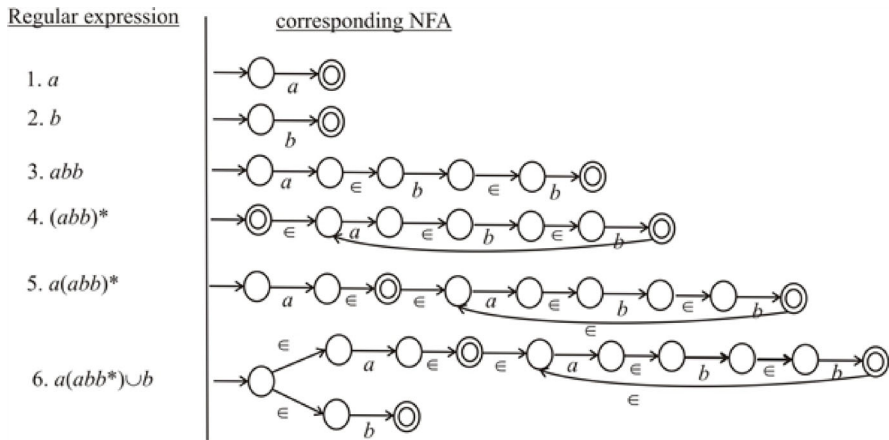


(a) Given regular expression

$R = a(abb)^* \cup b$ over $\Sigma = \{a, b\}$.

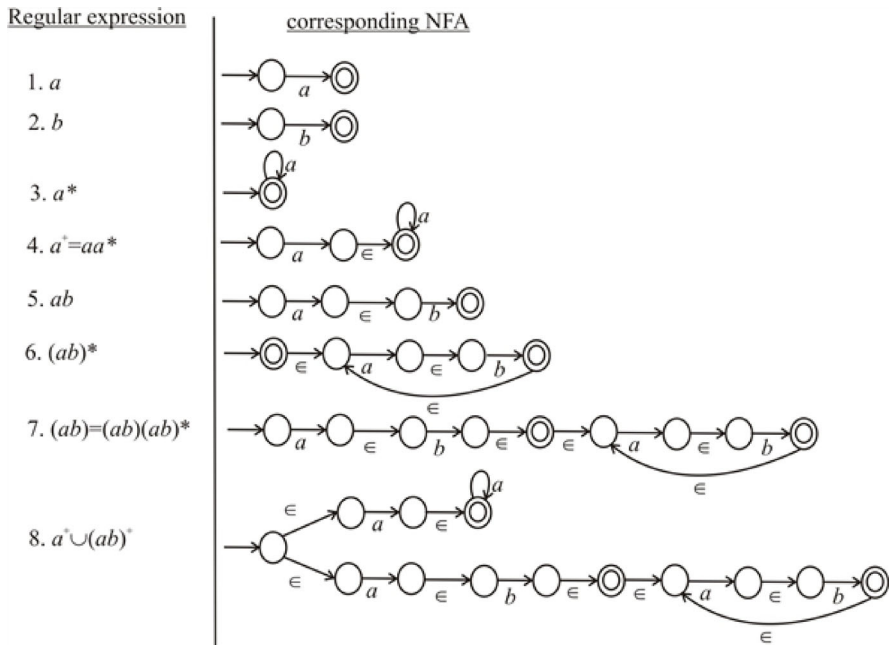
Now we have to convert this regular expression into NFA by the following steps.



(b) Given regular expression is

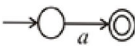
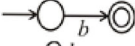

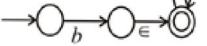
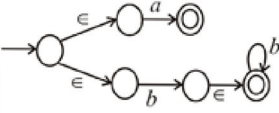


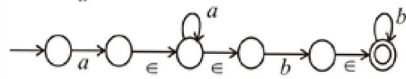
$R = a^+ \cup (ab)^+$ over $\Sigma = \{a, b\}$

Now we have to convert this regular expression into NFA by the following steps.



(c) Given regular expression is $R = (a \cup b^+)a^+b^+$ over $\Sigma = \{a, b\}$.

Now we have to convert this regular expression R into NFA by the following steps.

Regular expression	corresponding NFA
1. a	
2. b	
3. b^*	
4. $b^+ = bb^*$	
5. $a \cup b^+$	
6. a^*	
7. $a^+ = aa^*$	
8. a^+b^+	
9. $(a \cup b^+)a^+b^+$	