

5-state Ring Counter								
STATE	present (Q)				next (D)			
	Q3	Q2	Q1	Q0	D3	D2	D1	D0
1	1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	1
3	0	0	0	1	0	0	1	0
4	0	0	1	0	0	1	0	0
5	0	1	0	0	1	0	0	0

Needs a K-map for each D

D0	Q3Q2			
Q1Q0	00	01	11	10
00	1			
01				
11				
10				
$D0 = !Q3*!Q2*!Q1*!Q0$				

D1	Q3Q2			
Q1Q0	00	01	11	10
00				
01	1			
11				
10				
$D1 = !Q3*!Q2*!Q1*Q0$				

D2	Q3Q2			
Q1Q0	00	01	11	10
00				
01				
11				
10	1			
$D2 = !Q3*!Q2*Q1*!Q0$				

D3	Q3Q2			
Q1Q0	00	01	11	10
00		1		
01				
11				
10				
$D3 = !Q3*Q2*!Q1*!Q0$				

Like... this was totally unnecessary, but you know, might be useful for more complicated things that are more than 5 states

