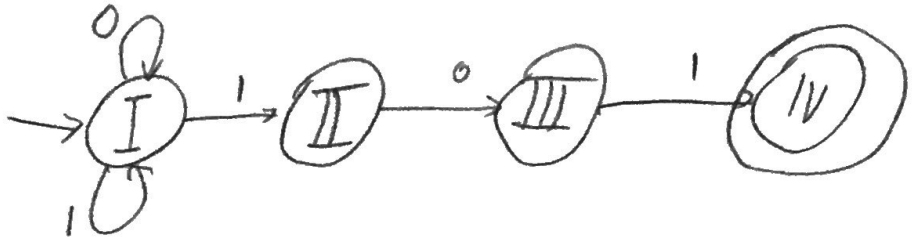
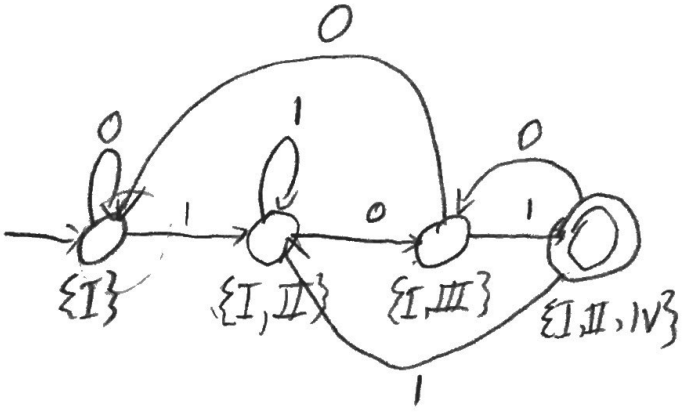
1. i:



ii: DFA 的 Transition Table



$\{I\} \xrightarrow{0} \{I\}$

$\xrightarrow{1} \{I, II\}$

$\{I, II\} \xrightarrow{0} \{I, III\}$

$\xrightarrow{1} \{I, II\}$

$\{I, III\} \xrightarrow{0} \{I\}$

$\xrightarrow{1} \{I, II, IV\}$

$\{I, II, IV\} \xrightarrow{0} \{I, III\}$

$\xrightarrow{1} \{I, II\}$

101: $\{I\} \to \{I, II\} \to \{I, III\} \to \{I, II, IV\}$

10101: $\{I\} \to \{I, II\} \to \{I, III\} \to \{I, II, IV\} \to \{I, III\}$

$\downarrow$

$\{I, II, IV\}$

10101: $\{I\} \to \{I, II\} \to \{I, III\} \to \{I, II, IV\}$

$\hookrightarrow \{I, II\} \to \{I, III\} \to \{I, II, IV\}$