

2020302192084

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一、解: 1) $\varepsilon\text{-closure}(0) = \{0, 3\}$ 令 $A = \{0, 3\}$

标记A: $\text{Dtran}[A, 0] = \varepsilon\text{-closure}(\text{move}(A, 0)) = \varepsilon\text{-closure}(\{0, 4, 5\})$
 $= \{0, 3, 1, 4, 5\} = B$

$\text{Dtran}[A, 1] = \varepsilon\text{-closure}(\text{move}(A, 1)) = \varepsilon\text{-closure}(\{1\}) = \{1\} = C$

标记B: $\text{Dtran}[B, 0] = \varepsilon\text{-closure}(\{0, 1, 3, 4, 5\}) = \{0, 1, 2, 3, 4, 5\} = D$

$\text{Dtran}[B, 1] = \varepsilon\text{-closure}(\{1\}) = C$

标记C: $\text{Dtran}[C, 0] = \varepsilon\text{-closure}(\{2, 4\}) = \{0, 1, 2, 3, 4, 5\} = D$

$\text{Dtran}[C, 1] = \varepsilon\text{-closure}(\{X\}) = X$

标记D: $\text{Dtran}[D, 0] = \varepsilon\text{-closure}(\{0, 2, 4, 5\}) = \{0, 1, 2, 3, 4, 5\} = D$

$\text{Dtran}[D, 1] = \varepsilon\text{-closure}(\{1\}) = C$

NFA 状态

DFA 状态

0 1

0, 3

A

B C

0, 1, 3, 4, 5

B

D C

, 1

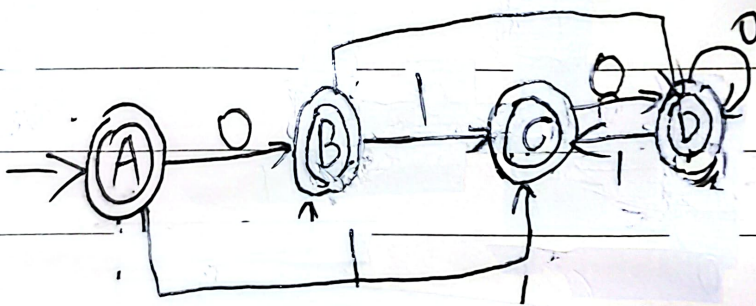
C

D X

0, 1, 2, 3, 4, 5

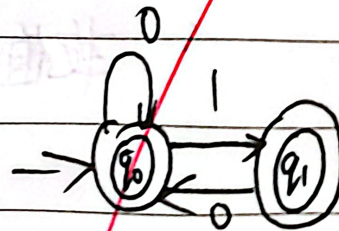
D

D C



2) $\{A, B, D\}$ 等价合并,

状态	0	1
q_0	$q_0 q_1$	
q_1	$q_0 \phi$	



3) 由多个 0、1 组成的不相连字符串

4) $R = (\varepsilon | 1)(0 | 01)^*$

二. 解: 1) $A = \varepsilon\text{-closure}(\{0\}) = \{0, 1, 3, 4\}$

$D_{\text{trans}}(A, a) = \{2, 3, 1, 5, 4\} = B$

$D_{\text{trans}}(A, b) = \{4, 3\} = C$

$D_{\text{trans}}(B, a) = \{1, 3, 4\} = D$

$D_{\text{trans}}(B, b) = \{3, 4\} = C$

$D_{\text{trans}}(C, a) = \emptyset$ $D_{\text{trans}}(C, b) = \{3, 4\} = C$

$D_{\text{trans}}(D, a) = \{1, 3, 4\} = D$ $D_{\text{trans}}(D, b) = \{3, 4\} = C$

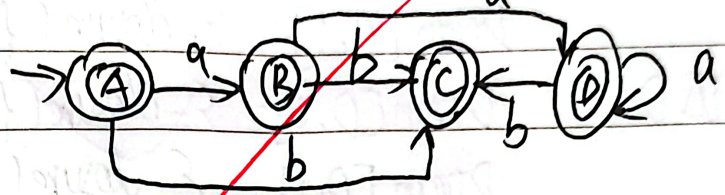
状态: a b

A B C

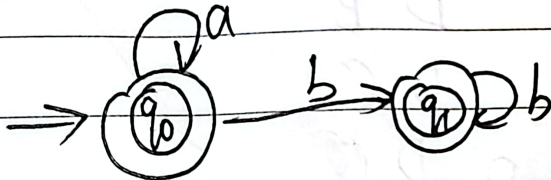
B D C

C \emptyset C

D D C



2) $\{A, B, D\} \neq \emptyset, C \rightarrow q_1$



3) 若干个a连上若干个b

4) $r = a^*b^*$

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