COS10004: Computer Systems

Lab 3

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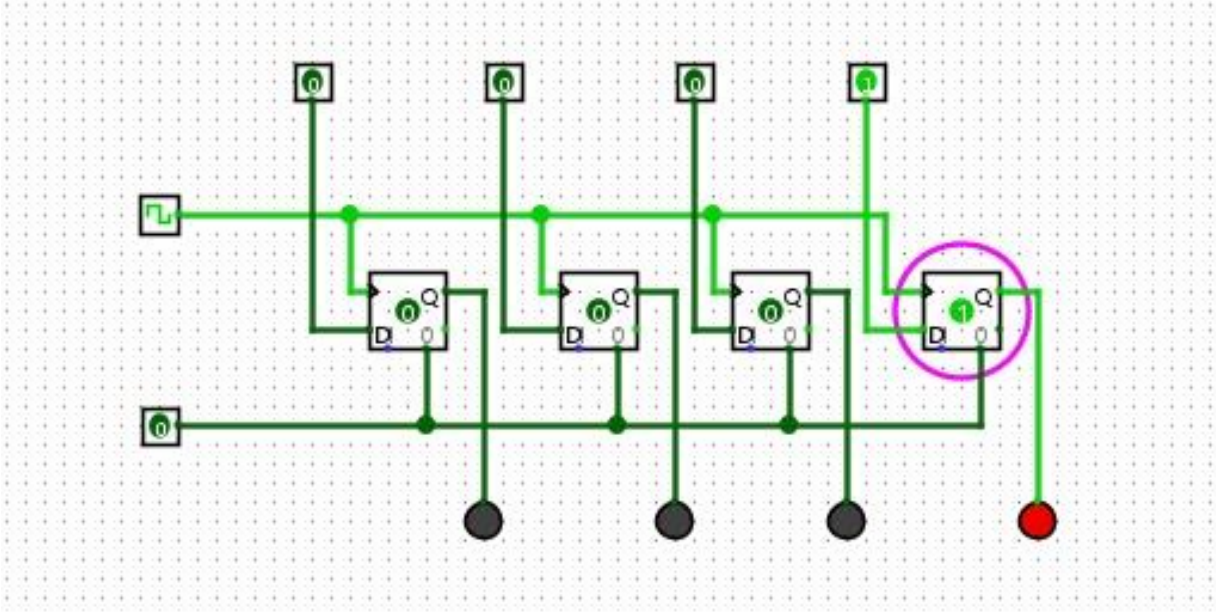
7.

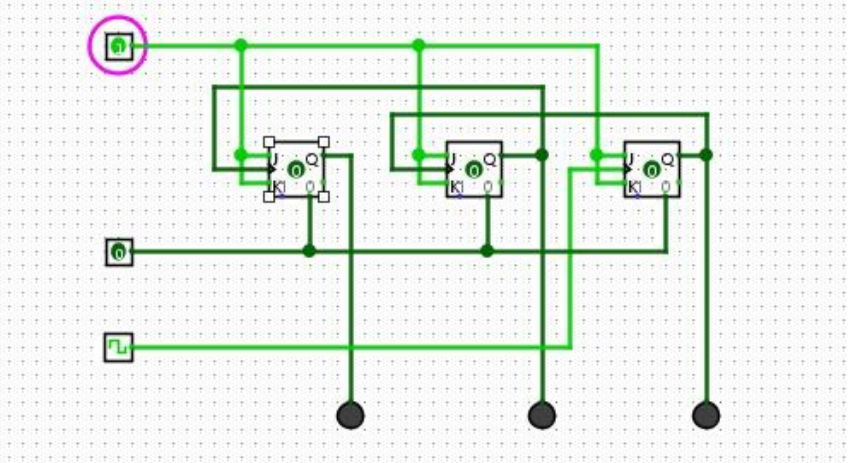


7.1. To know and receive the number of counting tasks, people use counters that illustrates numbers through decimal value.

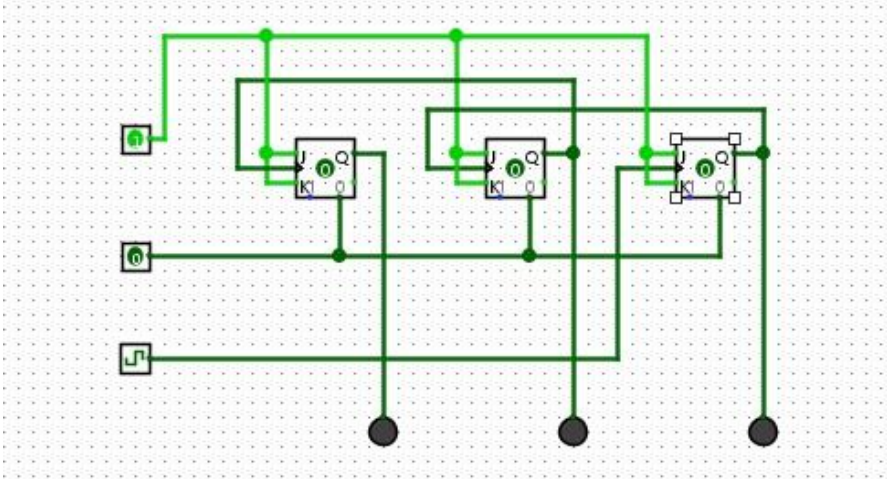
7.2. Ripple counter is a range of flip-flops, where an output of a flip-flop is clocked with the subsequent flip-flop.

Ox	Input Binary	Output Binary
0	0000	0000
1	0001	0001
2	0010	0010
3	0011	0011
4	0100	0100
5	0101	0101
A	1010	1010
B	1011	1011
C	1100	1100
D	1101	1101
E	1110	1110
F	1111	1111

9.

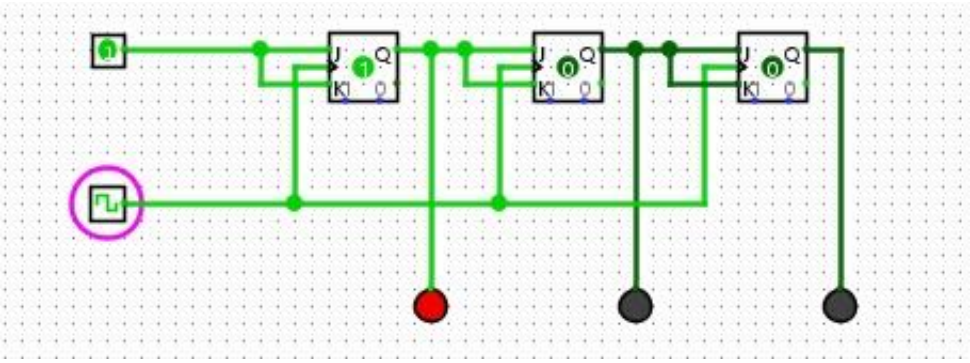


12.



The counting-down and counting-up counter layout are quite the same, except for their attribute's, Falling Edge is for counting-up counter and reversely.

14.



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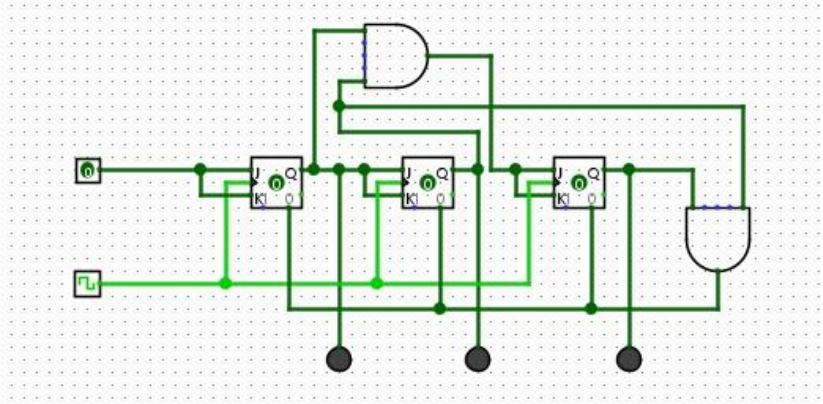
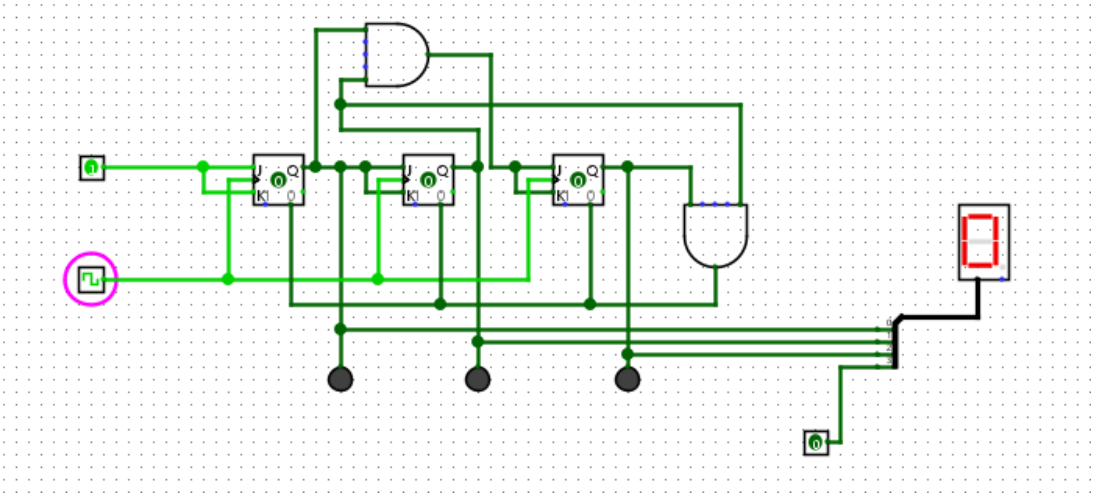
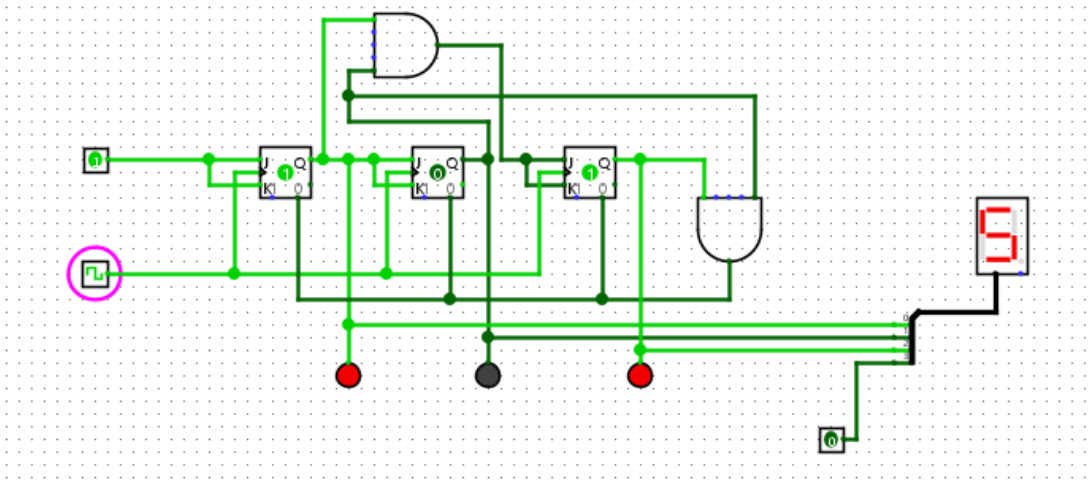


17.2. Preventing from illegal state is important, since it helps the counter be executed successfully.

18.