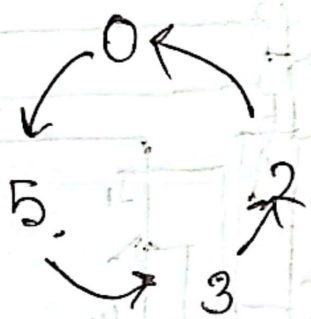
1805116

1805116 % 5 = 1

1. 0 → 2 → 3 → 5 → 0 (down counter)

State diagram:



Excitation table:

$Q_2 Q_1 Q_0$	$Q_2^* Q_1^* Q_0^*$	T_2 T_1 T_0
0 0 0	0 0 1	0 0 1
0 0 1	0 1 1	0 1 0
0 1 1	0 1 0	0 0 1
0 1 0	0 0 0	0 1 0
1 0 1	1 0 1	0 0 0

K-map:

for T_2

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

$T_2 = \overline{Q_1}$

for T_1

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

$T_1 = Q_2 + Q_1\overline{Q_0}$

Or, $T_1 = \overline{Q_2}Q_0 + Q_0\overline{Q_1}$

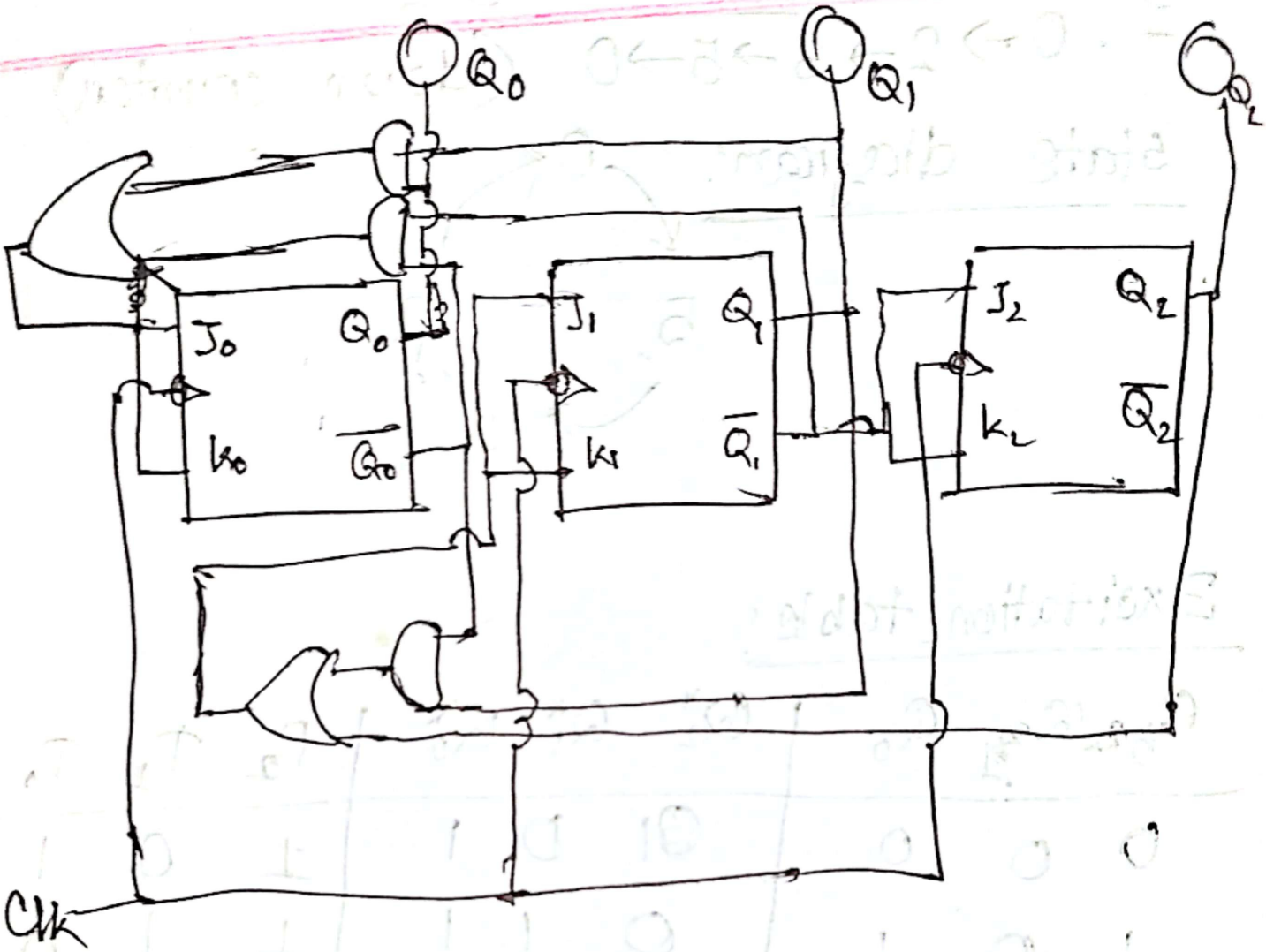
$= Q_1 \oplus Q_0$

for T_0

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

$T_0 = \overline{Q_1}\,\overline{Q_0} + Q_1Q_0$

$= \overline{Q_1 \oplus Q_0}$


Q0
Q1
Q2
J0
Q0
K0
Q0
J1
Q1
K1
Q1
J2
Q2
K2
Q2
Clk