Nevermind...
↳ Need to think of these as two seperate state machines
↳ Cut #1 down to 3 states

#1 : X

EN	Q_1	Q_2	Q_1^+	Q_2^+	X	Y	Z
0	0	0	0	1	0	0	1
0	0	1	1	0	0	1	0
0	1	0	0	0	1	0	0
1	X	X	X	X	0	0	0

X's because it would be redunant for the states AND output to be determined by EN. Could have it set to 00 but would already have to tailor XYZ anyways

XYZ ≡ decoder with EN'

$Q_1^+ = Q_2$, $Q_2^+ = Q_1' \cdot Q_2'$

#2 : O

EN	Q_1	Q_2	Q_1^+	Q_2^+	A	B	C	D
1	0	0	0	1	0	0	0	1
1	0	1	1	0	0	0	1	1
1	1	0	1	1	0	1	1	1
1	1	1	0	0	1	1	1	1
0	X	X	X	X	0	0	0	0

$Q_1^+ = Q_1 \otimes Q_2$, $Q_2^+ = Q_2'$

Q_1Q_2	A	B	C	D
0 0	0	0	0	1
0 1	0	0	1	1
1 0	0	1	1	1
1 1	1	1	1	1

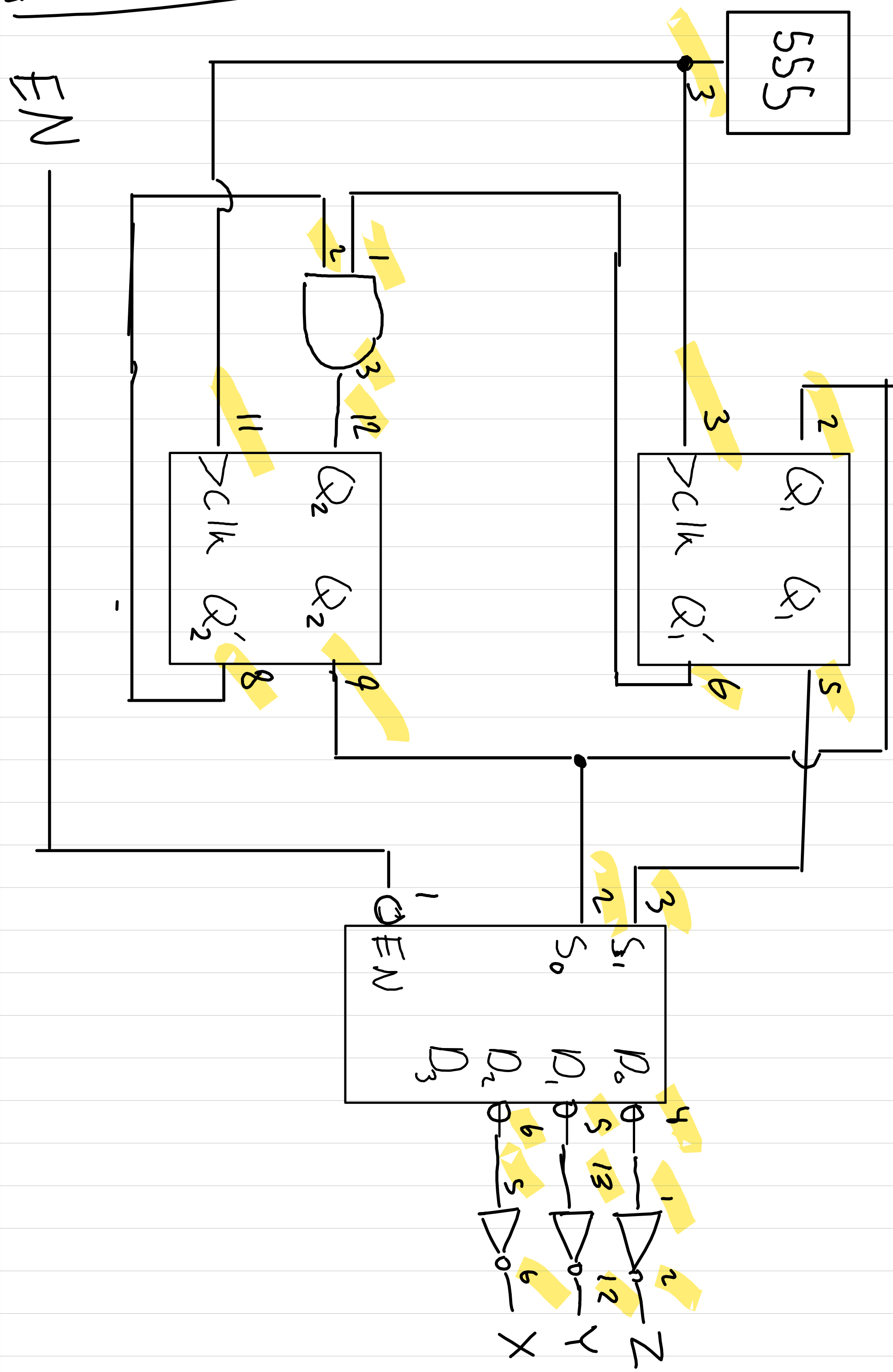
$D = EN$

$C = (Q_1 + Q_2) \cdot EN$

$B = Q_1 \cdot EN$

$A = (Q_1 \cdot Q_2) \cdot EN$

#1 Circuit



#2 Circuit