TUTORIAL 4

Thapar Institute of Engineering and Technology Patiala

Computer Science and Engineering Department (CSED)

1. Design a Moore machine over $\Sigma = \{a, b\}$ which counts the occurrences of substring aab in the input string.

2. Design a Moore machine which determines the residue mod-3 for each binary string treated as binary integer.

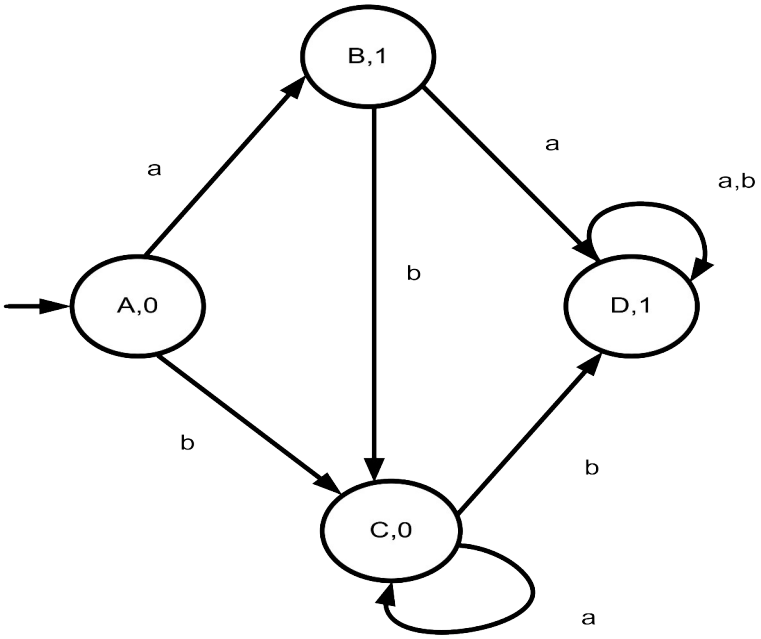
3. Design a Mealy machine which calculates residue mod-4 for each binary string treated as a binary integer.

4. Design a Mealy machine which can output EVEN (E) ODD (O) according as total number of 1's encountered is even or odd. The input symbols are 0 and 1.

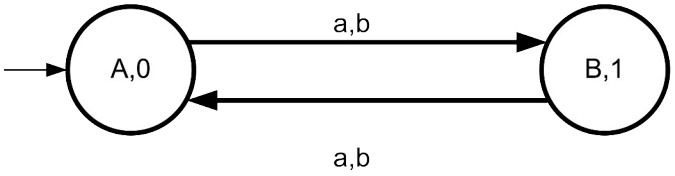
5. Design the Mealy and Moore machine for the following processes. For input from $(0+1)^*$, if the input ends in 101, output A; if input ends in 110, outputs B, otherwise output C.

6. Convert the following Moore machine into Mealy machine:

(a.)

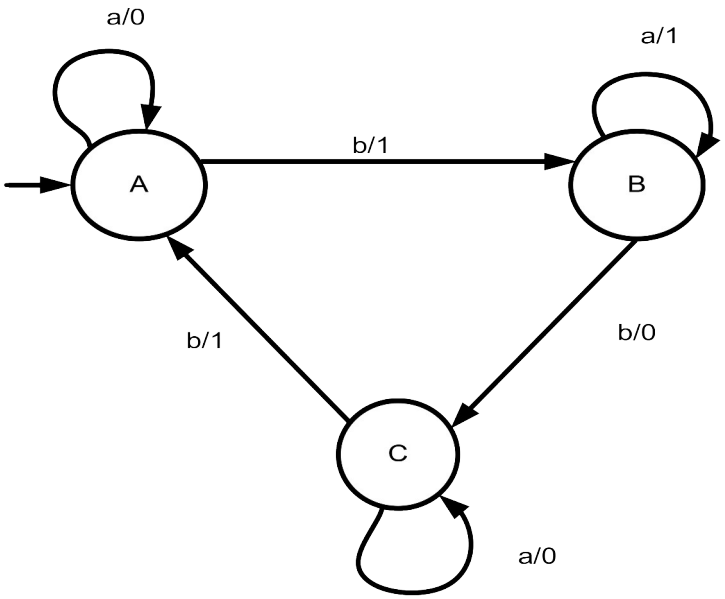


(b)

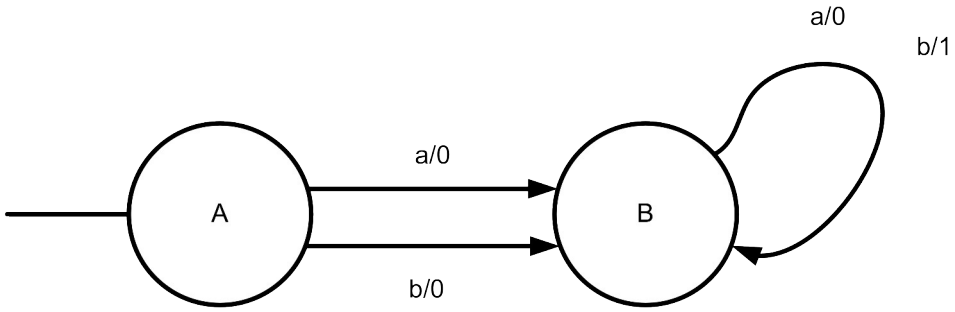


7. Convert the following Mealy machine into Moore machine:

(a.)



(b)


a/0
b/1
a/0
A
B
b/0