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

![Divide-By-Three Counter Diagram]
3 State Diagram \((Q_1Q_0)\)