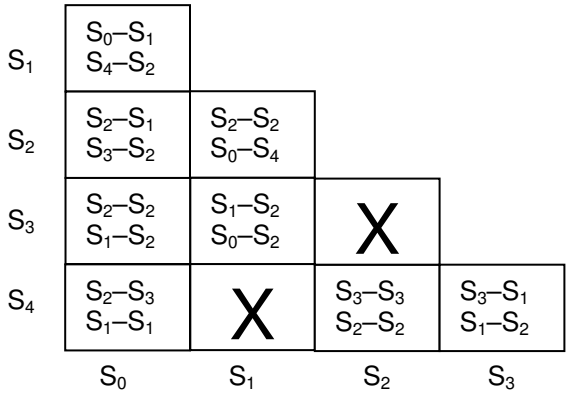
Digital Logic Design - Chapter 6

1. Identify the equivalent states using the shown implication table for a single input sequential circuit.
Note: "X" in a cell indicates that the corresponding states are not equivalent



Solution:

2. Design a binary sequence detector with the minimum number of states that outputs a "1" whenever the machine has observed the serial input sequences "0110" or "1010".Use an implication table to minimize the number of states.

Solution:

3. Design a mod 6 up counter with the minimum number of states. Apply the implication chart method to find the most reduced state diagram.

Solution:

4. Identify a 4-bit system with its Present/next State Diagram. The selected system should show a reduction of more than 20% in the number of states compared with the initial Present/Next State Table after the application of Implication Chart Method.

Solution: