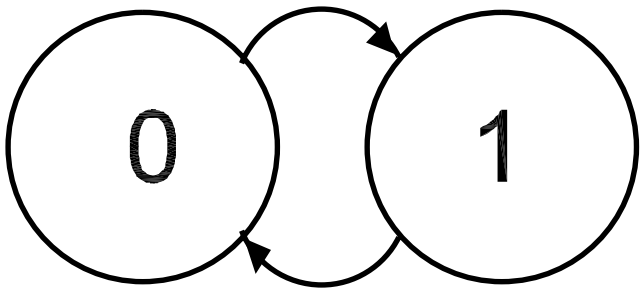
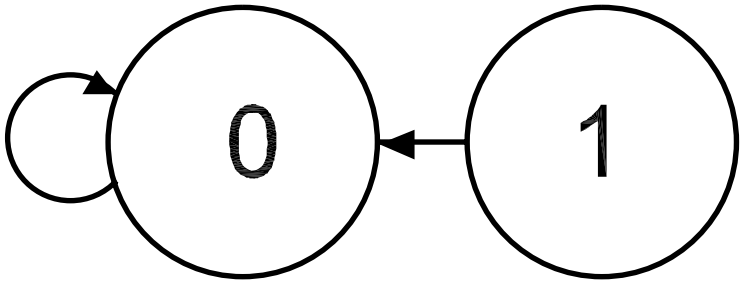
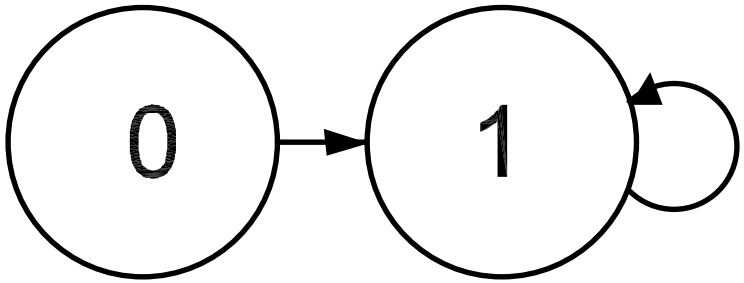
State Diagrams

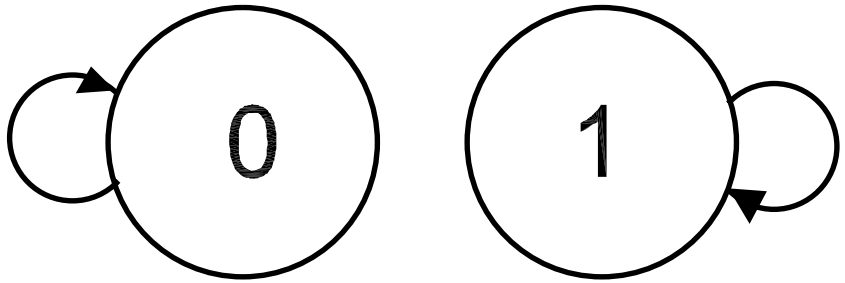
- N Flip Flops: 2^N States
- Binary State is Word $Q_N \ldots Q_1 Q_0$
- Q_N is "msb", Q_0 is "lsb"
- No. of Possible Diagrams $= 2^{N \cdot 2^N}$

Possible State Diagrams: $N = 1$

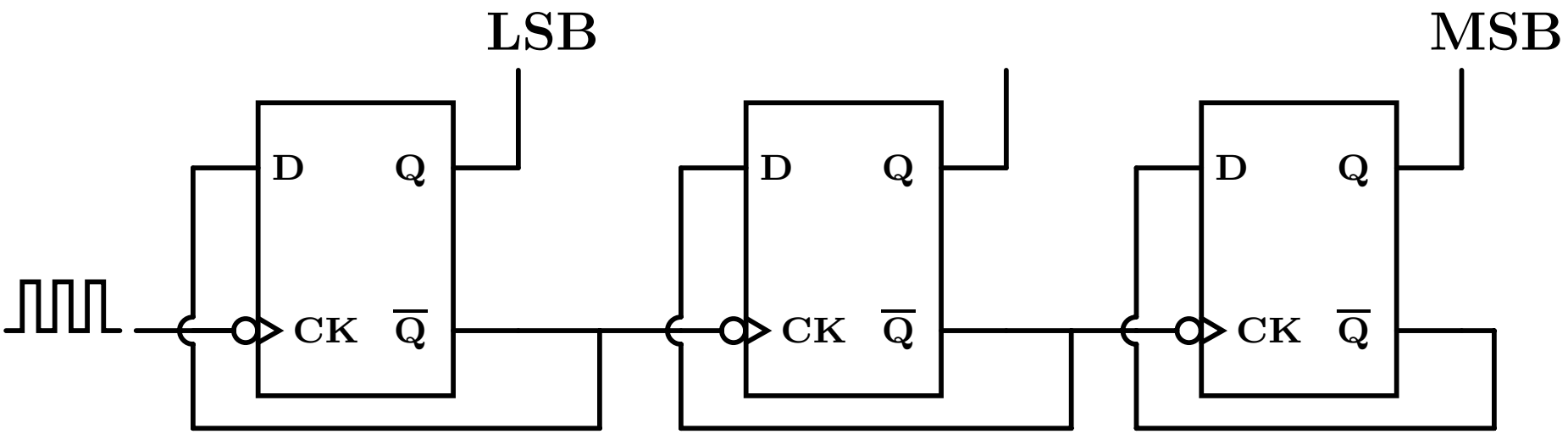




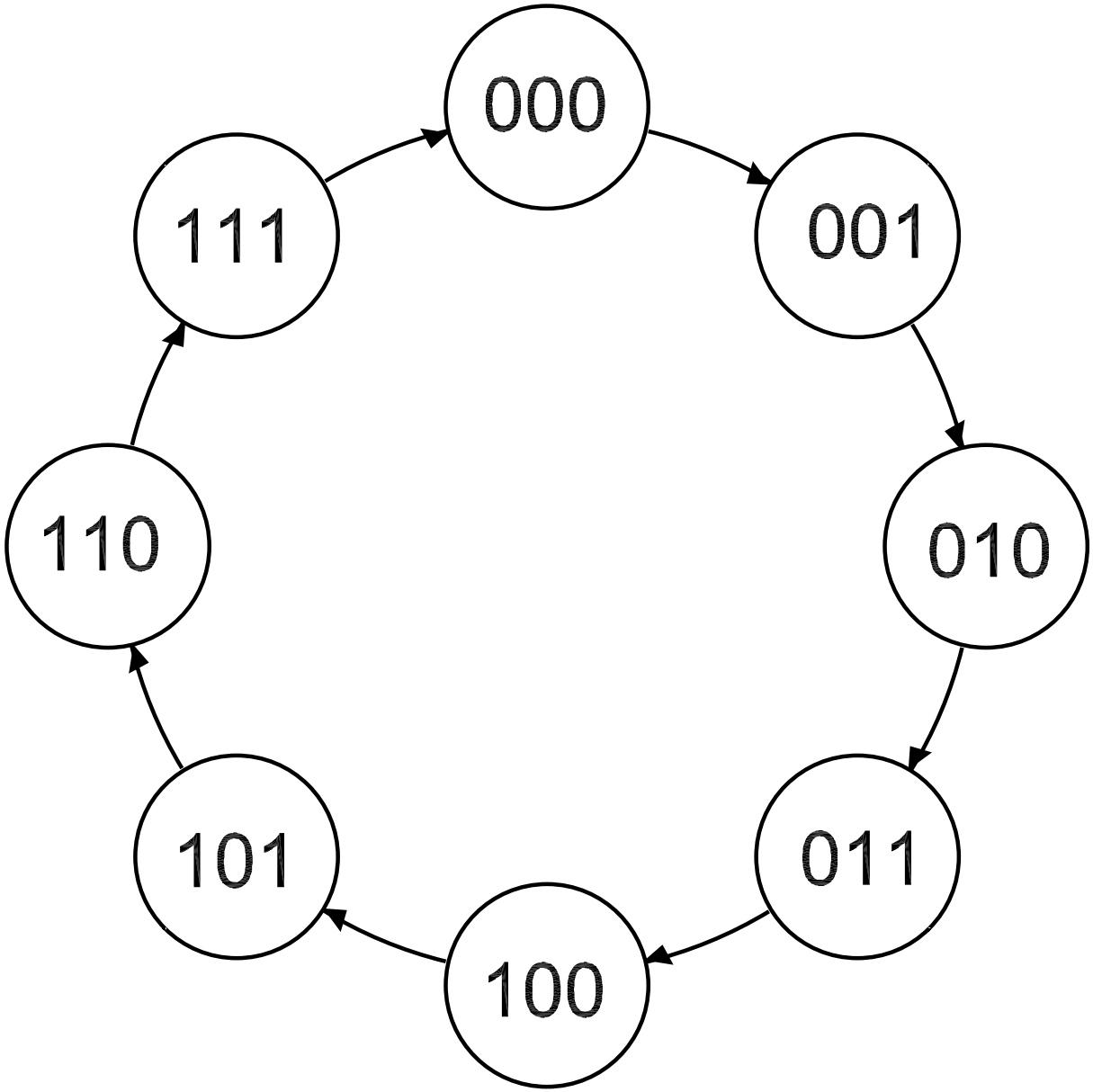




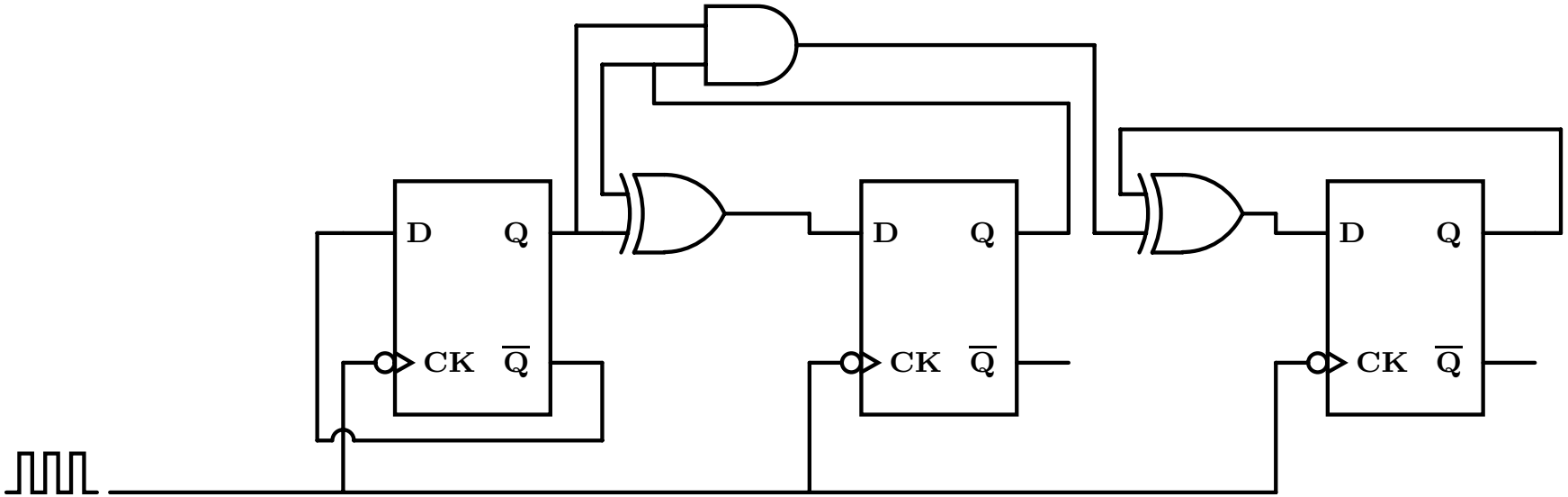
Ripple Counter



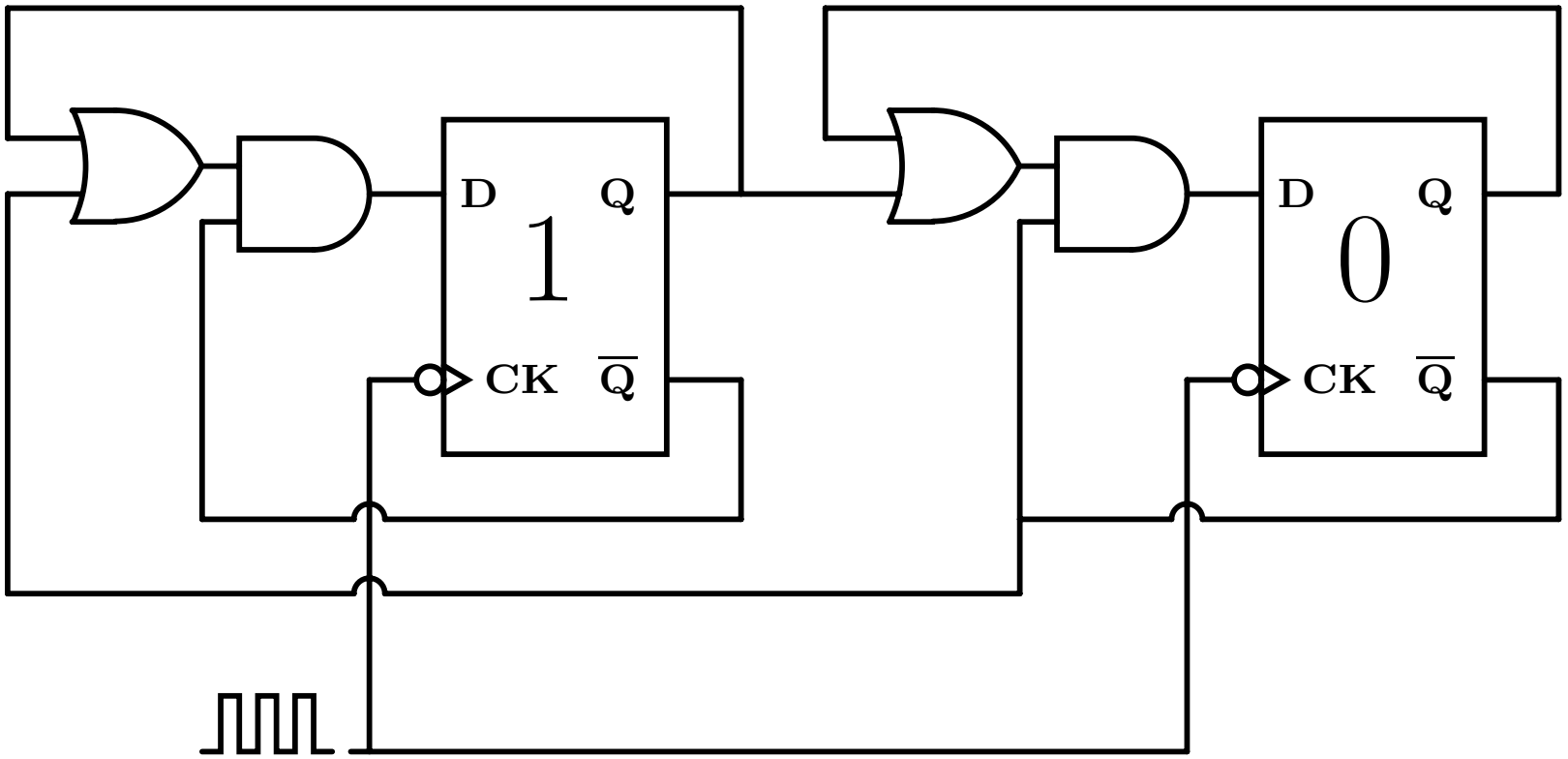
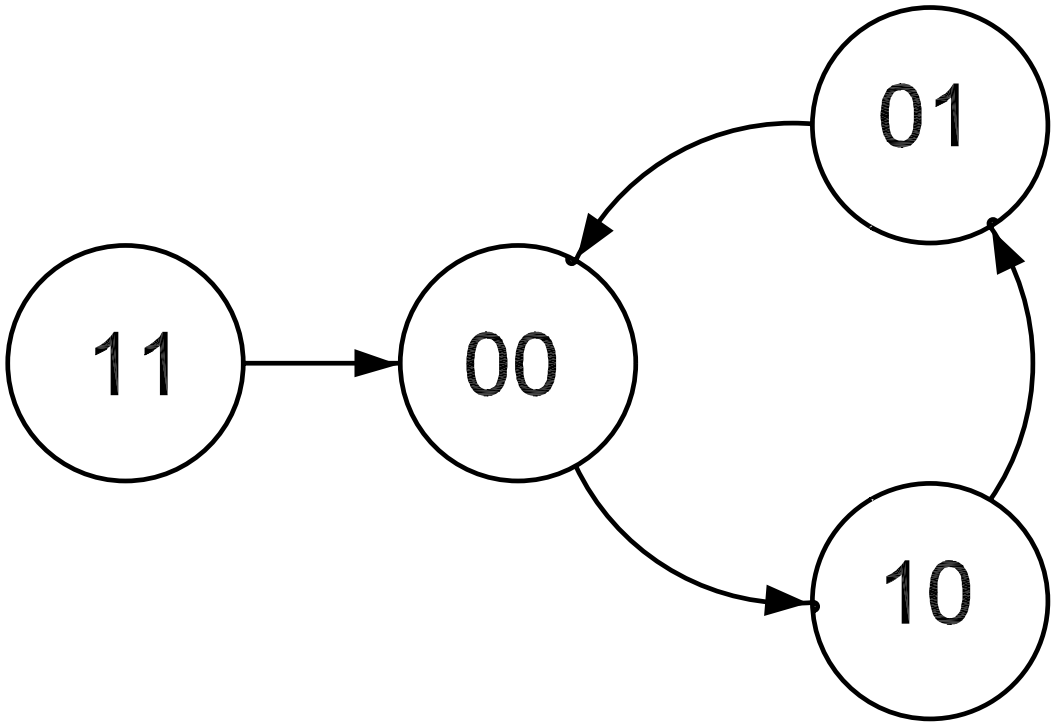
Ripple Counter: State Diagram



Synchronous Counter



Divide-By-Three Counter



÷ 3 State Diagram (Q_1Q_0)