

Ones Digit Truth Table													
		Current							Next				
Number	U/D	Q3	Q2	Q1	Q0		Number	Q3	Q2	Q1	Q0	CountEn1	
0	0	0	0	0	0	0	1	0	0	0	1	0	0
1	0	0	0	0	0	1	2	0	0	1	0	0	0
2	0	0	0	0	1	0	3	0	0	1	1	0	0
3	0	0	0	0	1	1	4	0	1	0	0	0	0
4	0	0	0	1	0	0	5	0	1	0	1	0	0
5	0	0	0	1	0	1	6	0	1	1	0	0	0
6	0	0	0	1	1	0	7	0	1	1	1	0	0
7	0	0	0	1	1	1	8	1	0	0	0	0	0
8	0	1	0	0	0	0	9	1	0	0	0	1	0
9	0	1	0	0	0	1	0	0	0	0	0	0	1
0	1	0	0	0	0	0	9	1	0	0	1	1	1
1	1	0	0	0	0	1	0	0	0	0	0	0	0
2	1	0	0	0	1	0	1	0	0	0	1	0	0
3	1	0	0	0	1	1	2	0	0	1	0	0	0
4	1	0	1	0	0	0	3	0	0	1	1	0	0
5	1	0	1	0	0	1	4	0	1	0	0	0	0
6	1	0	1	1	0	0	5	0	1	0	1	0	0
7	1	0	1	1	1	1	6	0	1	1	0	0	0
8	1	1	0	0	0	0	7	0	1	1	1	0	0
9	1	1	0	0	0	1	8	1	0	0	0	0	0

Tens Digit Truth Table															
				Current						Next					
Number	CountEn1	U/D		Q7	Q6	Q5	Q4		Number	Q7	Q6	Q5	Q4		CountEn2
0	1	1	0	0	0	0	0		1	0	0	0	1		0
1	1	1	0	0	0	0	1		2	0	0	1	0		0
2	1	1	0	0	0	1	0		3	0	0	1	1		0
3	1	1	0	0	0	1	1		4	0	1	0	0		0
4	1	1	0	0	1	0	0		5	0	1	0	1		0
5	1	1	0	0	1	0	1		6	0	1	1	0		0
6	1	1	0	0	1	1	0		7	0	1	1	1		0
7	1	1	0	0	1	1	1		8	1	0	0	0		0
8	1	1	0	1	0	0	0		9	1	0	0	1		0
9	1	1	0	1	0	0	1		0	0	0	0	0		1
0	1	1	1	0	0	0	0		9	1	0	0	1		1
1	1	1	1	0	0	0	1		0	0	0	0	0		0
2	1	1	1	0	0	1	0		1	0	0	0	1		0
3	1	1	1	0	0	1	1		2	0	0	1	0		0
4	1	1	1	0	1	0	0		3	0	0	1	1		0
5	1	1	1	0	1	0	1		4	0	1	0	0		0
6	1	1	1	0	1	1	0		5	0	1	0	1		0
7	1	1	1	0	1	1	1		6	0	1	1	0		0
8	1	1	1	1	0	0	0		7	0	1	1	1		0
9	1	1	1	1	0	0	1		8	1	0	0	0		0
0	0	0	0	0	0	0	0		0	0	0	0	0		
1	0	0	0	0	0	0	1		1	0	0	0	1		
2	0	0	0	0	0	1	0		2	0	0	1	0		
3	0	0	0	0	0	1	1		3	0	0	1	1		
4	0	0	0	0	1	0	0		4	0	1	0	0		
5	0	0	0	0	1	0	1		5	0	1	0	1		
6	0	0	0	0	1	1	0		6	0	1	1	0		
7	0	0	0	0	1	1	1		7	0	1	1	1		
8	0	0	1	0	0	0	0		8	1	0	0	0		
9	0	0	1	0	0	0	1		9	1	0	0	1		
0	0	1	0	0	0	0	0		0	0	0	0	0		
1	0	1	0	0	0	0	1		1	0	0	0	1		
2	0	1	0	0	0	1	0		2	0	0	1	0		
3	0	1	0	0	0	1	1		3	0	0	1	1		
4	0	1	0	1	0	0	0		4	0	1	0	0		
5	0	1	0	1	1	0	1		5	0	1	0	1		
6	0	1	0	1	1	1	0		6	0	1	1	0		
7	0	1	0	1	1	1	1		7	0	1	1	1		
8	0	1	1	1	0	0	0		8	1	0	0	0		
9	0	1	1	1	0	0	1		9	1	0	0	1		





If CountEn1 = 0, the bits representing the tens digit will remain the same

If CountEn2 = 0, the bits representing the hundreds digit will remain the same