Combinatorial

Current state

State (one or more gated D-latches)

Next state

Input

Output

Clock
With a finite state machine (FSM), you can get any sequence of "on" and "off" you want. Just build the truth table, create the circuit, and have the latches to store the state.
Figure 3.31 State diagram for the traffic danger sign controller
(a) Block diagram

Switch

From Element 1

From Element 2

Clock

1, 2

3, 4

5

(b) The combinational logic circuit

To Element 1

To Element 2
(b) The combinational logic circuit

(c) A storage element (a master-slave flip-flop)

Figure 3.32 Sequential logic circuit implementation of Fig...
Figure 3.22   Reading location A[1:0]

A = 11   WE = 0
Note! The four different values are shown horizontally here (for space). The book arranges them vertically.
Dual ported memory (read two different values at the same time)
With two muxes, you can add any number to any other number (or even add a number to itself).