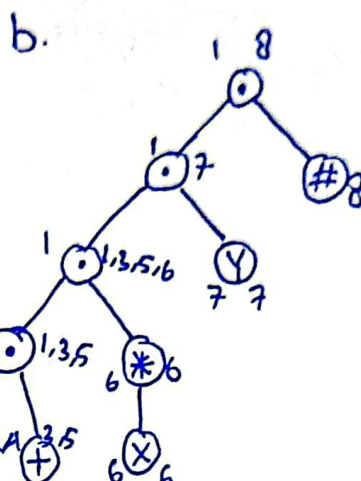
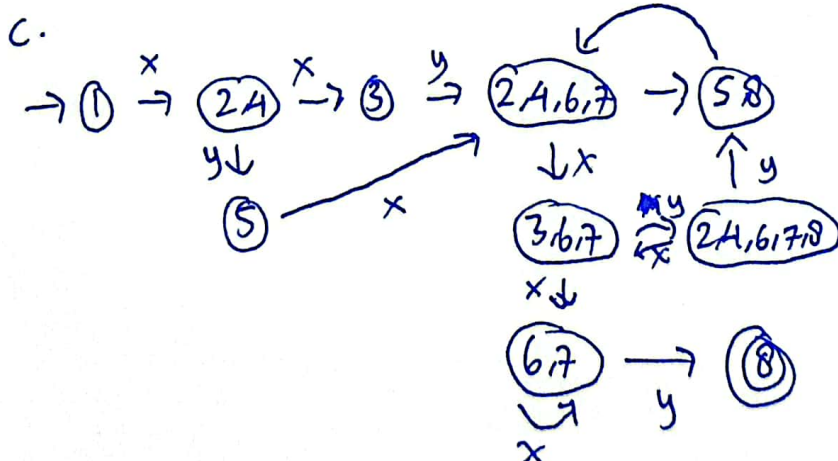
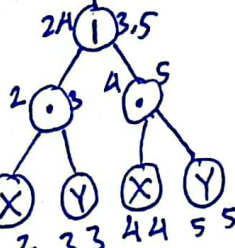


1. $RE = X.(X.Y|Y.X)^+.X.Y.\#$
 1 2 3 4 5 6 7 8

- a. FP (1) = (2,4)
 FP (2) = (3)
 FP (3) = (2,4,6,7)
 FP (4) = (5)
 FP (5) = (2,4,6,7)
 FP (6) = (6,7)
 FP (7) = (8)
 FP (8) = (-)

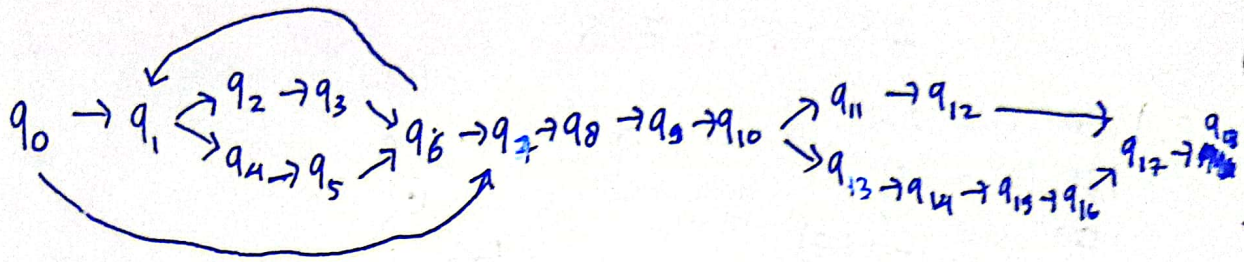


State	X	Y
1	2,4	-
2	3	5
3	-	2,4,6,7
4	3,6,7	5,8
5	2,4,6,7	-
6	6,7	2,4,6,7,8
7	2,4,6,7	8
8	3,6,7	5,8
	-	-



$$2. RE = (a|b)^* a(b|ab)^+$$

a.



b. $q_0 = 0, 1, 2, 4, 7, 8$

$q_1 = 1, 2, 4$

$q_2 = 2$

$q_3 = 1, 2, 3, 4, 6, 7, 8$

$q_4 = 4$

$q_5 = 1, 2, 4, 5, 6, 7, 8$

$q_6 = 1, 2, 4, 6, 7, 8$

$q_7 = 7, 8$

$q_8 = 8$

$q_9 = 9, 10, 11, 13$

$q_{10} = 10, 11, 13$

$q_{11} = 11$

$q_{12} = 10, 11, 12, 13, 17, 18$

$q_{13} = 13$

$q_{14} = 14, 15$

$q_{15} = 15$

$q_{16} = 10, 11, 13, 16, 17, 18$

$q_{17} = 17, 18$

$q_{18} = 18$

