=0$, $B=0$, $C_{in}=0$ (b) A or B or $C_{in}=1$, rest are 0

   (c) $A=B=C_{in}=1$ (d) A or B or $C_{in}=0$, rest are 1

3. (a) $\Sigma=1$, $C_{out}=0$ (b) $\Sigma=1$, $c_{out}=0$

   (c) $\Sigma=0$, $C_{out}=1$ (d) $\Sigma=1$ $C_{out}=1$
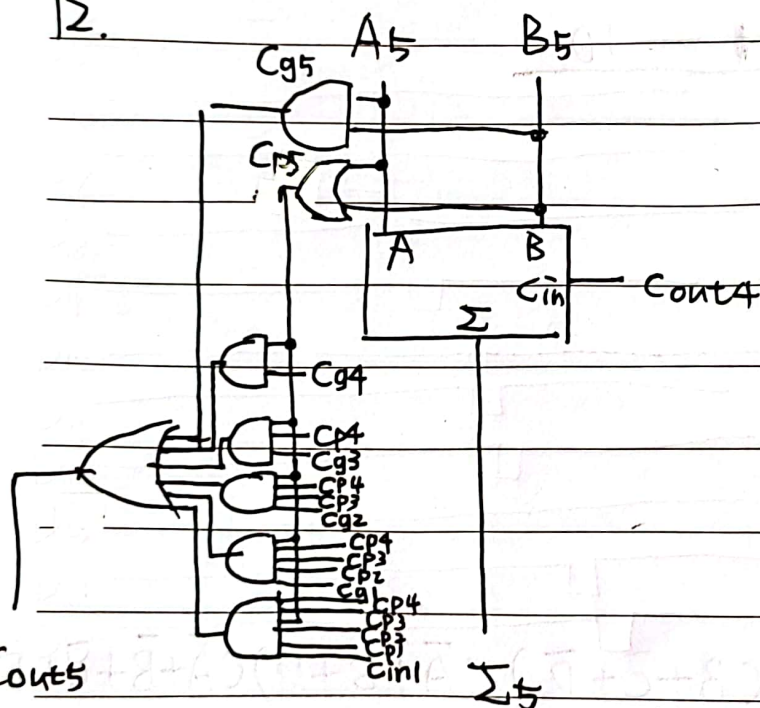
6. (a) Subtract B from A

   (b) calculate $A+B$

10. No

11. $40+25 \times 6 + 35 = 225$ ns

12.

19. $X = A_3 \bar{A_2} A_1 + A_3 A_2 \bar{A_1} \bar{A_0} + \bar{A_3} \bar{A_2} \bar{A_1} A_0$
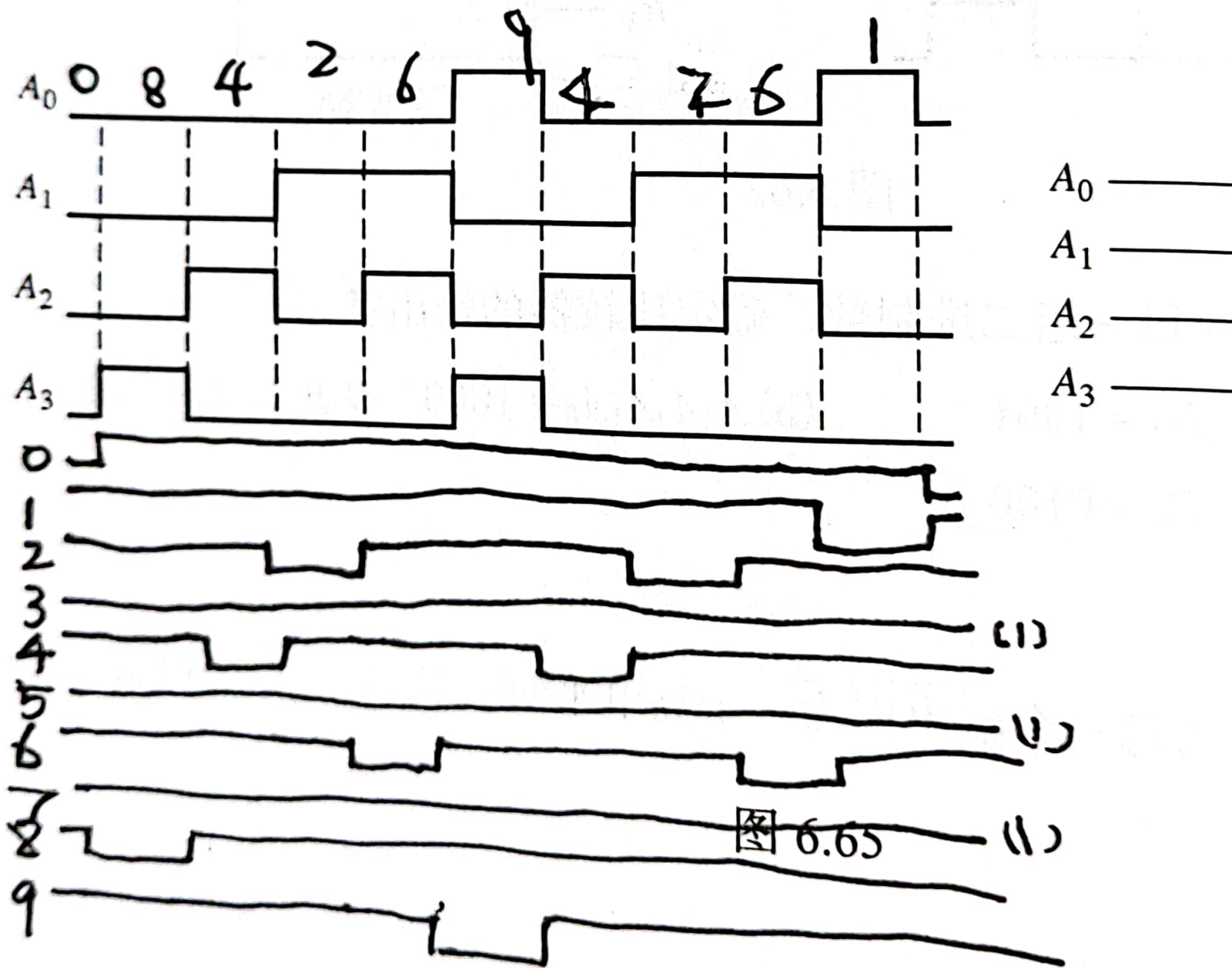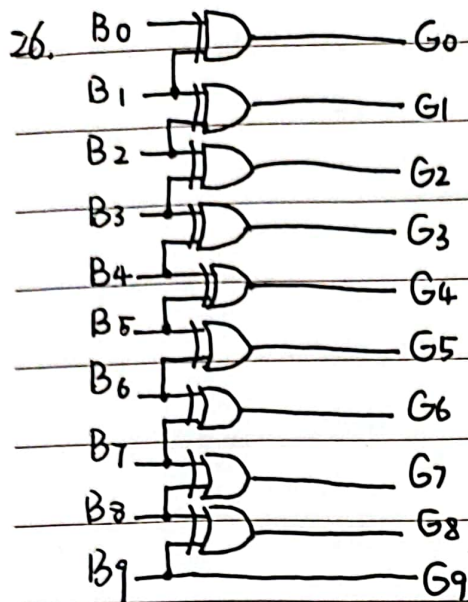
21. see book

22. 16944480

24. 1000

26.

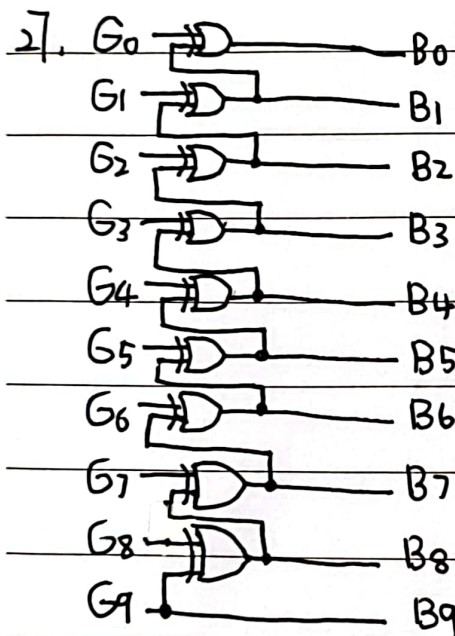图 6.65

26.

B0 ⟶ [gate] ⟶ G0
B1 ⟶ [gate] ⟶ G1
B2 ⟶ [gate] ⟶ G2
B3 ⟶ [gate] ⟶ G3
B4 ⟶ [gate] ⟶ G4
B5 ⟶ [gate] ⟶ G5
B6 ⟶ [gate] ⟶ G6
B7 ⟶ [gate] ⟶ G7
B8 ⟶ [gate] ⟶ G8
B9 ⟶ ⟶ G9

(a) 1111111111

(b) 1000010000

(c) 1000000001001

(d) 1000000000

27.

G0 ⟶ [gate] ⟶ B0
G1 ⟶ [gate] ⟶ B1
G2 ⟶ [gate] ⟶ B2
G3 ⟶ [gate] ⟶ B3
G4 ⟶ [gate] ⟶ B4
G5 ⟶ [gate] ⟶ B5
G6 ⟶ [gate] ⟶ B6
G7 ⟶ [gate] ⟶ B7
G8 ⟶ [gate] ⟶ B8
G9 ⟶ ⟶ B9

(a) 1100000000

(b) 0010001000

(c) 1010000101

(d) 0000000001

28. $Y = 1$

30. See book

图 6.68

图 6.69

S0
S1
S2
S3
in
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
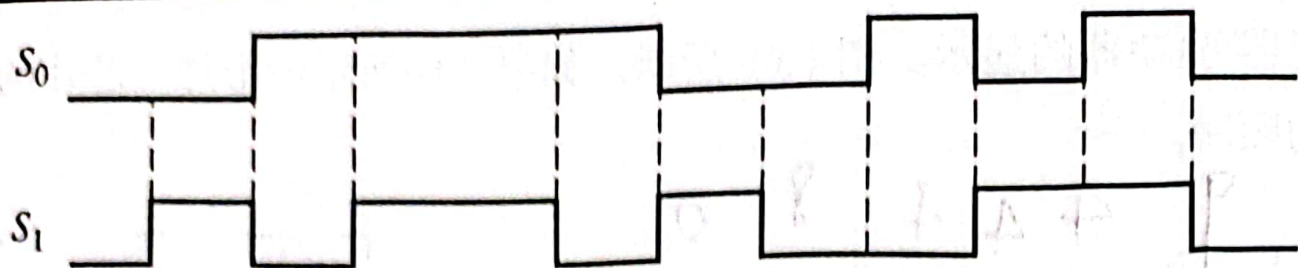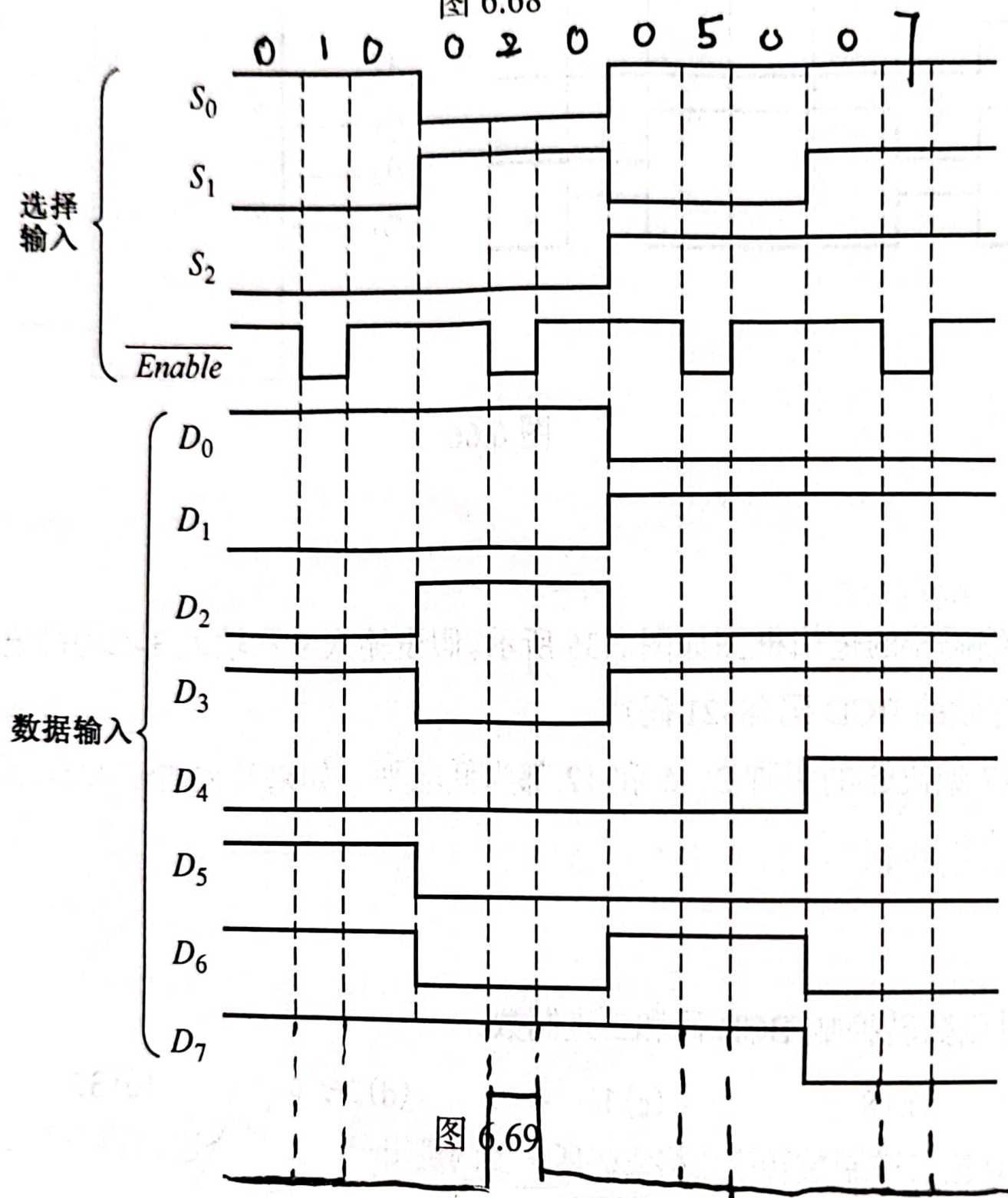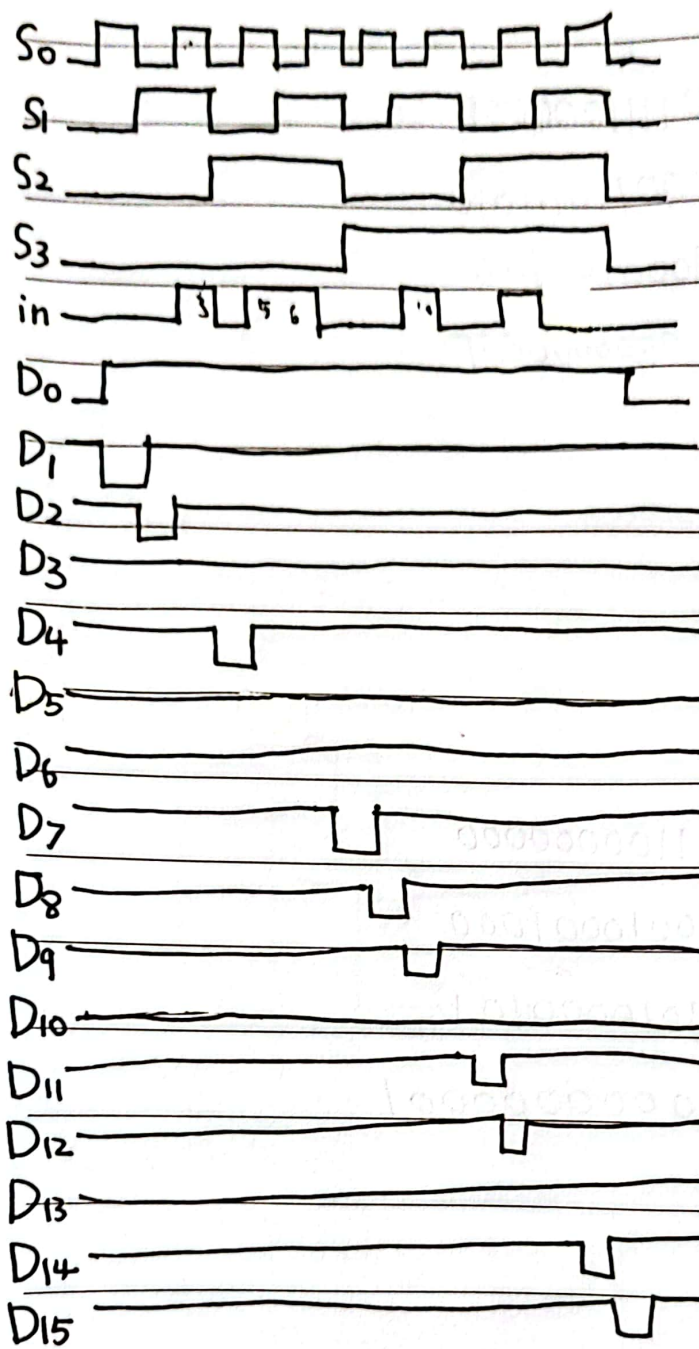
32. see book, 5 times

33. See book

位时间

A_0

A_1

A_2

A_3

图 6.70

图 6.71

30 f

Σ_{even}

Σ_{odd}