(i)

CLK	Q_3	Q_2	Q_1	Q_0
Initially	0	0	0	0
1st	1	0	0	0
2nd	1	1	0	0
3rd	0	1	1	0

⑦

CIK	Q_0	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9	Q_{10}	Q_{11}
Initially	1	0	0	1	1	1	1	0	0	1	0	1
1st(?)	0	0	0	0	1	1	1	1	0	0	1	0
2nd	0	0	0	0	0	1	1	1	1	0	0	1
3rd	0	0	0	0	0	0	1	1	1	1	0	0
4th	0	0	0	0	0	0	0	1	1	1	1	0
5th	1	0	0	0	0	0	0	0	1	1	1	1
6th	1	1	0	0	0	0	0	0	0	1	1	1
7th	1	1	1	0	0	0	0	0	0	0	1	1
8th	0	1	1	1	0	0	0	0	0	0	0	1
9th	0	0	1	1	1	0	0	0	0	0	0	0
10th	0	0	0	1	1	1	0	0	0	0	0	0
11th	1	0	0	0	1	1	1	0	0	0	0	0
12th	1	1	0	0	0	1	1	1	0	0	0	0

make waveforms for each Q.

③

CLK

A

B

$\overline{CLR}$

Q_0

Q_1

Q_2

Q_3

Q_4

Q_5

Q_6

Q_7

$0101 \rightarrow 0010 \rightarrow 0001$
0101

(14)

CLK

S/L   0   1   1   0

Q_3 000000

Q_2

Q_1

Q_0
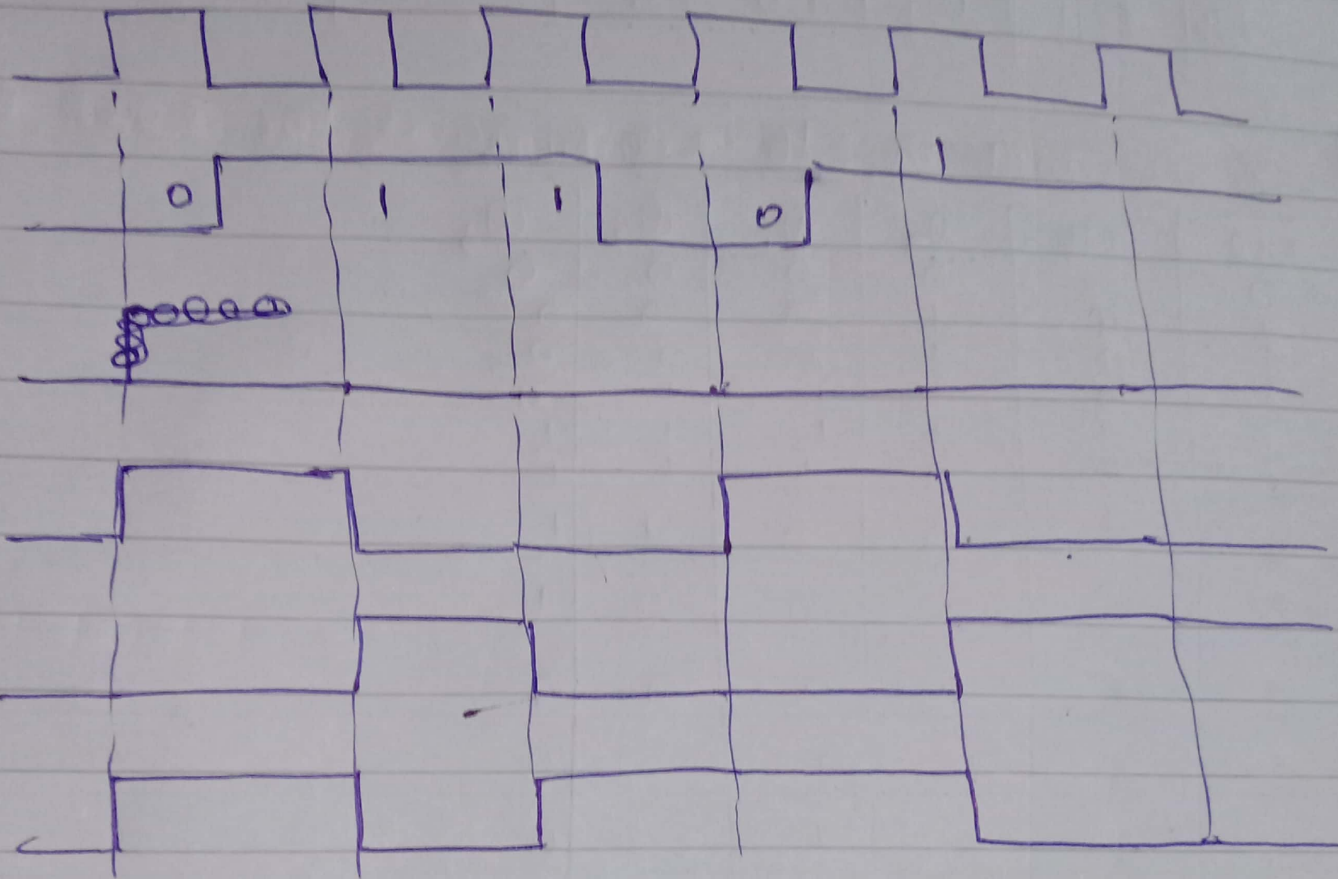
26) → ??

②

CLK	Q_0	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9
Initall	1	1	1	1	0	0	1	0	1	0
1st	0	1	1	1	1	0	0	1	0	1
2nd	1	0	1	1	1	1	0	0	1	0
3rd	0	1	0	1	1	1	1	0	0	1
4th	1	0	1	0	1	1	1	1	0	0
5th	0	1	0	1	0	1	1	1	1	0
6th	0	0	1	0	1	0	1	1	1	1
7th	1	0	0	1	0	1	0	1	1	1
8th	1	1	0	0	1	0	1	0	1	1
9th	1	1	1	0	0	1	0	1	0	1
10th	1	1	1	1	0	0	1	0	1	0

③ there will be shown sequences

CLR	Clk	Q_0	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7
0	X	0	0	0	0	0	0	0	0
1	1st	1	0	0	0	0	0	0	0
1	2nd	1	1	0	0	0	0	0	0
1	3rd	1	1	1	0	0	0	0	0
1	4th	1	1	1	1	0	0	0	0
1	5th	1	1	1	1	1	0	0	0
1	6th	1	1	1	1	1	1	0	0
1	7th	1	1	1	1	1	1	1	0
1	8th	1	1	1	1	1	1	1	1
1	9th	0	1	1	1	1	1	1	1
1	10th	0	0	1	1	1	1	1	1
1	11th	0	0	0	1	1	1	1	1
1	12th	0	0	0	0	1	1	1	1
1	13th	0	0	0	0	0	1	1	1
1	14th	0	0	0	0	0	0	1	1
1	15th	0	0	0	0	0	0	0	1
1	16th	0	0	0	0	0	0	0	0

(27)

Clk	Q_0	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9
Initially	1	0	0	0	0	0	0	0	0	0
1st	0	1	0	0	0	0	0	0	0	0
2nd	0	0	1	0	0	0	0	0	0	0
3rd	0	0	0	1	0	0	0	0	0	0
4th	0	0	0	0	1	0	0	0	0	0
5th	0	0	0	0	0	1	0	0	0	0
6th	0	0	0	0	0	0	1	0	0	0
7th	0	0	0	0	0	0	0	1	0	0
8th	0	0	0	0	0	0	0	0	1	0
9th	0	0	0	0	0	0	0	0	0	1
10th	1	0	0	0	0	0	0	0	0	0

Make waveforms for each Q.