Varad R. Patil
8688

Tutorial 1

1] RE for ~~for~~

~~a to~~

a) set of strings over {a,b,c} start and end different char

$a(a+b+c)^*b \mid a(a+b+c)^*c \mid b(a+b+c)^*c \mid b(a+b+c)^*a \mid c(a+b+c)^*a \mid c(a+b+c)^*b$

b) set of strings over {0,1} odd no of 0's

$(1^*(00)^*01^*)^*$

2] i) $(a+bba)^*$

$L_1 = \{(a,b)^n \mid n \text{ is natural}\}$ $L_2 = \{(b,a)^n \mid n \text{ is natural}\}$

$L = \{L_1 \cup L_2\}$

ii) $1(0+1)(0+1)(0+1)(0+1)^*0$

$L_1 = \{1\}$ $L_2 = \{0\}$ $L_3 = \{(0+1)^n \mid n >= 3\}$

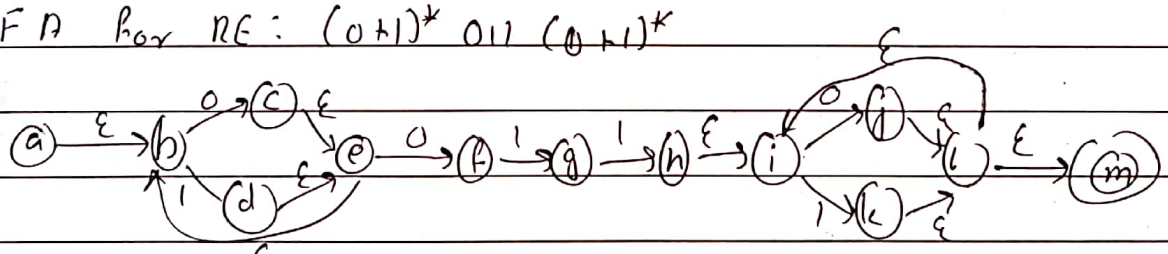
$L = \{L_1 . L_3 . L_2\}$

3] If $L(r) = \{aa^r, aaab, abba, abbb, baaa, baab, bbba, bbbb\}$

Find R.E which represent $L(r)$

$RE = (a+b)(a+b)(a+b)$ or $(a+b)^3$

4] NFA for RE: $(0+1)^*011(0+1)^*$



ii) $1^*01(0+11)^*$