17.8.2021

R.E to DFA (Direct Method)

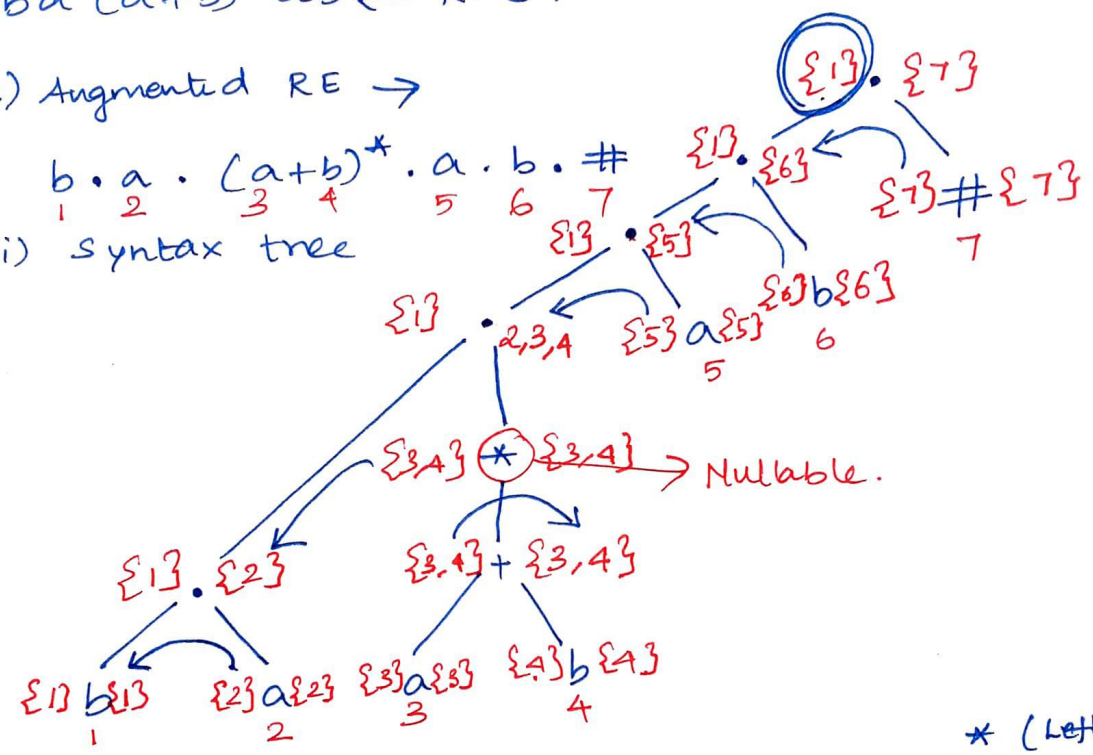
1. $ba(a+b)^*ab$
2. $(a+b)^*abb$
3. $(a+b)^* + (a \cdot c)^*$

1. $ba(a+b)^*ab$ ← R.E.

i) Augmented RE →

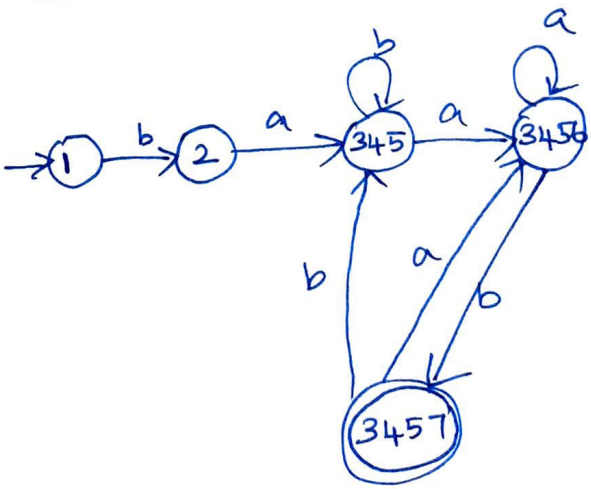
$b \cdot a \cdot (a+b)^* \cdot a \cdot b \cdot \#$
1 2 3 4 5 6 7

ii) syntax tree



iii) Nullable, Firstpos, Lastpos, Followup
ε, *
operand, operator
(*, ·)
* (Left to Right)
· (Right to left)

		Follow up
b →	1	2
a	2	3, 4, 5
a ✓	3	3, 4, 5
b ✓	4	3, 4, 5
a ✓	5	6
b	6	7
# ✓	7	—



DFA

$ba(a+b)^*ab$.