329.20.

Q_1Q_0	00	10	11	01
next	10	01	00	11

J_1:

Q_0 \ Q_1	0	1
0	1	X
1	1	X

K_1:

Q_0 \ Q_1	0	1
0	X	1
1	X	1

J_0:

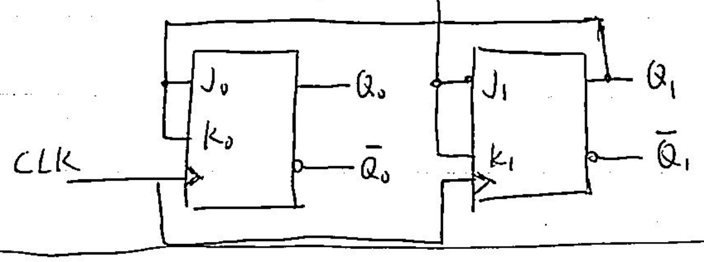
Q_0 \ Q_1	0	1
0	0	1
1	X	X

K_0:

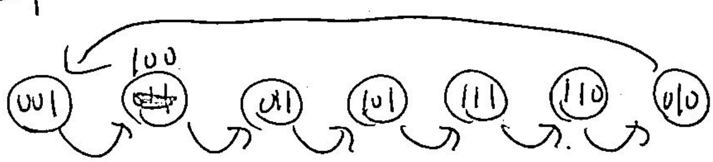
Q_0 \ Q_1	0	1
0	X	X
1	0	1

∴ $J_0 = Q_1$, $K_0 = Q_1$

∴ $J_1 = 1$, $K_1 = 1$



329.21



$Q_2Q_1Q_0$	000	001	010	011	100	101	110	111
next	None	100	001	101	011	111	010	110

J_0:

Q_2 \ Q_1Q_0	00	01	11	10
0	X	X	X	1
1	1	X	X	0

K_0:

Q_2 \ Q_1Q_0	00	01	11	10
0	X	1	0	X
1	X	0	1	X

J_1:

Q_2 \ Q_1Q_0	00	01	11	10
0	X	0	X	X
1	1	1	X	X

K_1:

Q_2 \ Q_1Q_0	00	01	11	10
0	X	X	1	1
1	X	X	0	0

J_2:

Q_2 \ Q_1Q_0	00	01	11	10
0	X	1	1	0
1	X	X	X	X

K_2:

Q_2 \ Q_1Q_0	00	01	11	10
0	X	X	X	X
1	1	0	0	X

∴ $J_0 = \bar{Q}_1 + \bar{Q}_2 Q_1$

$K_0 = \bar{Q}_2 \bar{Q}_1 + Q_2 Q_1$

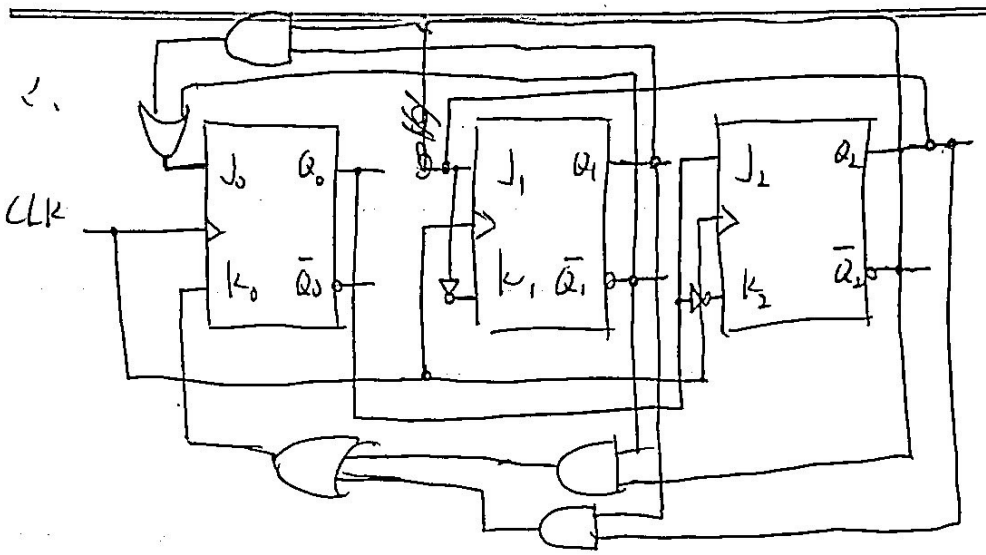
$J_1 = Q_2$

$K_1 = \bar{Q}_2$

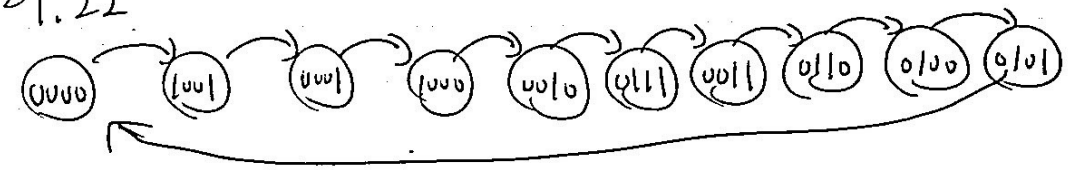
∴ $J_2 = Q_0$

$K_2 = \bar{Q}_0$

2.

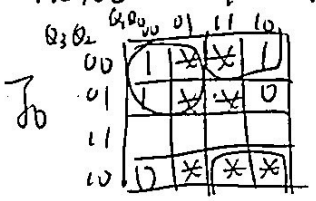


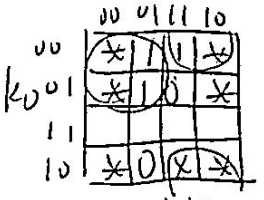
3.29.22



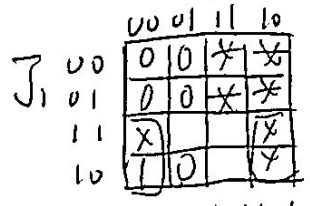
$Q_3Q_2Q_1Q_0$ 0000 1001 0001 1000 0010 0111 0011 0110 0100 0101

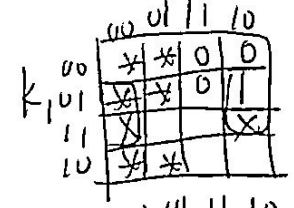
next 1001 0001 1000 0010 0111 0011 0110 0100 0101 0000



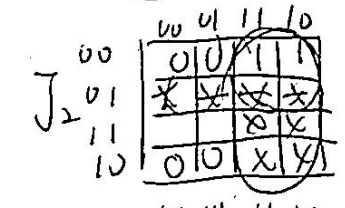


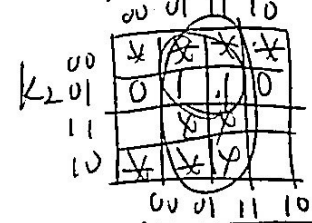
$\therefore J_0 = K_0 = \bar{Q}_3\bar{Q}_1 + \bar{Q}_2Q_1$



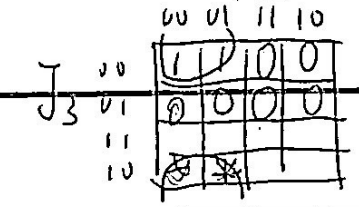


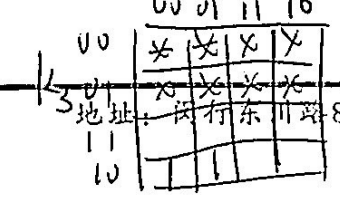
$\therefore J_1 = Q_3\bar{Q}_0 \quad K_1 = Q_2\bar{Q}_0.$



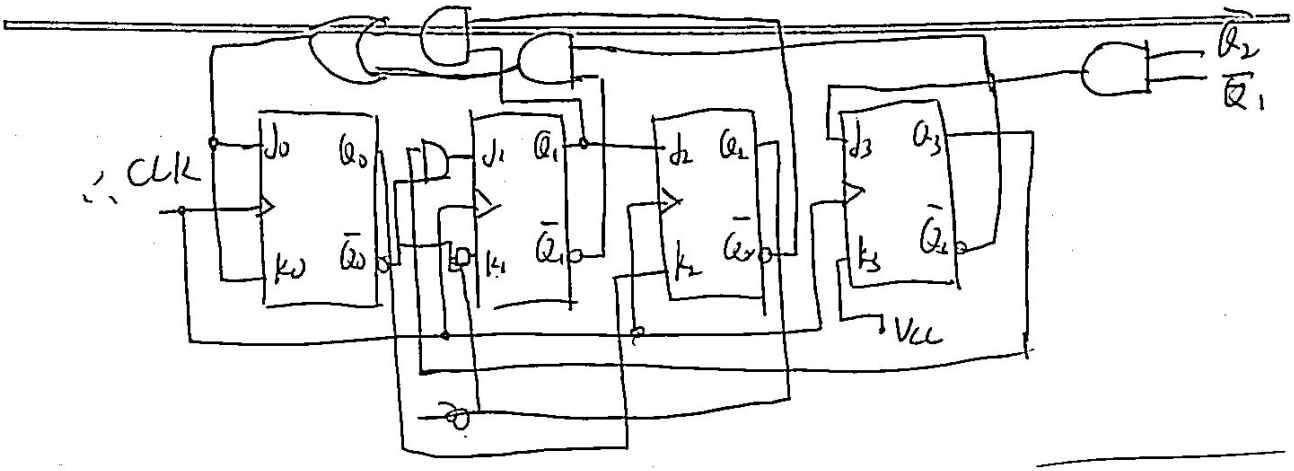


$\therefore J_2 = \bar{Q}Q_1 \quad K_2 = \bar{Q}Q_0.$



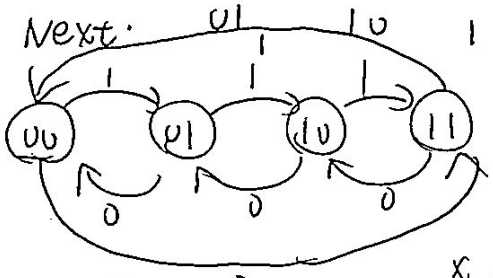


$J_3 = \bar{Q}_2\bar{Q}_1 \quad K_3 = 1$

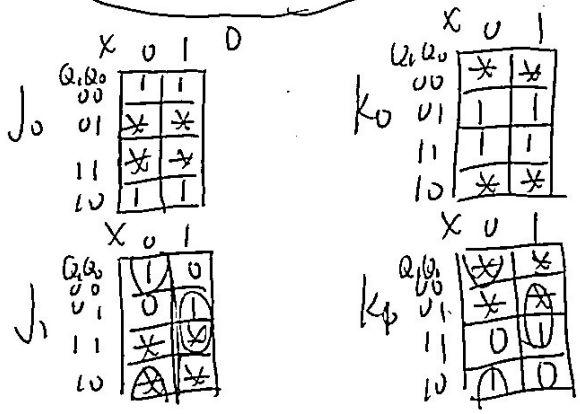


3.29.23

X	1	1	1	1	0	0	0	0
Q_1Q_0	00	01	10	11	00	01	10	11
Next	01	10	11	00	11	00	01	10



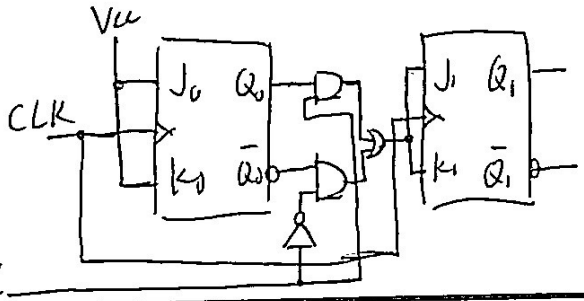
太多了，我画自己的，反正原理一样



$\therefore J_0 = K_0 = 1$

$\therefore J_1 = \bar{Q}_0\bar{X} + Q_0X$

$K_1 = \bar{Q}_0\bar{X} + Q_0X$



329.24.

a. ① 250Hz ② 31.25Hz ③ 15.625Hz

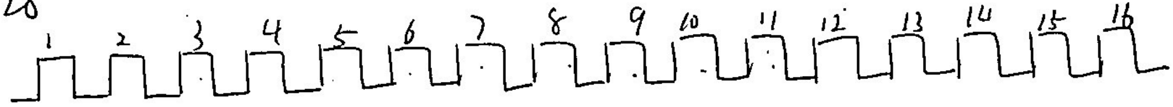
b. ① 10kHz ② 1kHz ③ 100Hz ④ 50Hz

c. ① 7MHz ② 1.17MHz ③ 0.15MHz ④ 15KHz ⑤ 1.5kHz

d. ① 19.2kHz ② 4.8kHz ③ 0.8kHz ④ 100Hz ⑤ 6.25Hz.

330.28

CLK.



CLK的上わ即为 Decoder 当前输出 0 的端口. 初始时 0端口 V=0

330.31

~~I do~~ I don't but ~~when~~ after I refer to answer, I guess is the

~~P~~ 时延 from ~~Q0 to~~ J_1 to Q_1 & J_2 to Q_2

So the Gray Code is a good idea, or make the AND Gate Synchrony

330.34

CTR DIV 10 is $\frac{1}{10} f_0$; CTR DIV 6 is $\frac{1}{60} f_0$.

330.35.

In 24 hours, 37 cars are in, and 22 cars are out.

So the final state of the CTR is 53+37-22 = 68