获得的答案 **返回**

(a) Languages are

$L_1 = \{w \mid \text{the length of } w \text{ is at most } 5\}$ on $\Sigma = \{0,1\}$

And $L_2 = \{w \mid \text{every odd position of } w \text{ is } a1\}$ on $\Sigma = \{0,1\}$

M_1 be the NFA that recognizes L_1 and

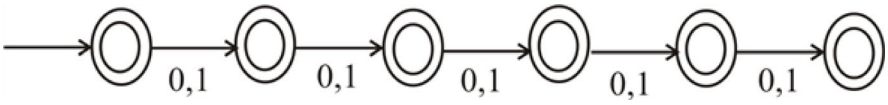
M_2 be the NFA that recognizes L_2.

Let $L = L_1 0 L_2$

M be the NFA that recognizes *L*.

- $L_1 = \{w \mid \text{ the length of } w \text{ is at most } 5\}$

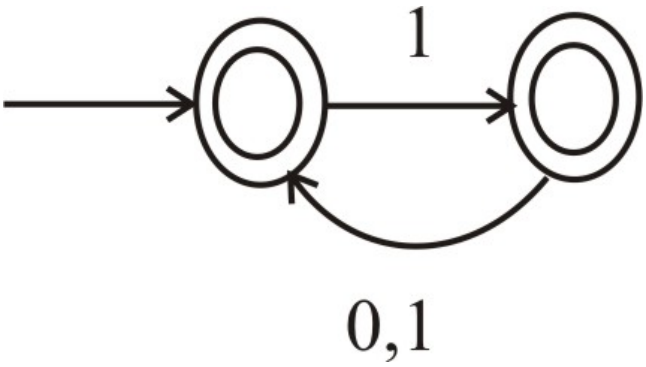
The state diagram of M_1 that recognizes L_1 is



- $L_2 = \{w\}$ every odd position of w is $a1\}$

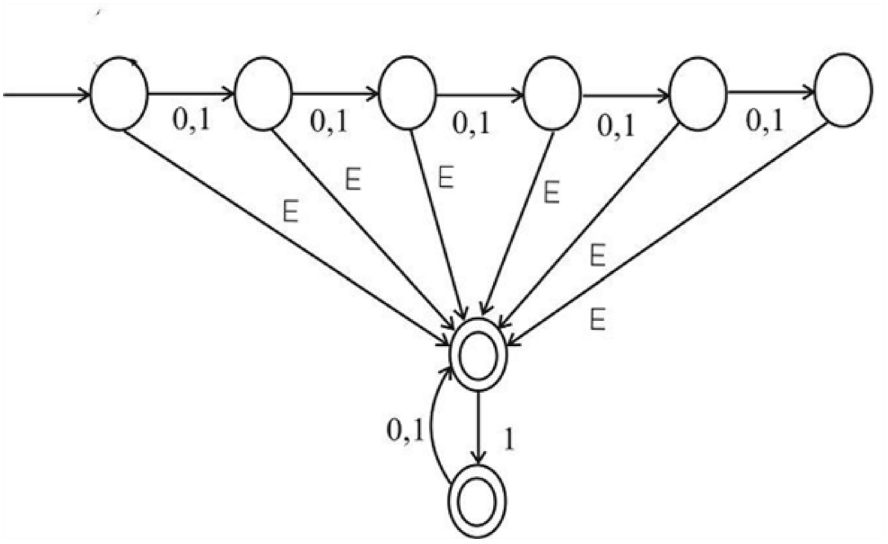
$L_2 = (1\Sigma)^*$

The state diagram of M_2 that recognizes L_2 is



L is concatenation of L_1 and L_2

So the state diagram of M that recognizes *L* is described as follows



(b) Given Languages are

$L_1 = \{w \mid w \text{ contains at least three 1s}\}$ on $\Sigma = \{0,1\}$

And $L_2 = \{w \mid w \text{ is a empty set}\}$ on $\Sigma = \{0,1\}$

M_1 be the NFA that recognizes L_1 and

M_2 be the NFA that recognizes L_2.

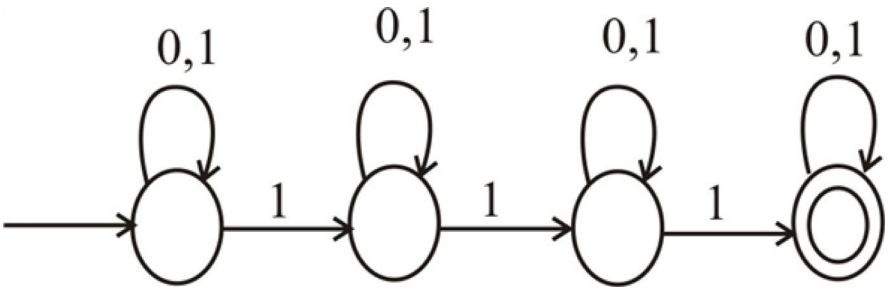
Let $L = L_1 0 L_2$

M be the NFA that recognizes *L*.

- $L_1 = \{w \mid w \text{ contains at least three 1s}\}$

$L_1 = (0,1)^* 1 (0,1)^* 1 (0,1)^* (0,1)^*$

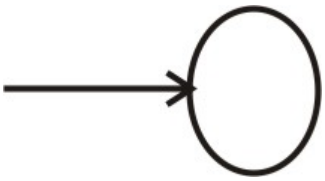
The state diagram of M_1 that recognizes L_1 is



- $L_2 = \{w \mid w \text{ is a empty set}\}$

$L_2 = \phi = \{\ \}$

The state diagram of M_2 that recognizes L_2 is



L is concatenation of L_1 and L_2

So the state diagram of M that recognizes *L* is described as follows