

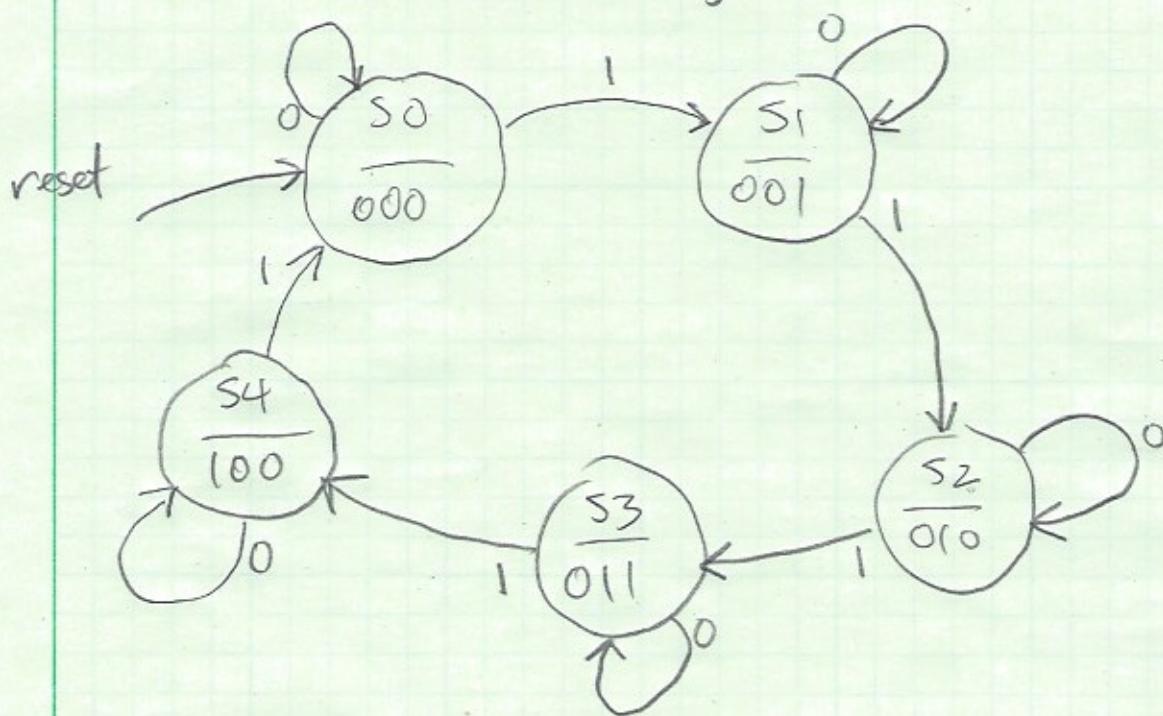
Quiz 4 - Tue Nov 26

- DFF circuits and FSMs
- no questions on sequential logic timing ( $t_{pcq}$ ,  $t_{ccq}$ ,  $t_{setup}$ ,  $t_{hold}$ , etc.)

Quiz 3 return - Fri Nov 22

Set 8, Slide 58 (continued)

State transition diagram



In words ...

On reset, output goes to 000.

If input  $A=1$ , count through the sequence 000, 001, 010, 011, 100, 000, 001, ..., updating once per clock cycle.

If  $A=0$ , the count is frozen.

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### Set 9, Slide 13

- output(s), input(s) - possibly plural for registers made from multiple DFFs
- the input(s) waveform shows a large collection of possible D input signals, all of which satisfy the  $t_{\text{setup}}$  and  $t_{\text{hold}}$  conditions.
- the output(s) waveform shows the collection of Q responses to the D inputs
- the earliest possible Q response happens  $t_{\text{ccq}}$  after the clock edge
- the latest possible Q response happens  $t_{\text{pcq}}$  after the clock edge