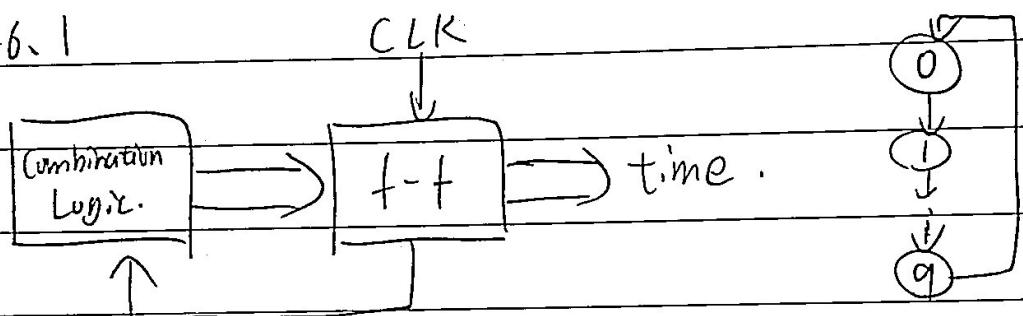
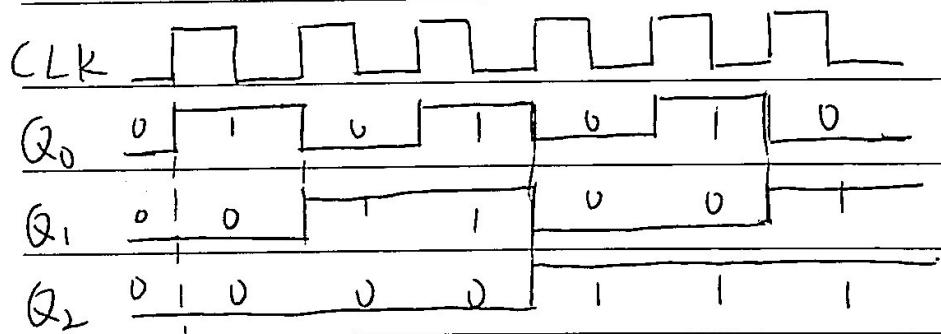


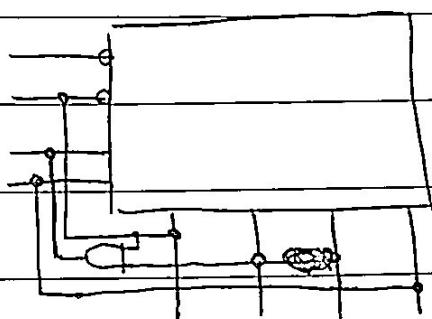
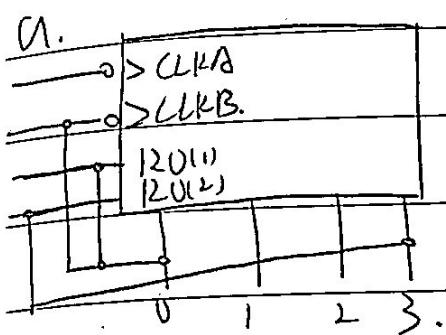
326.1



326.4

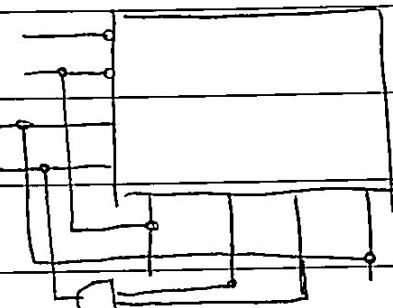
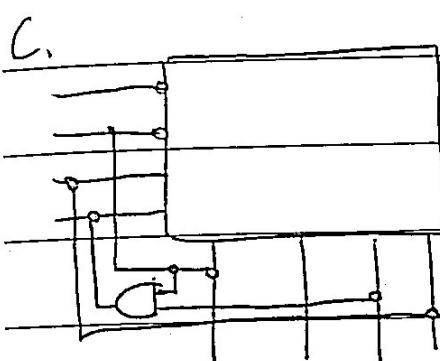


327.6



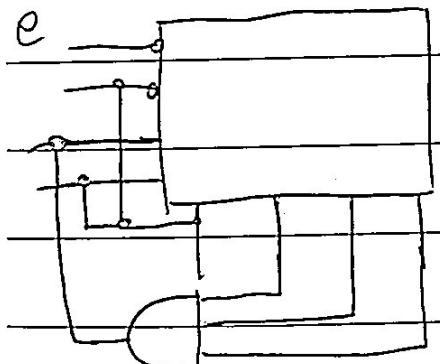
1

1



13

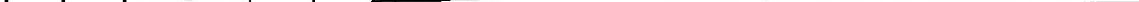
14



327.8

611

Click

(2) 

② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬

6 13 8 2 10 8 2 2 8 10 10 8 5

327.9 Initially,  $Q_0 = Q_1 = Q_2 = Q_3 = 0$

When  $t=1$ :  $J_0 = k_0 = 1, Q_0 = 1$  because of tp.

So  $J_1 = k_1 = 0, Q_1 = 0$

So  $J_2 = k_2 = 0, Q_2 = 0$

So  $J_3 = k_3 = 0, Q_3 = 0$

When  $t=2$ :  $J_0 = k_0 = 1, Q_0 = 0$  also the tp.

$\Rightarrow J_1 = k_1 = 1, Q_1 = 1$

$J_2 = k_2 = 0, Q_2 = 0$

$J_3 = k_3 = 0, Q_3 = 0$

When  $t=3$ :  $J_0 = k_0 = 1, Q_0 = 1$  the tp.

$\Rightarrow J_1 = k_1 = 0, Q_1 = 1$

$J_2 = k_2 = 0, Q_2 = 0$

$J_3 = k_3 = 0, Q_3 = 0$

When  $t=4$ :  $J_0 = k_0 = 1, Q_0 = 0$  the tp.

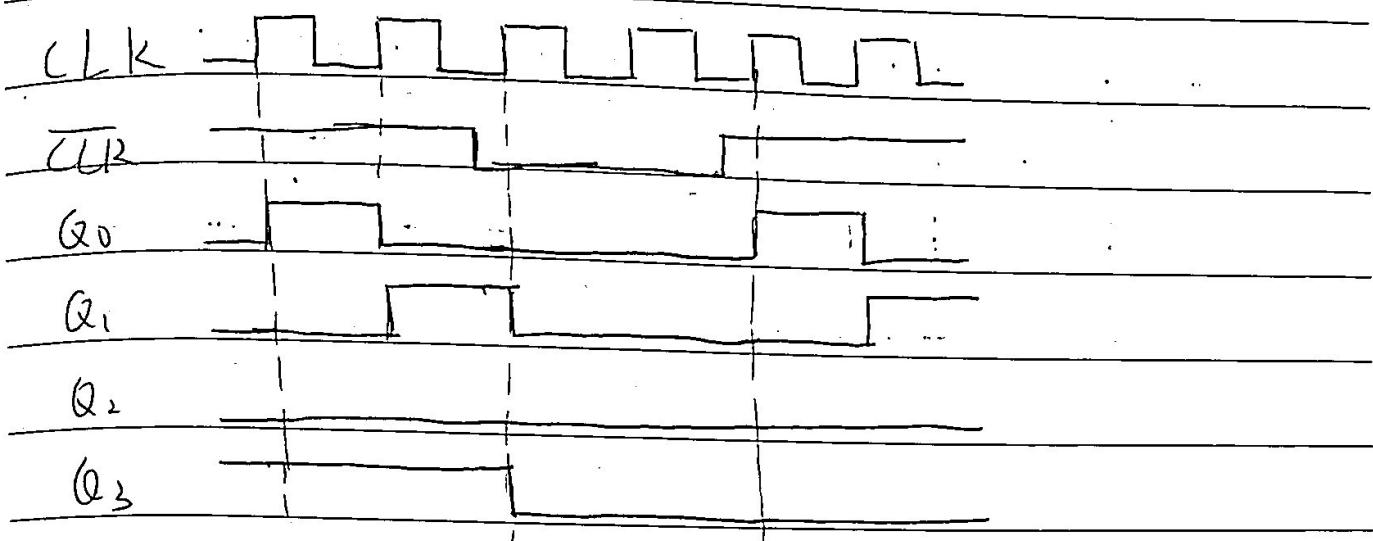
$\Rightarrow J_1 = k_1 = 1, Q_1 = 0$

$J_2 = k_2 = 1, Q_2 = 1$

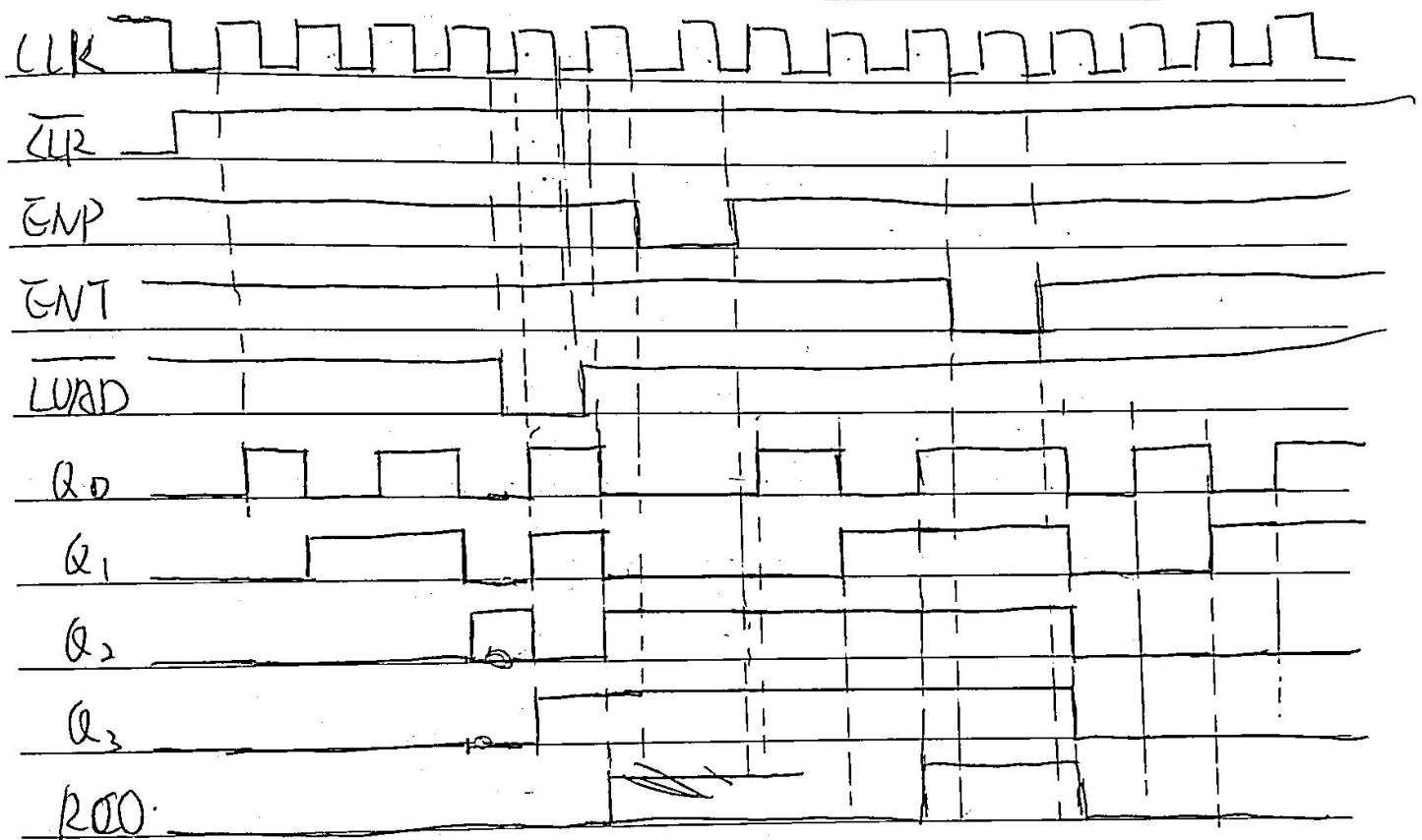
$J_3 = k_3 = 0, Q_3 = 0$

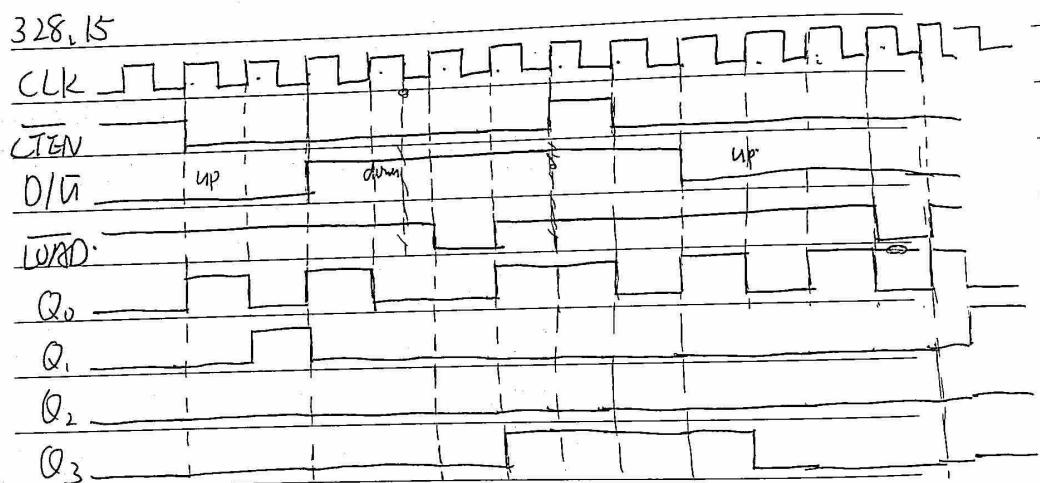
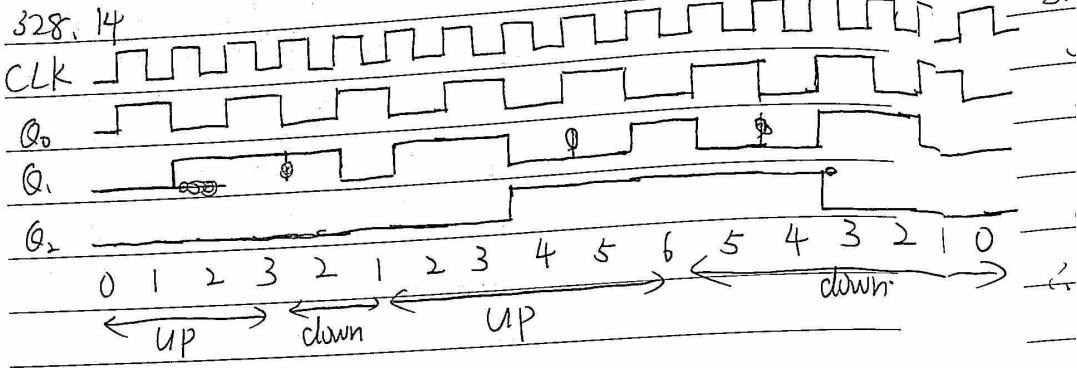
以此類推，直到 100

327.11



327.12 D<sub>0</sub>~D<sub>3</sub> = 1 1 0 1.



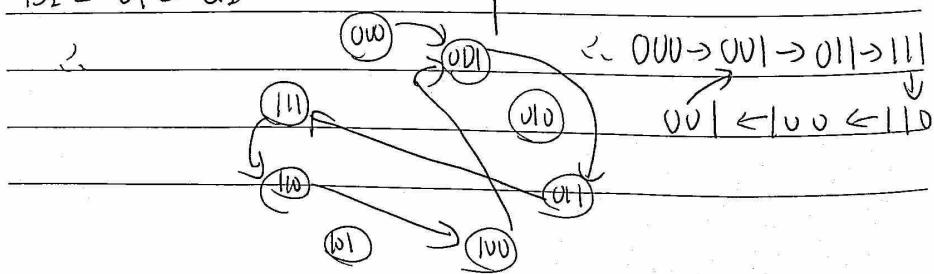


328. 18.

$$D_0 = \overline{Q_1}Q_2 = \overline{Q}_1 + \overline{Q}_2 = Q_0^* \quad Q_0^* Q_1^* Q_2^* Q_3^*$$

$$D_1 = Q_0 = Q_1^* \quad \Rightarrow \quad D01 \ 011 \ 101 \ 111 \ 001 \ 011 \ 100 \ 110$$

$$D_2 = Q_1 = Q_2^*$$



328. 19.

$$J_0 = k_0 = 1 = \cancel{Q}_0^*$$

$$Q_0^* = \overline{Q}_0$$

$$J_1 = k_1 = \overline{Q_0 Q_1 Q_2 Q_3} = \cancel{Q}_1^* \quad Q_1^* = \cancel{Q}_1 + Q_0 Q_1 Q_2 Q_3$$

$$J_2 = k_2 = \overline{Q_1 Q_2 Q_3} = \cancel{Q}_2^* \quad Q_2^* = \cancel{Q}_2 + Q_1 Q_2 Q_3$$

$$J_3 = k_3 = \overline{Q_2 Q_3} = \cancel{Q}_3^* \quad Q_3^* = \cancel{Q}_3 + Q_2 Q_3$$

$$\rightarrow \begin{array}{ccccccccc} Q_3^* & Q_2^* & Q_1^* & Q_0^* & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 0100 & 0101 & 0110 & 0111 \\ 0 & 0 & 1 & 0 \\ 1 & 1 & 1 & -1 & 0 \end{array}$$

$$\begin{array}{cccc} 1001 & 1001 & 1010 & 1011 \\ 1 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 1000 & 1001 & 1010 & 1011 \\ 1 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 1100 & 1101 & 1110 & 1111 \\ 1 & 1 & 0 & 0 \\ 1 & 1 & 0 & 1 \end{array}$$

$$\begin{array}{cccc} 1011 & 1010 & 1101 & 1110 \\ 1 & 0 & 1 & 1 \\ 0 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1110 & 1111 & 0000 & 0001 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1101 & 1100 & 0001 & 0011 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 1111 & 1110 & 0000 & 0011 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1100 & 1101 & 0001 & 0011 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 1110 & 1111 & 0000 & 0001 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1101 & 1100 & 0001 & 0011 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 1111 & 1110 & 0000 & 0011 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1100 & 1101 & 0001 & 0011 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 1111 & 1110 & 0000 & 0001 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1100 & 1101 & 0001 & 0011 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 1111 & 1110 & 0000 & 0001 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1100 & 1101 & 0001 & 0011 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 \end{array}$$

$$\begin{array}{cccc} 1111 & 1110 & 0000 & 0001 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{array}$$

$$\begin{array}{cccc} 1100 & 1101 & 0001 & 0011 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 0 \end{array}$$