

The languages L and M are defined using DFA_L (refer to Figure 1(a)) and DFA_M (refer to Figure 1(b)) respectively. Construct the product DFA for language N if,

- $N = L \cup M$
- $N = L \cap M$
- $N = L - M$
- You need to prove (disprove) that $L \subseteq M$.
- You need to prove (disprove) that $L = M$.

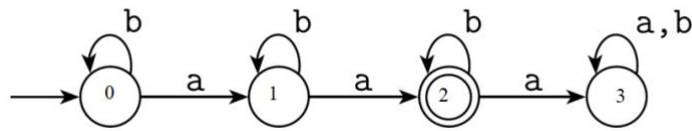


Figure 1 (a)

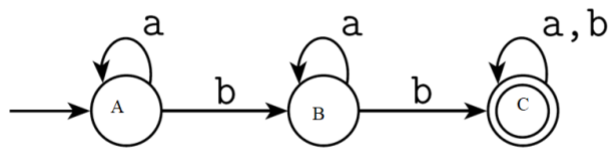


Figure 1 (b)

The languages L and M are defined using DFA_L (refer to Figure 2(a)) and DFA_M (refer to Figure 2(b)) respectively. Construct the product DFA for language N if,

- $N = L \cup M$
- $N = L \cap M$
- $N = L - M$
- You need to prove (disprove) that $L \subseteq M$.
- You need to prove (disprove) that $L = M$.

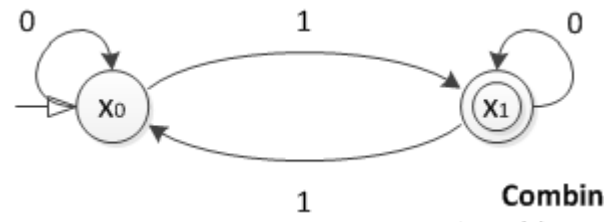


Figure 2 (a)

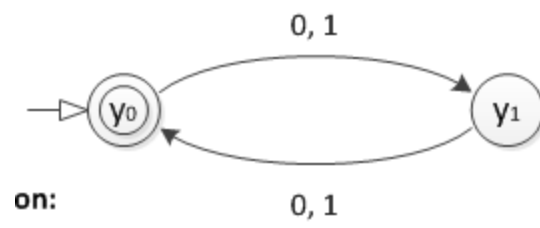


Figure 2 (b)