Introduction to Digital Logic

- Mealy Machines
- Reducing States
- Encodings

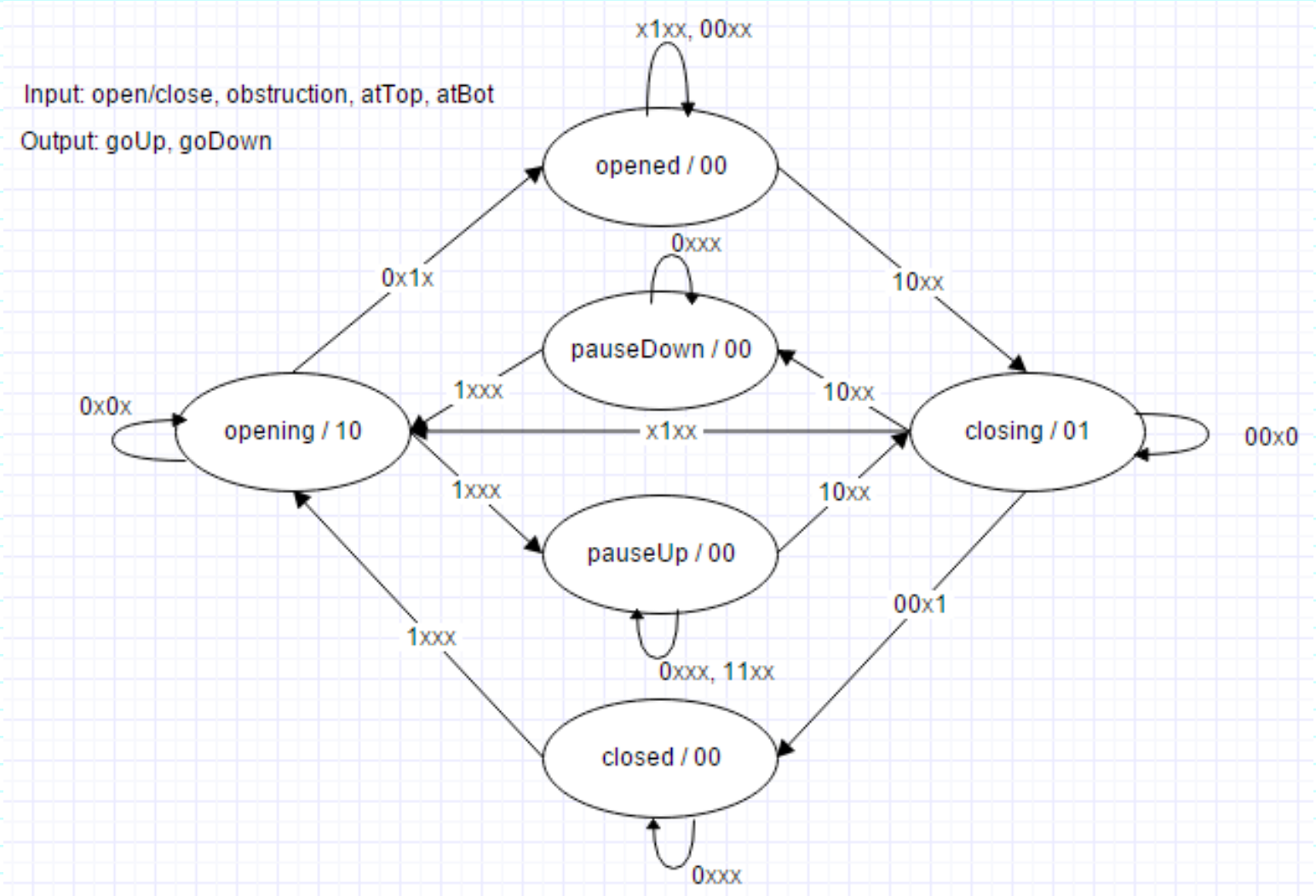
Doug Shook

Review Questions

- Describe the differences between a Mealy machine and a Moore machine
- How would the circuit for a Mealy machine differ from a Moore machine?
- If an FSM has *n* states and binary encoding is used, how many flip flops are required?
- If an FSM has *n* states and one hot encoding is used, how many flip flops are required?
- Describe the two FSM minimization techniques.

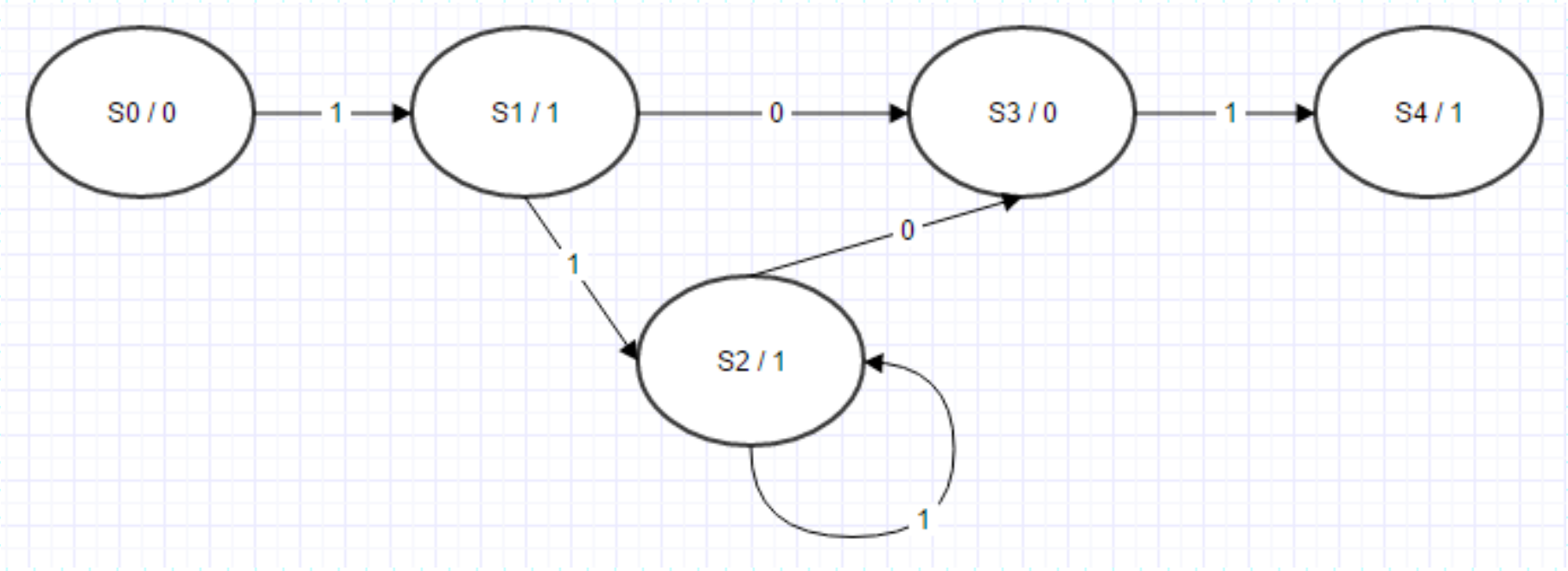
Review Questions

- Convert this FSM into a Mealy machine



Review Questions

- Minimize this FSM



Review Questions

- Construct the following circuits for your minimized FSA from the previous question:
  - Moore, using binary encoding
  - Moore, using one hot encoding
  - Mealy, using binary encoding
  - Mealy, using one hot encoding

Review Questions

- Design a Mealy machine that reads in a binary number, one digit at a time. This machine has two outputs: X should be true if the machine finds at least three 1's in the number, Y should be true if the input contains two consecutive 1's.
  - Create a circuit for your FSM with an encoding of your choice