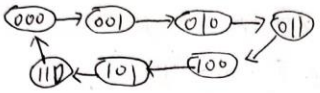
便　笺

5-1、

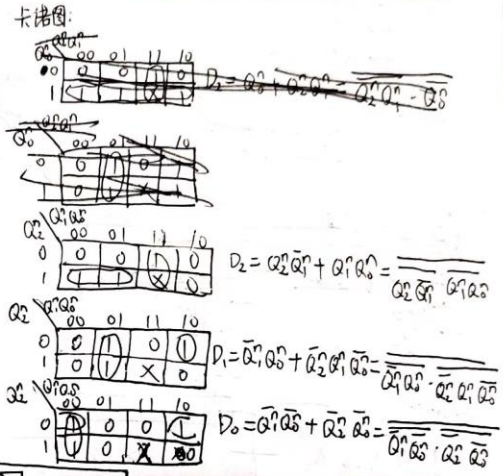
解：状态图：



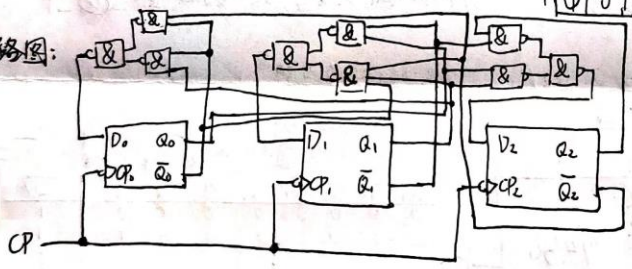
状态转换图及真值表：

Q_2^n	Q_1^n	Q_0^n	Q_2^{n+1}	Q_1^{n+1}	Q_0^{n+1}	D_2	D_1	D_0
0	0	0	0	0	1	0	0	1
0	0	1	0	1	0	0	1	0
0	1	0	0	1	1	0	1	1
0	1	1	1	0	0	1	0	0
1	0	0	1	0	1	1	0	1
1	0	1	1	1	0	1	1	0
1	1	0	0	0	0	0	0	0
1	1	1	×	×	×	×	×	×

卡诺图：

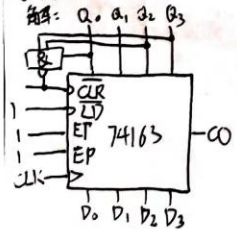


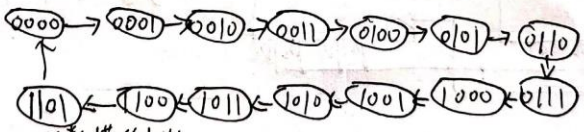
电路图：



5-7、

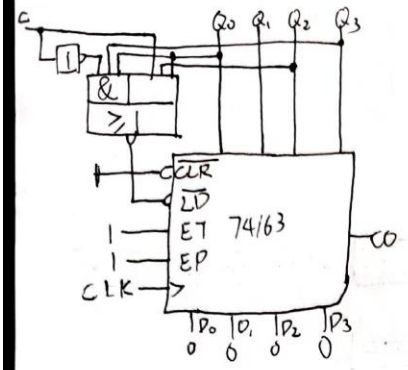
解：



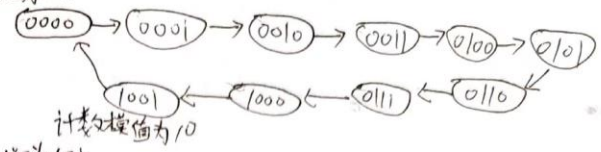


计数模值为14

5-8、

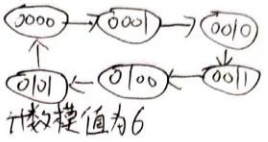


解：当C为0时：



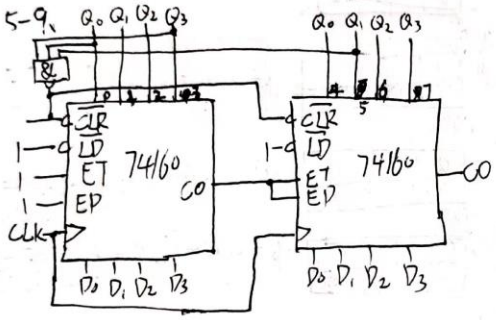
计数模值为10

当C为1时



计数模值为6

5-9、

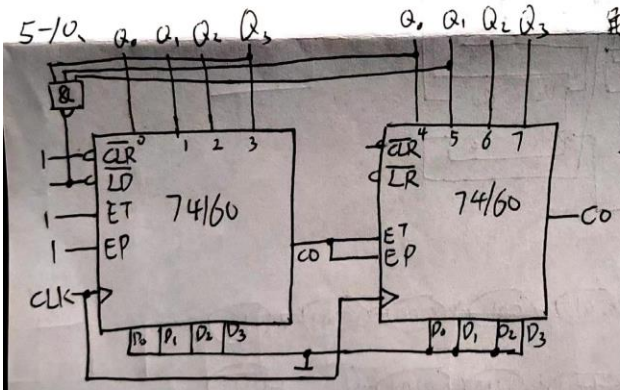


解：$\overline{CLR}=\overline{Q_5Q_3Q_0}$　当$Q_5=Q_3=Q_0=1$时，$\overline{CLR}=0$

Q_7	Q_6	Q_5	Q_4	Q_3	Q_2	Q_1	Q_0	$\overline{CLR}$
0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	1	1
⋮								⋮
0	0	1	0	1	0	0	1	1
0	0	1	0	1	0	1	0	0
0	0	1	0	1	0	1	1	×
⋮								⋮

74160为异步清零，故计数模值为~~24~~ 29

5-10、



解：计数模值为39

$\overline{LD}=\overline{Q_5\cdot Q_4\cdot Q_3}$，

74160为同步置数，当$Q_5=Q_4=Q_3=1$时，$\overline{LD}=0$

Q_7	Q_6	Q_5	Q_4	Q_3	Q_2	Q_1	Q_0	$\overline{LD}$
0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	1	1
⋮								⋮
0	0	1	1	1	0	0	0	0
0	0	1	1	1	0	0	1	×
⋮								⋮