Finite State Machine

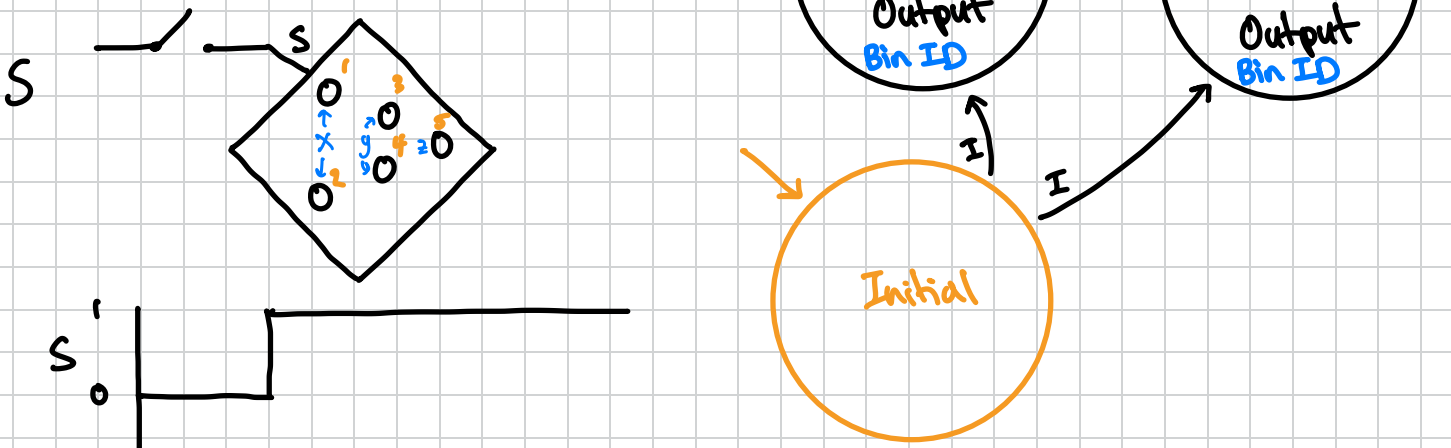
1. Set of inputs
2. Set of outputs
3. Set of states, one designated initial state
4. State transitions
   - State transition graph
   - State transition table
5. Output determination

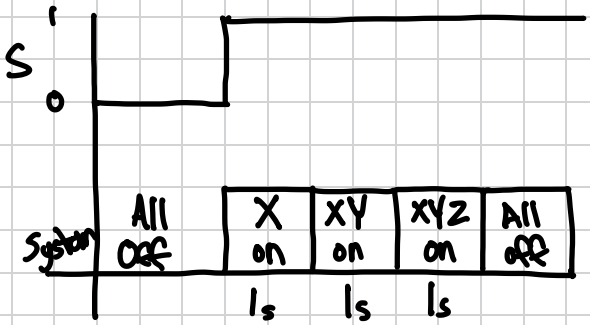
Moore FSM NS = f(CS, inputs)

Output = f(CS)

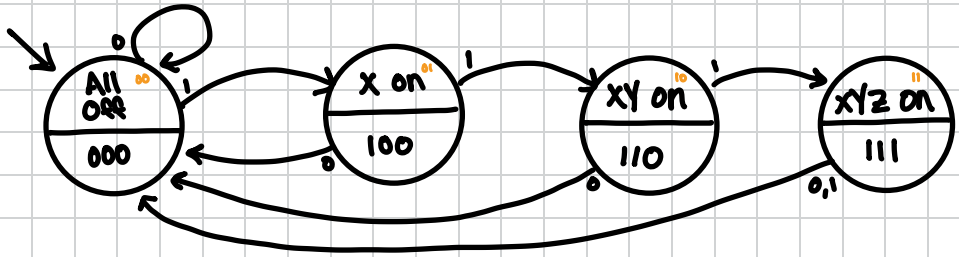
Graph (Nodes, Edges)

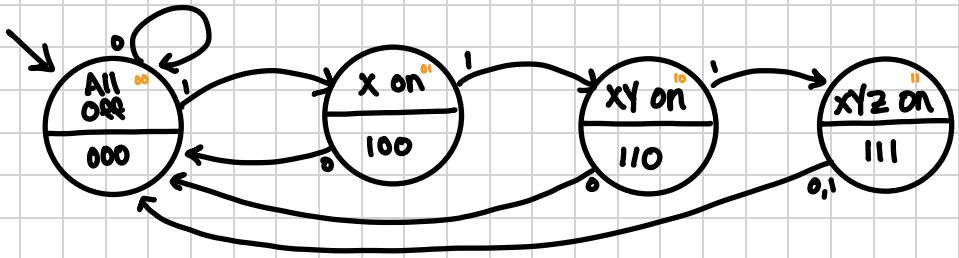
- one node/state
- Transition





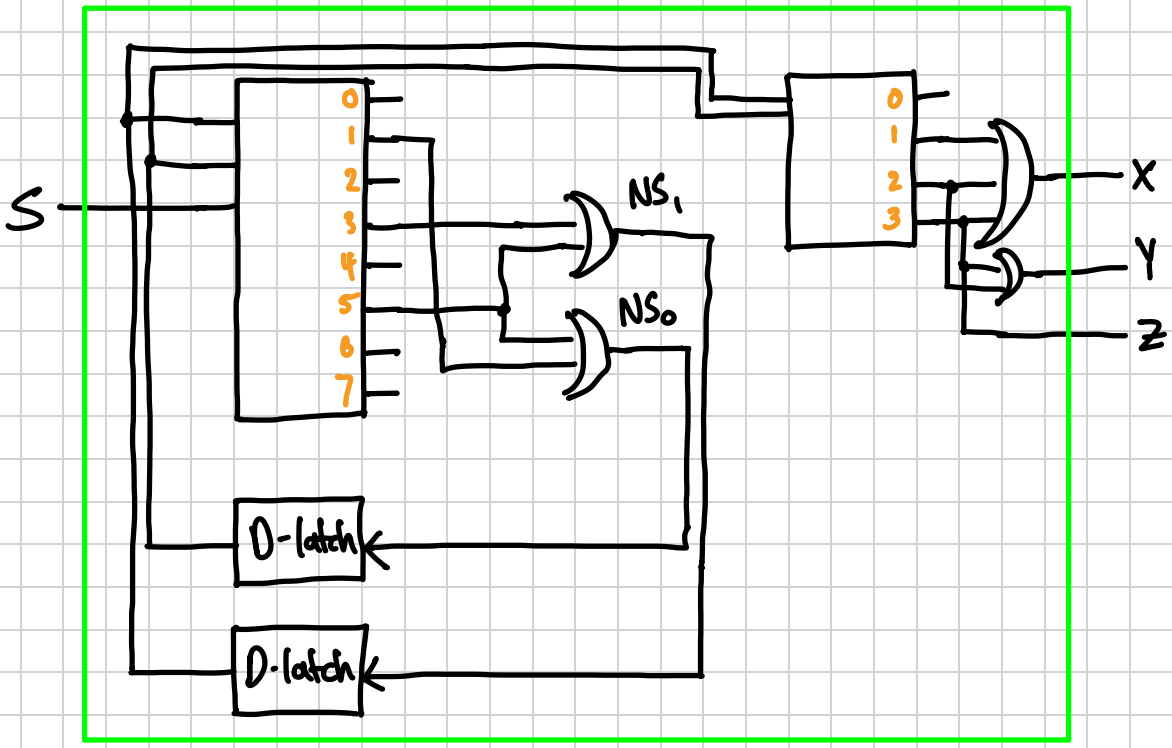
STG



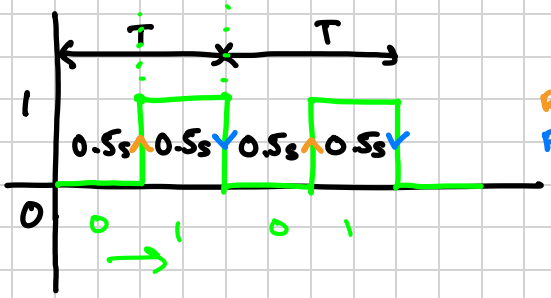


STT (truth table)

	CS		I	NS		Outputs		
	CS_1	CS_0	S	NS_1	NS_0	X	Y	Z
0	0	0	0	0	0	0	0	0
1	0	0	1	0	1	0	0	0
2	0	1	0	0	0	1	0	0
3	0	1	1	1	0	1	0	0
4	1	0	0	0	0	1	1	0
5	1	0	1	1	1	1	1	0
6	1	1	0	0	0	1	1	1
7	1	1	1	0	0	1	1	1



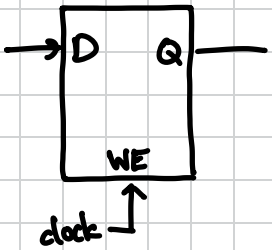
Clock Q→A

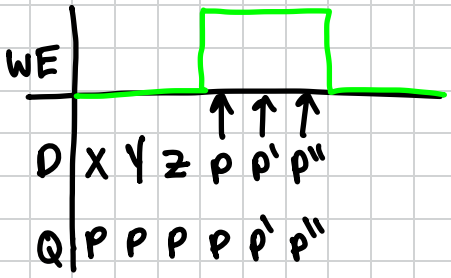


Rising Edge
Falling Edge

Edge Triggered Latch

D-latch





Level Triggered Latch

D Flip-Flop