



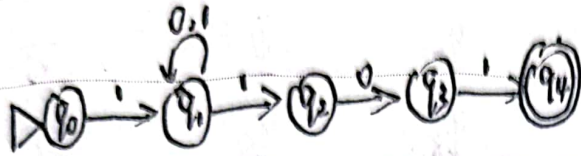
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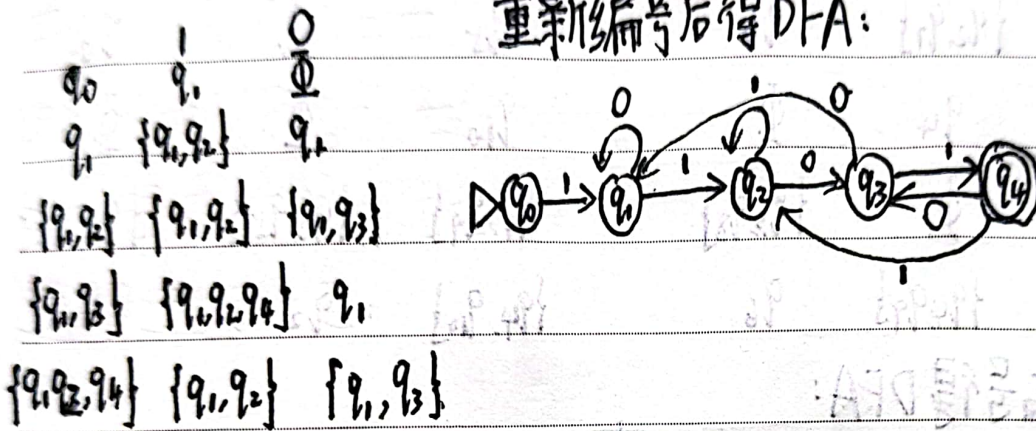
编译原理第三章作业

7.(1) 根据正规式构造 NFA 如下:

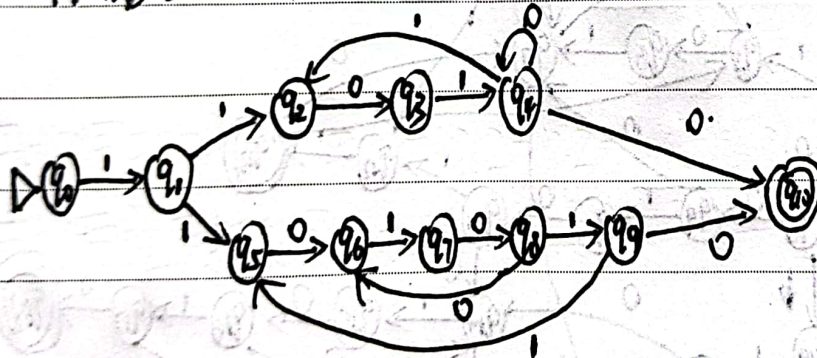


根据子集法构造 DFA:

重新编号后得 DFA:



(2) 根据正规式构造 NFA:



根据子集法构造 DFA

	1	0		1	0
q ₀	q ₁	∅	{q ₃ , q ₆ }	{q ₄ , q ₇ }	∅
q ₁	{q ₂ , q ₅ }	∅	{q ₄ , q ₇ }	q ₂	{q ₃ , q ₆ }
{q ₂ , q ₅ }	∅	{q ₂ , q ₆ }	q ₂	∅	q ₃





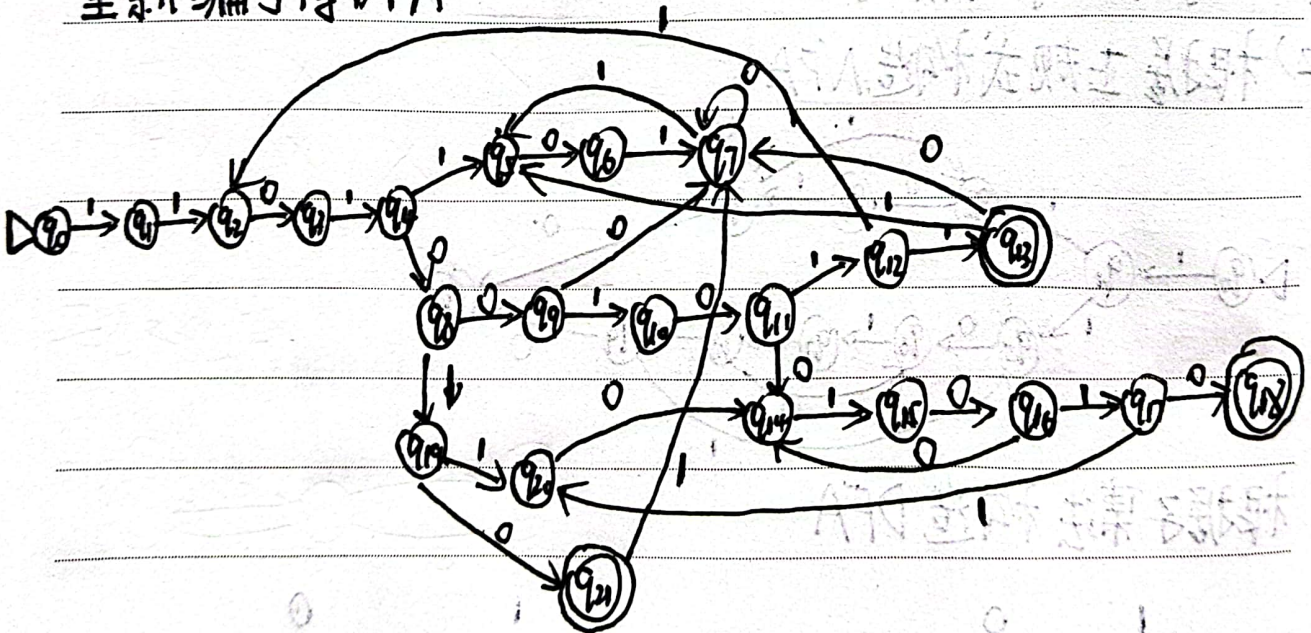
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	1	0	1	0
q_3	q_4	\emptyset	q_6	q_7
q_4	q_2	q_4	q_7	q_8
$\{q_4, q_8\}$	$\{q_2, q_9\}$	$\{q_4, q_6\}$	q_8	q_9
$\{q_2, q_9\}$	q_5	$\{q_3, q_{10}\}$	q_9	q_{10}
$\{q_4, q_6\}$	$\{q_2, q_7\}$	q_4	q_5	q_6
$\{q_3, q_{10}\}$	q_4	\emptyset	q_{10}	\emptyset
$\{q_2, q_7\}$	\emptyset	$\{q_3, q_8\}$	$\{q_4, q_9\}$	$\{q_2, q_5\}$
$\{q_3, q_8\}$	$\{q_4, q_7\}$	q_6	$\{q_4, q_{10}\}$	q_2

重新编号得DFA:



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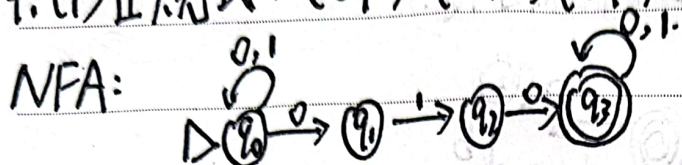
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8. (1) $(1|0)^*01$

(2) $(\epsilon|1|2|3|4|5|6|7|8|9)(0|1|2|3|4|5|6|7|8|9)^*(0|5)$

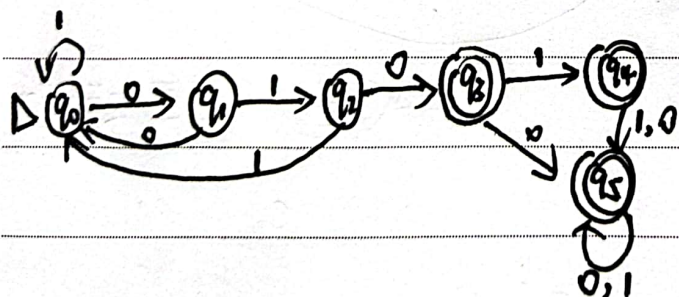
9. (1) 正规式: $(0|1)^*(0|0)(0|1)^*$



由子集法构造 DFA

q_0	q_0	$\{q_0, q_1\}$							
$\{q_0, q_1\}$	$\{q_0, q_2\}$	q_0				X	X	ϵ	
$\{q_0, q_2\}$	q_0	$\{q_1, q_3\}$			X	X	X	ϵ	
$\{q_1, q_3\}$	$\{q_2, q_3\}$	q_3		X		X	X	ϵ	
q_3	q_3	q_3	X		X	X	X	ϵ	
$\{q_2, q_3\}$	q_3	q_3	ϵ	ϵ	ϵ	1	0		

重新编号:



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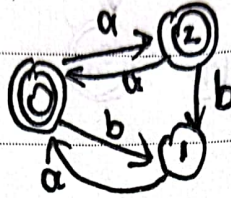
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12. (a)

根据子集法进行确定化

	a	b
0	{0, 1}	1
1	0	2
{0, 1}	0	1

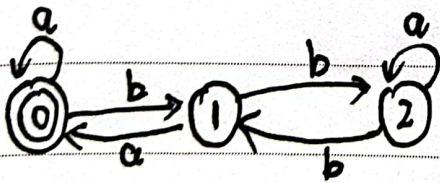
重新编号得:



(b) 我们考虑使用极小化算法。(表格中"x"表示状态可区分)

1					
2	X	X			
3	X	X	X		
4	X	X		X	
5	X	X	X		X
	0	1	2	3	4

最终化简:



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14. 由题意写出正规式: $0^*(100^*)^*$

NFA: (也即是 DFA)

