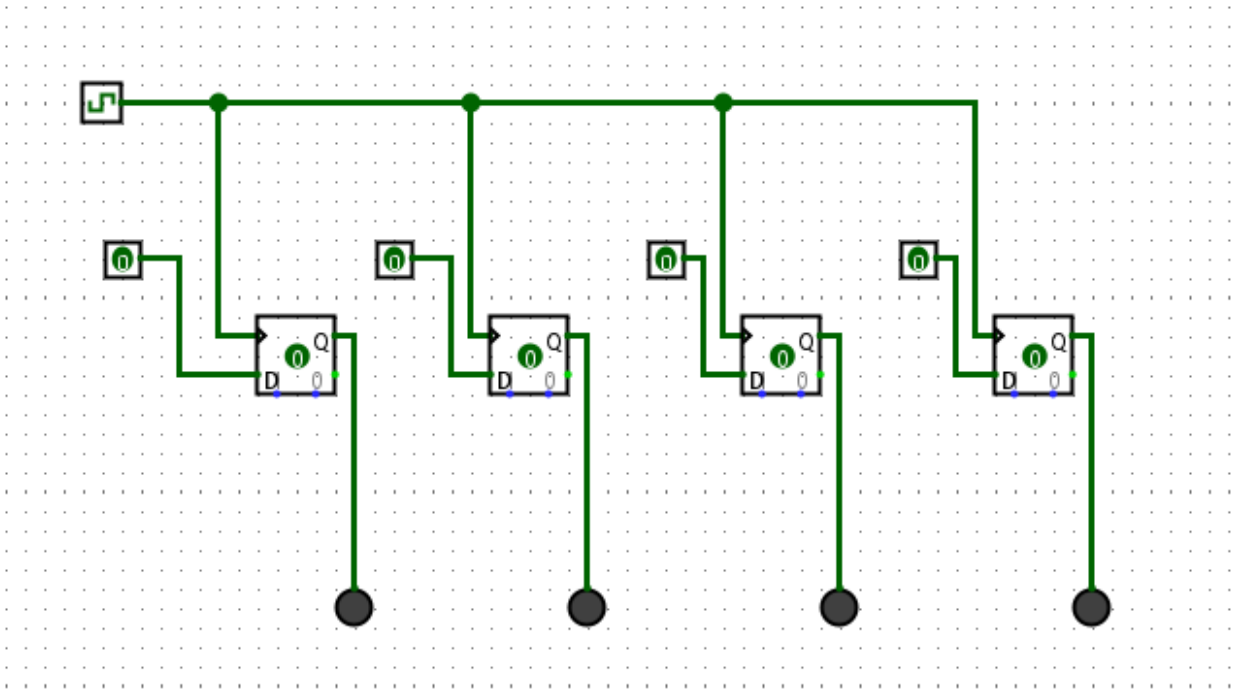
2021

Lab 03

COS10004

CONG THANH NGO

Register

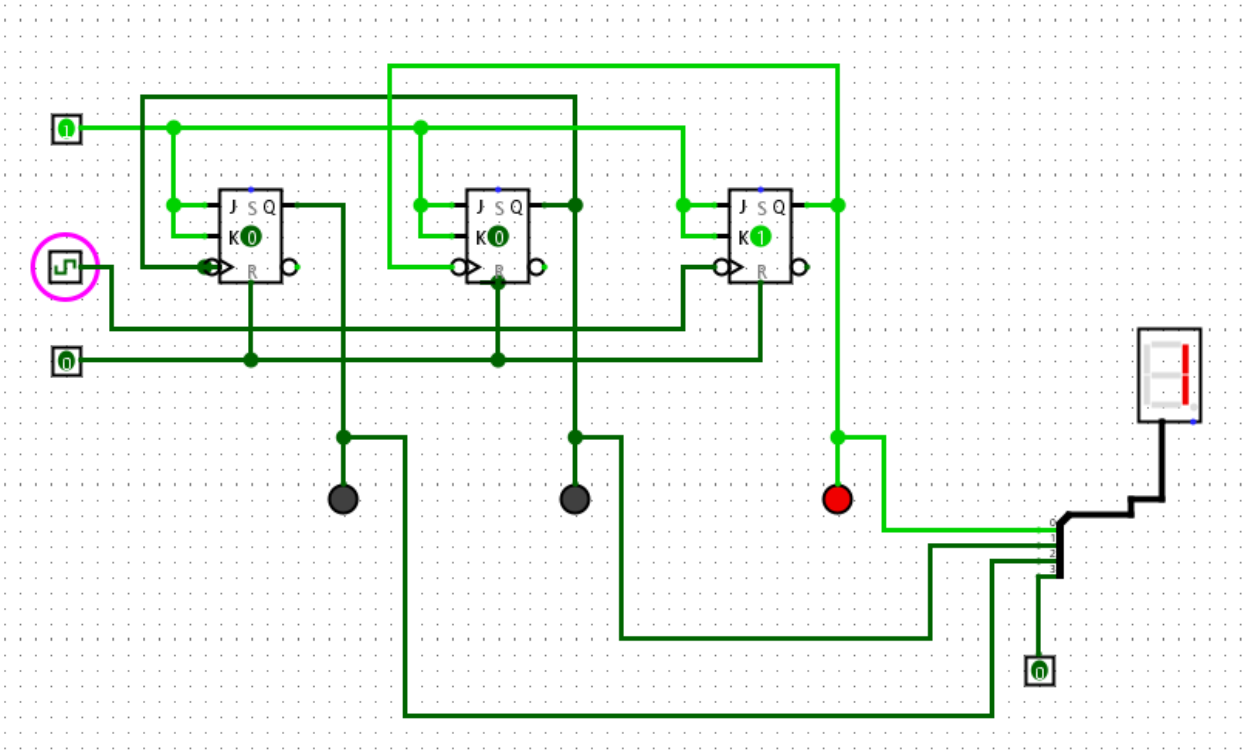


0x	Input Binary	Output Binary
0	0000	0000
1	0001	0001
2	0010	0010
3	0011	0011
4	0100	0100
5	0101	0101
A	1010	1010
B	1011	1011
C	1100	1100
D	1101	1101
E	1110	1110
F	1111	1111

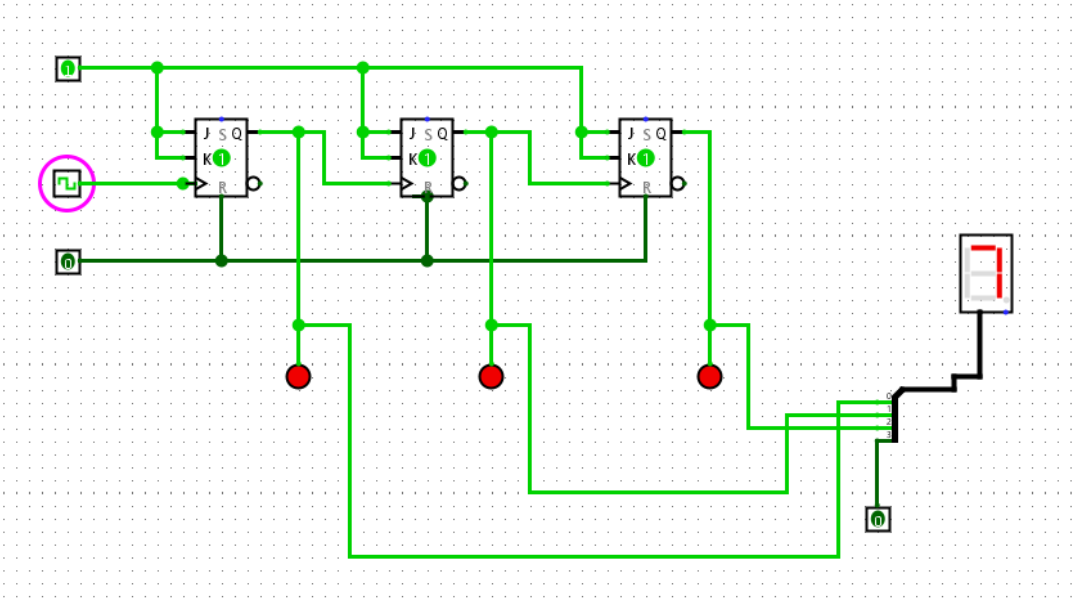
7.1. The program counter, or PC, is a special-purpose register that the processor uses to store the address of the next instruction to be executed.

7.2. A ripple counter is an asynchronous counter, means the first flip-flop is clocked by the clock input and the subsequent flip-flop will be clocked by the output of previous flip-flop.

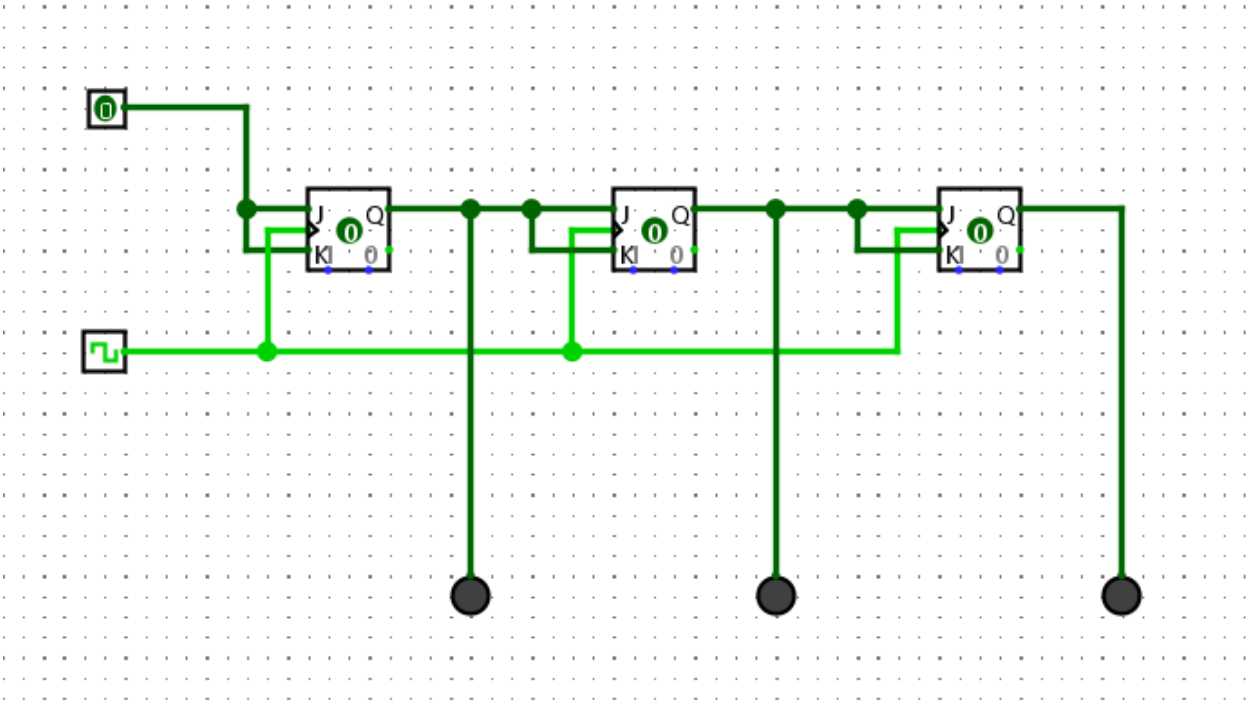
Big-endian 3-bit ripple counter out of JK Flip-Flops (Count from 000 to 111)



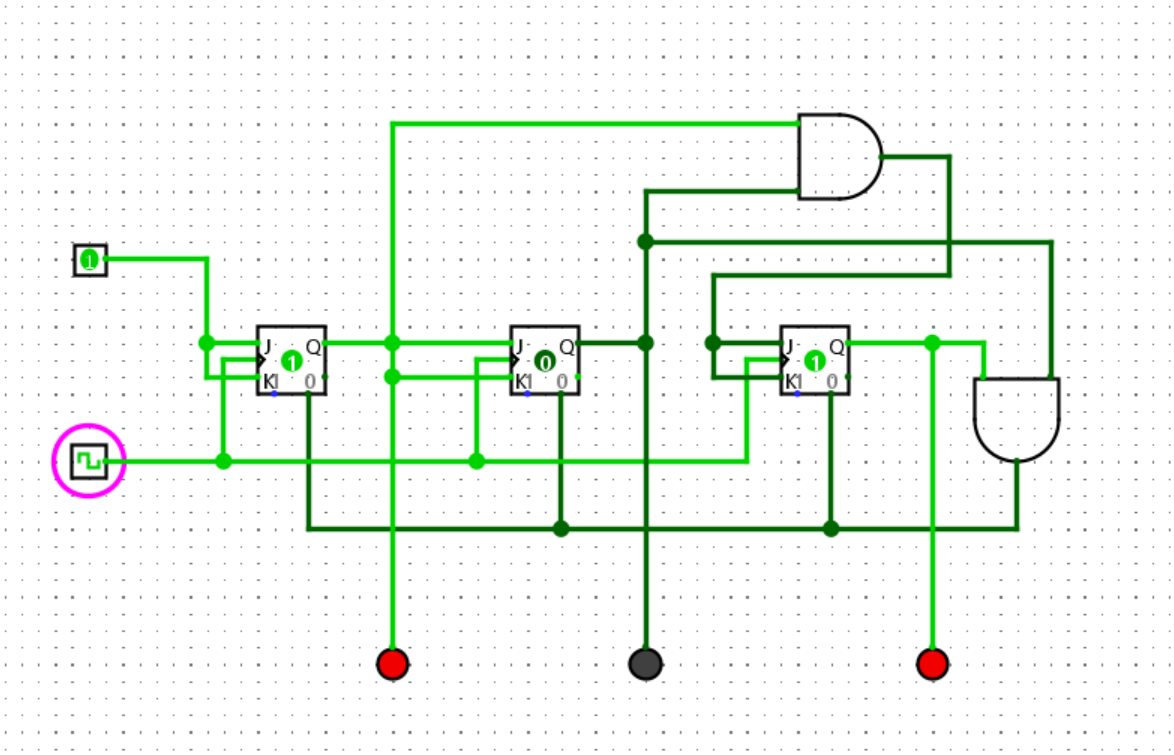
Big-endian 3-bit ripple counter out of JK Flip-Flops (Count from 111 to 000)



JK Counter with Common Clock



MOD 6 Counter



17.2.

It’s important to handling the illegal state in order to make the system run without any obstacles.

MOD 6 Counter with HEX Digit Display