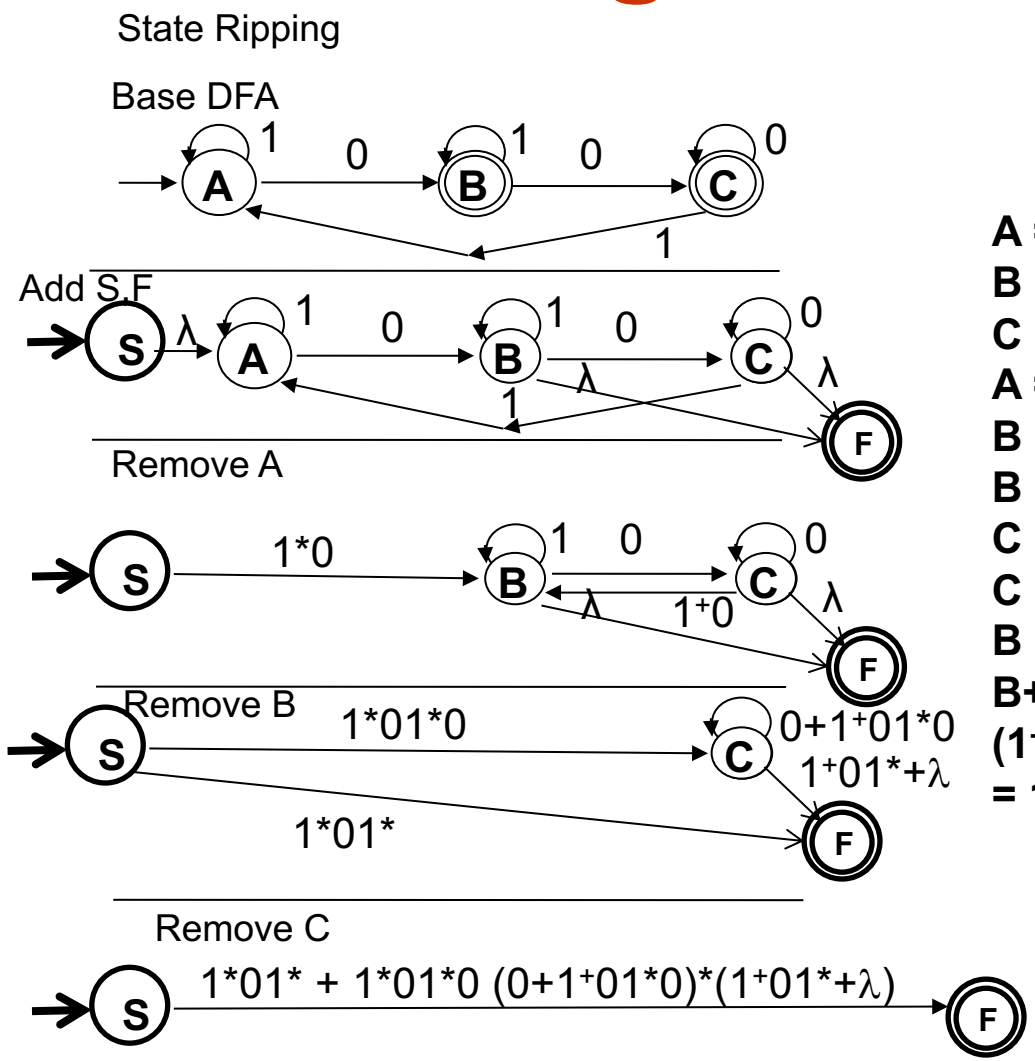
Assignment # 4.1 Key



Final RegEx:

1*01* + 1*01*0 (0+1⁺01*0)*(1⁺01*+λ)

A = λ + C1 + A1
B = A0 + B1
C = B0 + C0
A = 1* + C1⁺
B = 1*0 + C1⁺0 + B1
B = 1*01* + C1⁺01*
C = 1*01*0 + C(1⁺01*0 + 0)
C = 1*01*0(1⁺01*0 + 0)*
B = 1*01* + 1*01*0(1⁺01*0 + 0)*(1⁺01*)
B+C = 1*01* + 1*01*0((1⁺01*0 + 0)*(1⁺01*) + (1⁺01*0 + 0)*)
= 1*01* + 1*01*0 (0+1⁺01*0)*(1⁺01*+λ)

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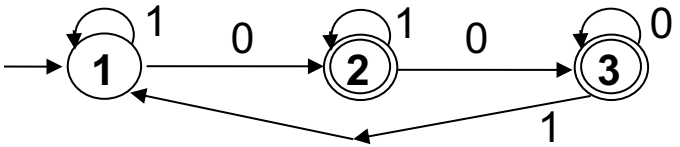

- $R_{11}^{0} = \lambda + 1$; $R_{12}^{0} = 0$; $R_{13}^{0} = \Phi$;
  $R_{21}^{0} = \Phi$; $R_{22}^{0} = \lambda + 1$; $R_{23}^{0} = 0$;
  $R_{31}^{0} = 1$; $R_{32}^{0} = \Phi$; $R_{33}^{0} = \lambda + 0$
- $R_{11}^{1} = 1^{+}$; $R_{12}^{1} = 1^{*}0$; $R_{13}^{1} = \Phi$;
  $R_{21}^{1} = \Phi$; $R_{22}^{1} = \lambda + 1$; $R_{23}^{1} = 0$;
  $R_{31}^{1} = 1^{+}$; $R_{32}^{1} = 1^{+}0$; $R_{33}^{1} = \lambda + 0$
- $R_{11}^{2} = 1^{+}$; $R_{12}^{2} = 1^{*}01^{*}$; $R_{13}^{2} = 1^{*}01^{*}0$;
  $R_{21}^{2} = \Phi$; $R_{22}^{2} = 1^{*}$; $R_{23}^{2} = 1^{*}0$;
  $R_{31}^{2} = 1^{+}$; $R_{32}^{2} = 1^{+}01^{*}$; $R_{33}^{2} = 0+1^{+}01^{*}0$
- $R_{12}^{3} = 1^{*}01^{*}+ 1^{*}01^{*}0(0+1^{+}01^{*}0)^{*}1^{+}01^{*}$;
  $R_{13}^{3} = 1^{*}01^{*}0 + 1^{*}01^{*}0(0+1^{+}01^{*}0)^{*}(0+1^{+}01^{*}0)$
- $L = 1^{*}01^{*}+ 1^{*}01^{*}0(0+1^{+}01^{*}0)^{*}1^{+}01^{*} + 1^{*}01^{*}0 + 1^{*}01^{*}0(0+1^{+}01^{*}0)^{+}$
- $L = 1^{*}01^{*}+ 1^{*}01^{*}0(0+1^{+}01^{*}0)^{*}(1^{+}01^{*}+\lambda)$

Assignment # 4.2

	a	b	c
>1	2	3	5
2	5	4	4
3	2	4	5
4	6	4	2
5	5	2	4
6	5	4	2

2	2,5X 3,4X' 4,5X				
3	3,4X'	2,5X 4,5X			
4	2,6X 3,4X' 2,5X	5,6	2,6X 2,5X		
5	X	X	X	X	
6	X	X	X	X	2,4
	>1	2	3	4	5

States are {1}, {2,4}, {3}, {5,6}. {1} is start; {5,6} is final.
Minimal state DFA on next page

Assignment # 4.2 DFA