

Part1

2. The first flip-flop is labelled as Q0, and then Q1,...,Q7.

Part2

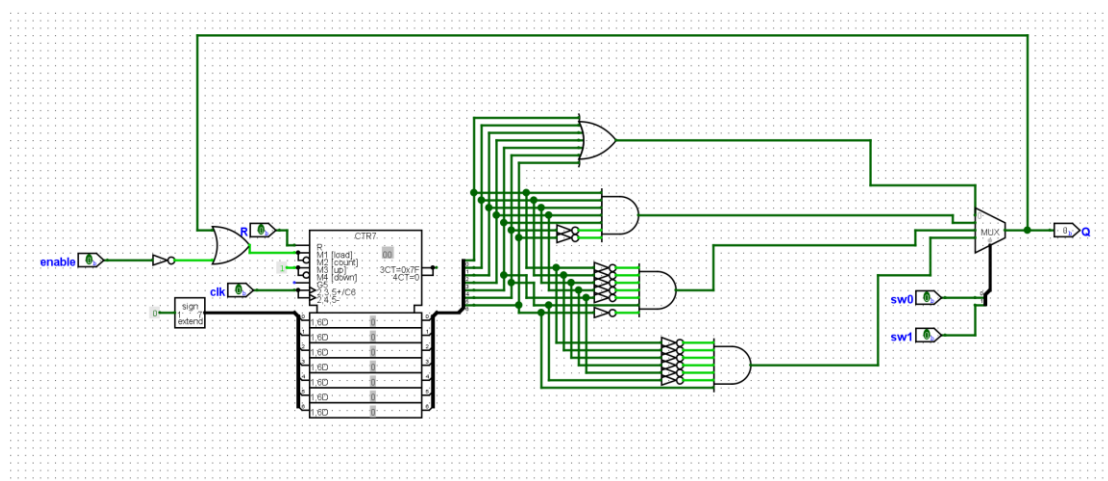
1. Because when the value will return to 0 after the clock rise again from the maximum value.
2. Change the adder circuit to 1001.
3. Wrap around: change to 0

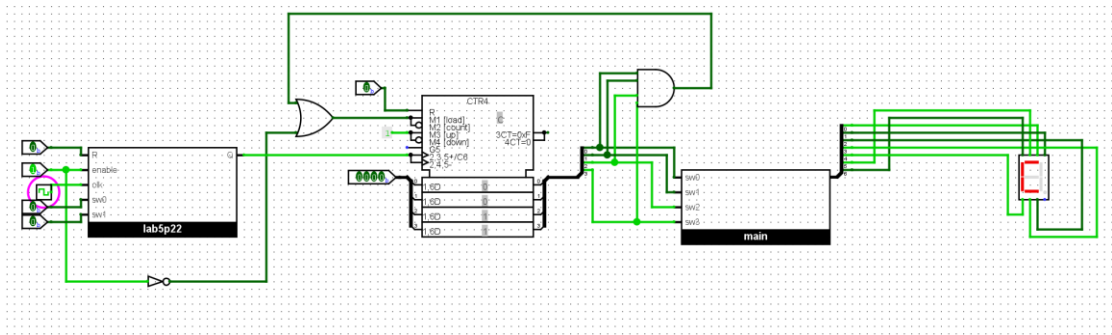
Load next value: the output start from the load value.

Stay at value: does not change

Continue counting: change to 0.

1.  $\log_2(50m) = 26$





### Part3

000	S	1010100000000000
001	T	1110000000000000
010	U	1010110000000000
011	V	1010101100000000
100	W	1011011100000000
101	X	1110101011000000
110	Y	1110101101100000
111	Z	1110110101000000

