获得的答案

(a) Language $L_{\rm I} = \{ w \, | \, w \, {\rm contains} \, \, {\rm at } \, {\rm least } \, {\rm three} \, \, {\rm ls} \}$

Let M_1 be the NFA that recognizes L_1 .

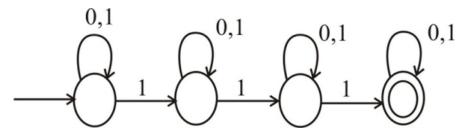
Let
$$L = L_1^*$$

Let M be the NFA that recognizes L.

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

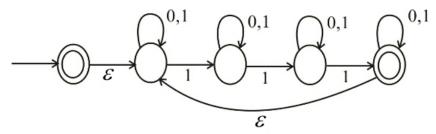
$$L_1 = (0,1)^* 1(0,1)^* 1(0,1)^* 1(0,1)^*$$

The state diagram of $M_{\rm I}$ that recognizes $L_{\rm I}$ is as follows:



L is the language that recognizes star of L_1

The state diagram of M that recognizes L is as follows:



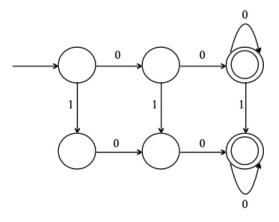
(b) Languages $L_1 = \{ w \mid w \text{ contains at least two 0s and at most one 1} \}$

Let $M_{\rm I}$ be the NFA that recognizes $L_{\rm I}$.

Let
$$L = L_1^*$$

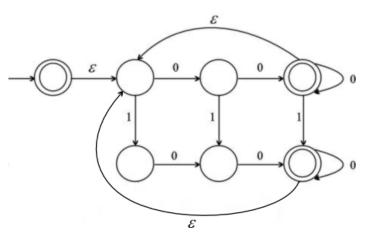
Let M be the NFA that recognizes L.

 $L_1 = \{ w \mid w \text{ contains at least two 0s and at most one 1} \}$



The state diagram of M that recognizes L is as follows:

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(c) Languages $L_{\rm I}$ =The empty set.

Let $M_{\rm I}$ be the NFA that recognizes $L_{\rm I}$.

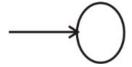
Let $L = L_1^*$

Let M be the NFA that recognizes L.

 L_1 = The empty set

$$L_{\rm l}=\phi=\left\{\ \right\}$$

The state diagram of $\boldsymbol{M}_{\!\!1}$ that recognizes $\,\boldsymbol{L}_{\!\!1}\,$ is as follows:



L is the star of L_1 .

The state diagram of M that recognizes L is as follows:

