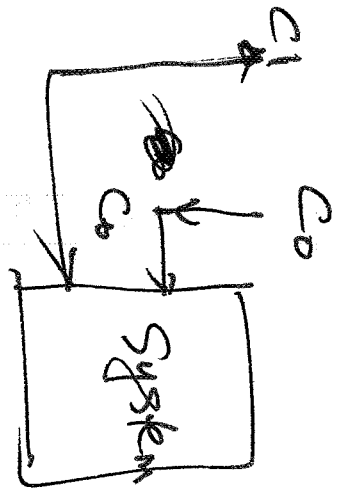
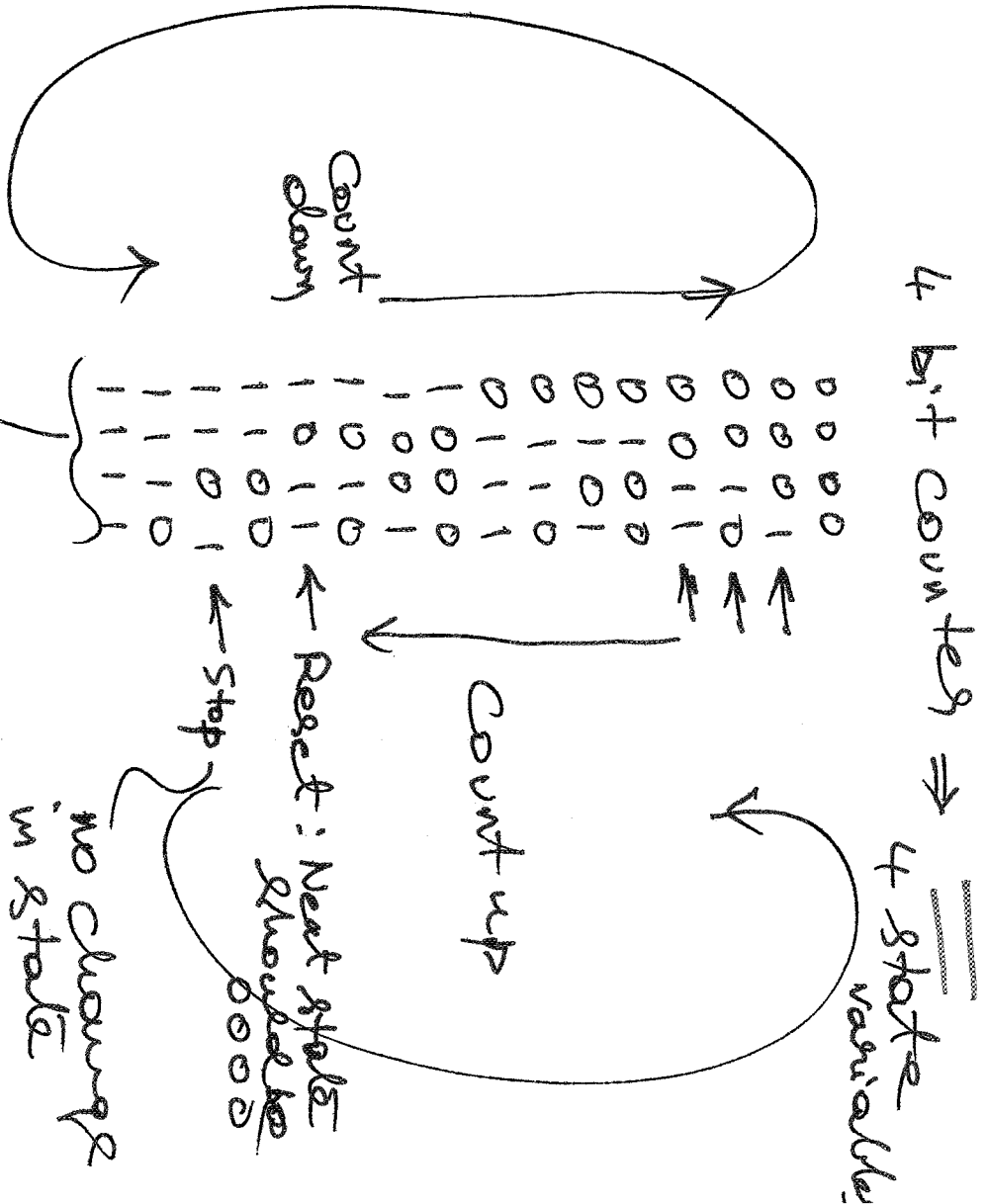


Design an up, down, stop, reset counter



Control bits	Function
1 0	Stop
0 1	Count up
1 1	Count down
0 0	Reset.



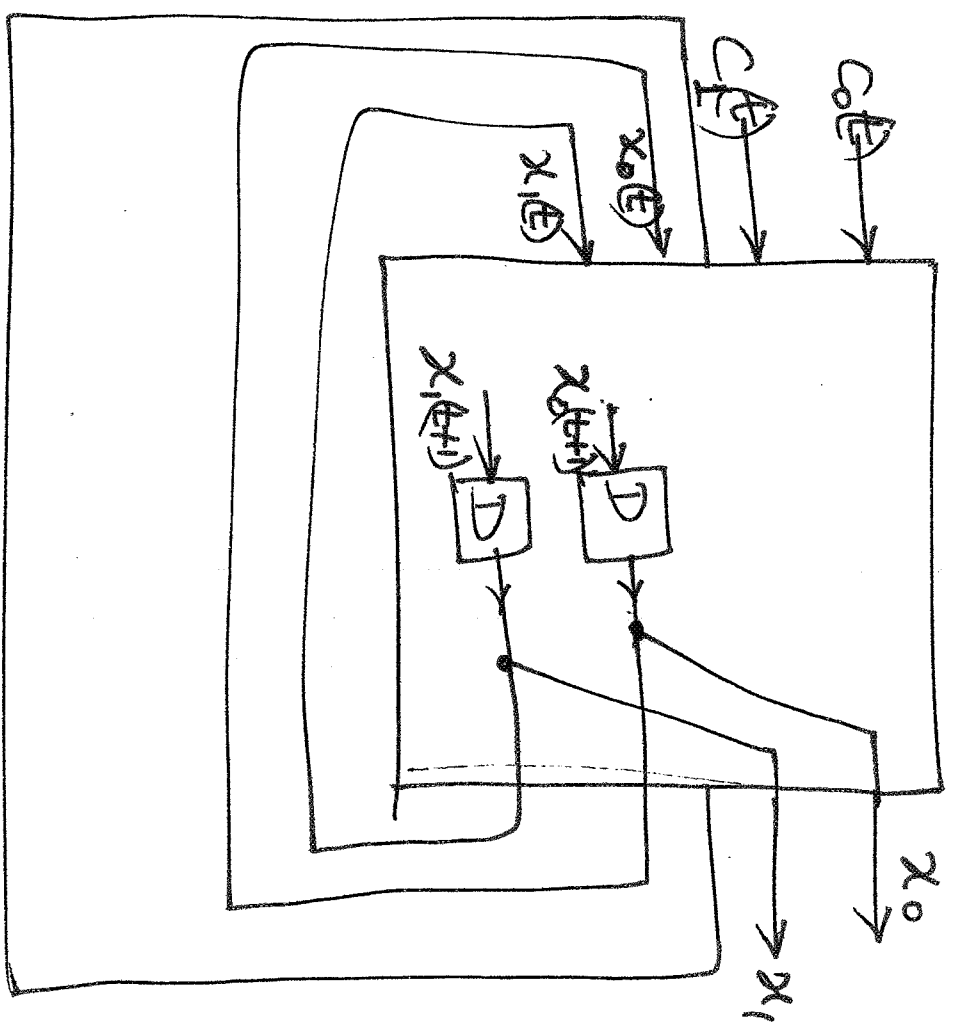
We will illustrate with 2 bits and not 4 bits

clock period

no change in state in the next clock period

~~Sequence~~
~~Counters~~

Input $c_1 c_0$	Current state $x_1 x_0$	Next state $x_1(t+1) x(t)$
0 0	0 0	0 0
0 0	0 1	0 1
0 0	1 0	1 0
0 0	1 1	1 1
0 1	0 0	0 1
0 1	0 1	0 0
0 1	1 0	1 1
0 1	1 1	0 0
1 0	0 0	0 0
1 0	0 1	0 0
1 0	1 0	0 0
1 0	1 1	0 0
1 1	0 0	0 0
1 1	0 1	0 0
1 1	1 0	0 0
1 1	1 1	0 0



0	0	1	1
0	1	0	1
1	0	0	0
1	0	0	0

