

Finite State Machine.

→ moore machine

outputs are a function of internal states only.

→ mealy machine

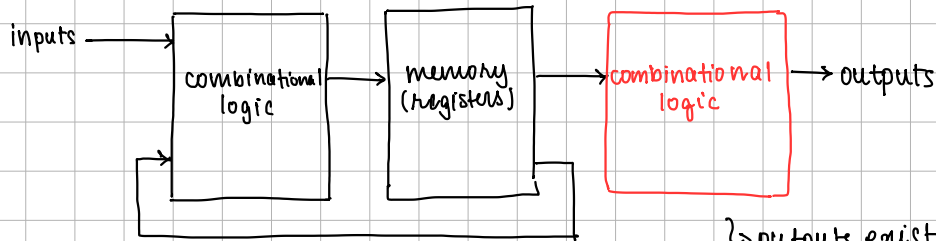
outputs are a function of internal states and inputs

Moore machine

Inputs: determine next state

Outputs: function of current state.

#states \propto #outputs



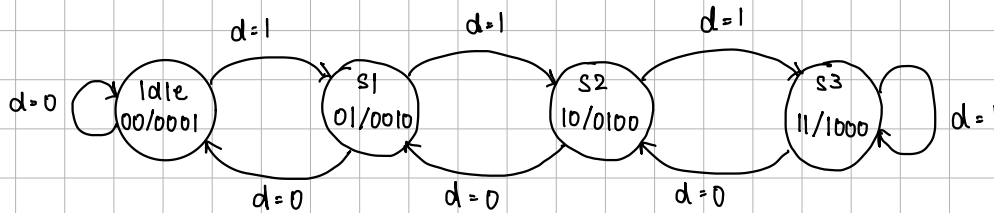
↳ outputs exist for full clock period but also delayed

⇒ implement sequential logic for high speed.

- requires many state bits

- one-hot encoding for arbitrary FSM

Example

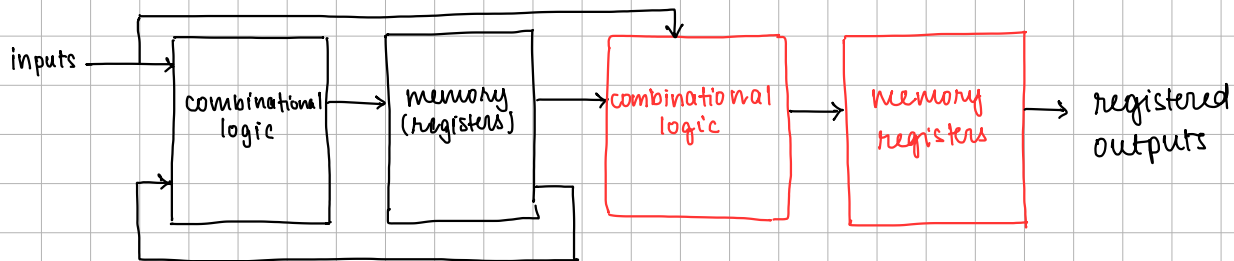


Notation <state bits> / <output>

Mealy machine:

→ requires fewer states since inputs are used to determine outputs

→ registered outputs are recommended



$h=0$ 1000
 $h=1$ 0001

$d=1$

