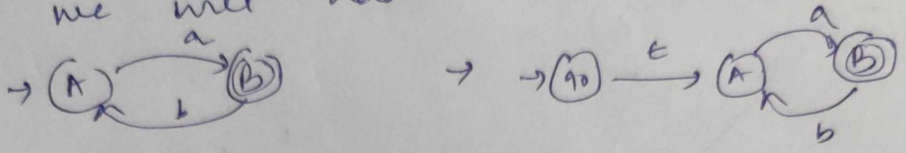
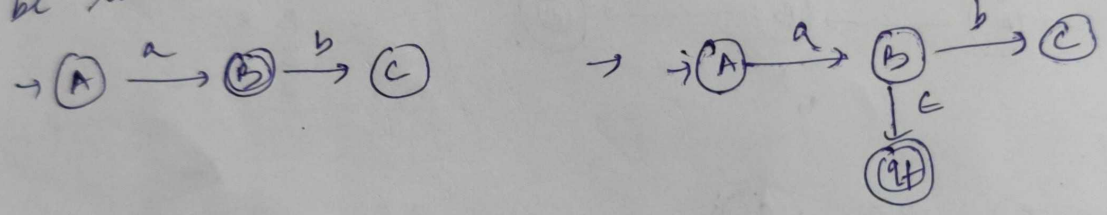
Part 5

State Elimination Method. (FA → RE).

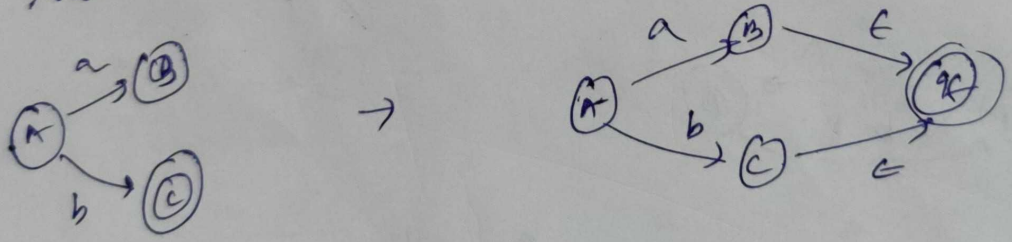
Rule 1 → If in FA, we have to identify if any incoming edge is there on the initial state, then we will add one more initial state



Rule 2 → If any outgoing edge is there from the final state then we will create one state from where no outgoing edges will be there & it will be considered as final state

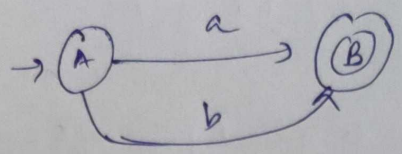


Rule 3 → If one or more final states are there, then create one final state.



Rule 4 → Eliminate all states one by one except initial & final state.

Q.

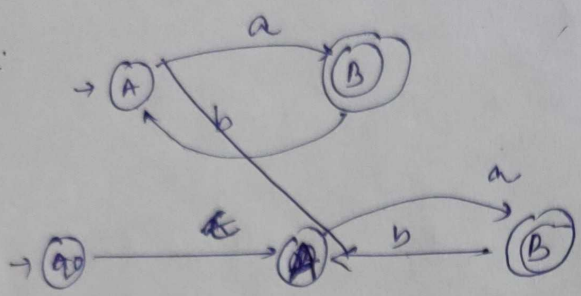


→

Rule 1 ✗
2 ✗
3 ✗
4 ✗

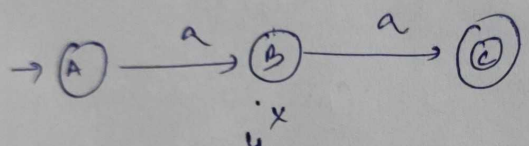
(a+b)* RE.

Q.

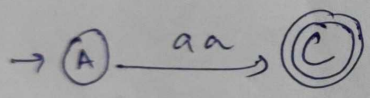


1 ✓

Q.

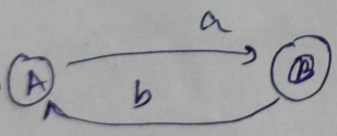


1 ✗
2 ✗
3 ✗
4 ✗

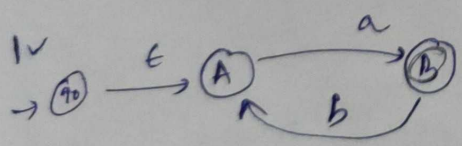


aa.

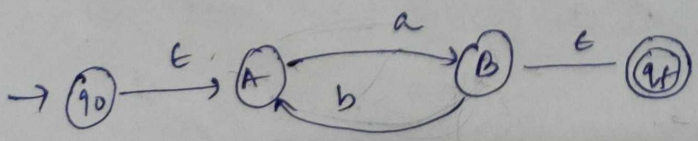
Q.



1 ✓



Rule 1

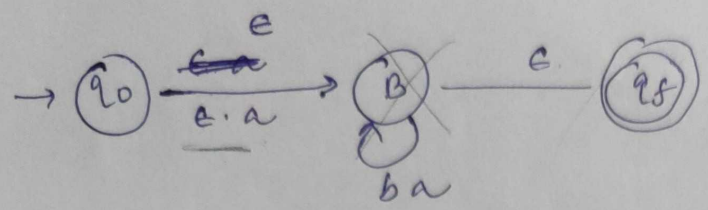


Rule 2

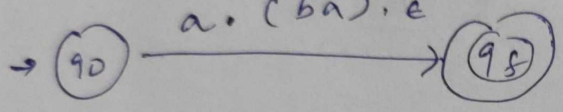
Rule 3 ✗

Rule 4 : apply.

Eliminate A.

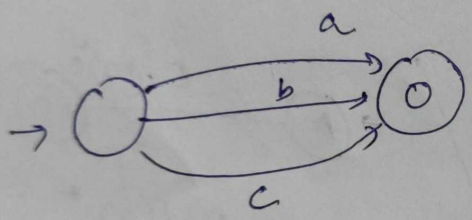


Eliminate B. $\quad \epsilon \cdot a \cdot (ba)^* \cdot \epsilon$



$a(ba)^*$.

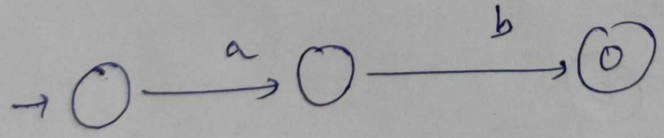
Q.



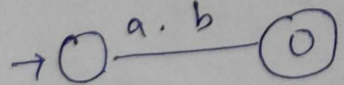
1 ×
2 ×
3 ×

$(a+b+c)$

Q.

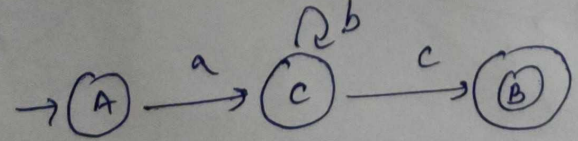


1 ×
2 ×
3 ×



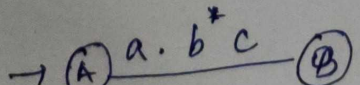
$= a \cdot b$.

Q.



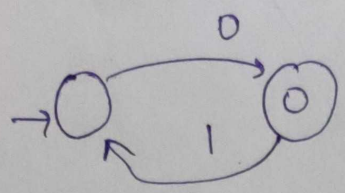
1 ×
2 ×
3 ×

Rule 4 ✓

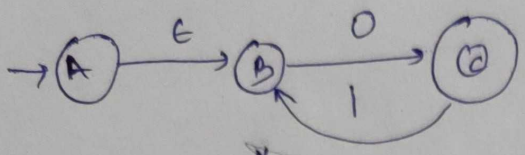


$= a^* b^* c$.

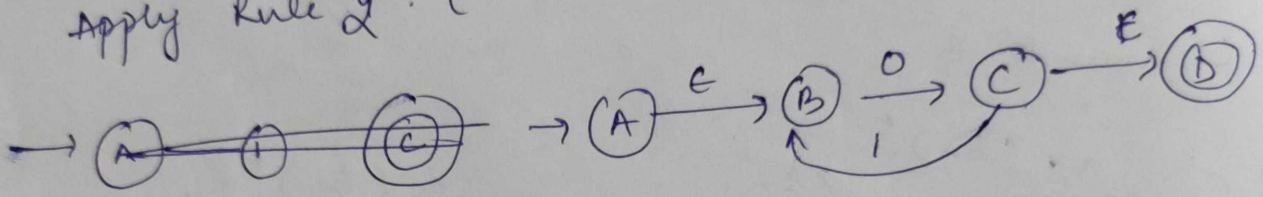
Q.



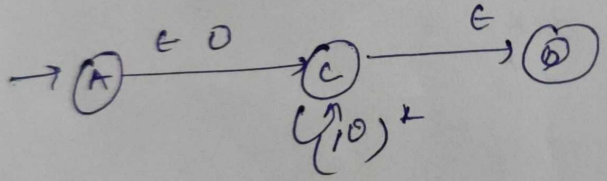
IV

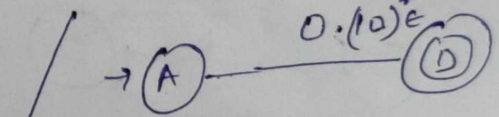


Apply Rule 2. (Eliminate B)



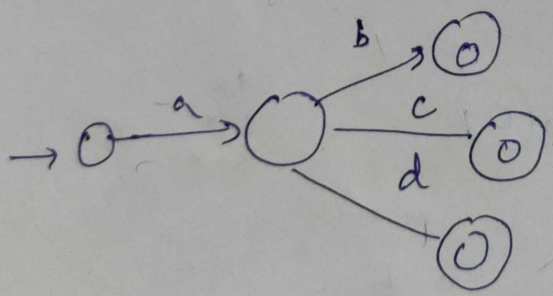
Apply Rule 4.
(B, C) Eliminate



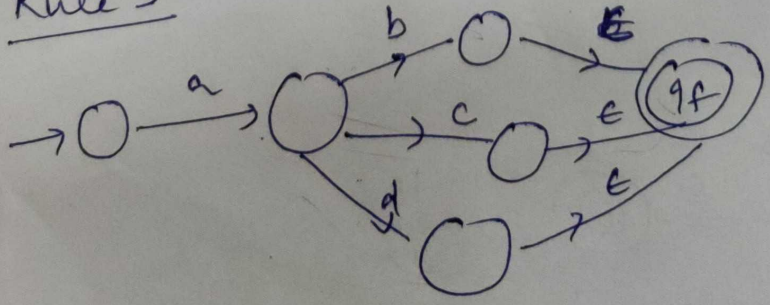


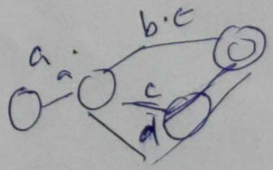
0.(10)*.

Q.

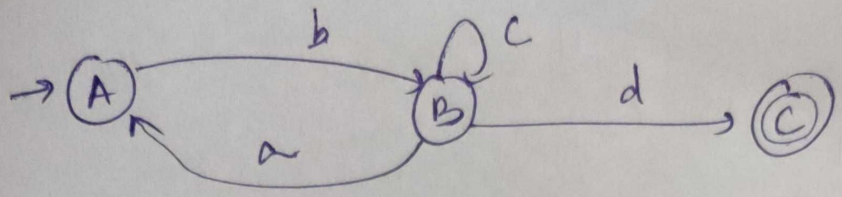


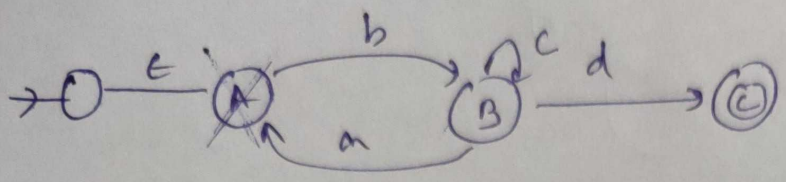
Rule 3.

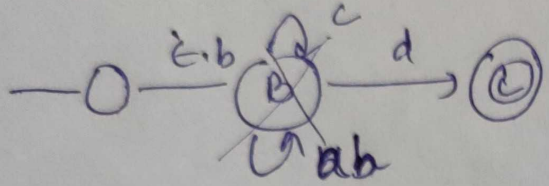




a.(b+c+d)

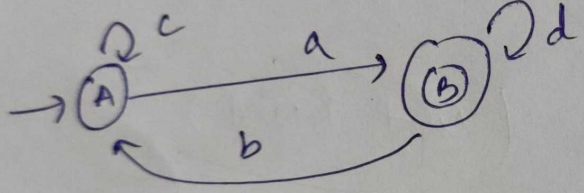


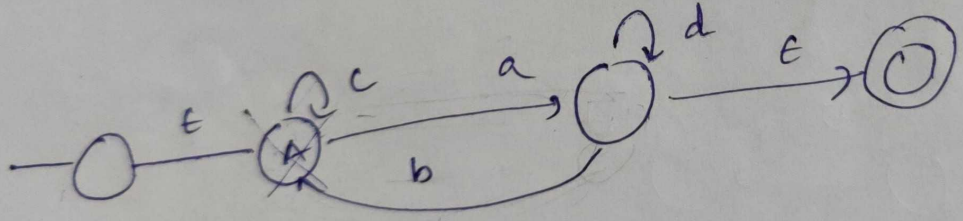


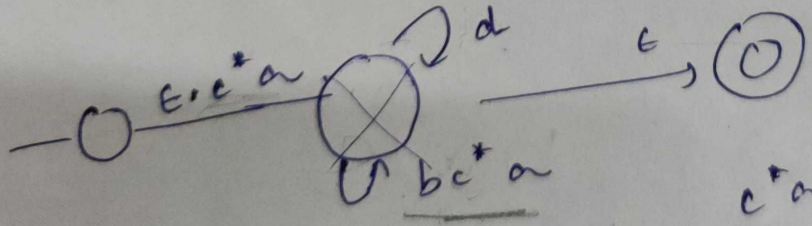


→ $b.(ab+c)^* d$

Q.

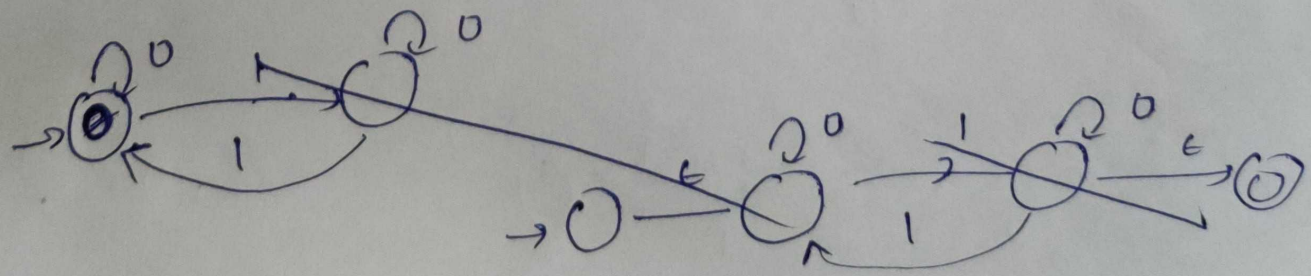




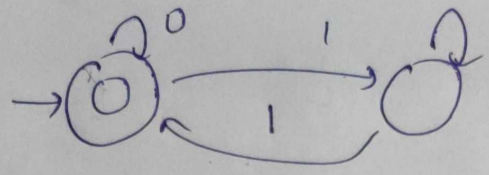


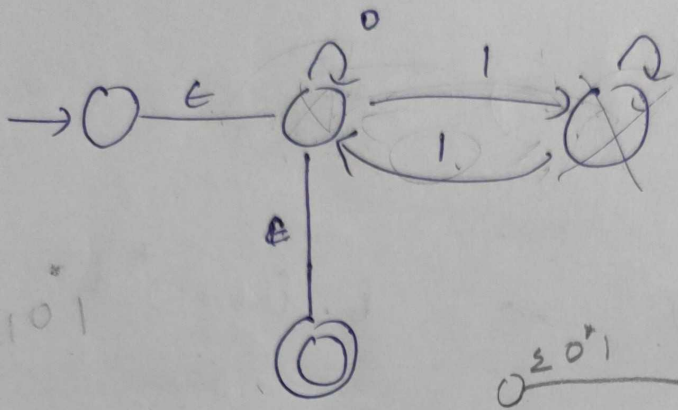
$c^*a\,(bc^*a+d)^*$

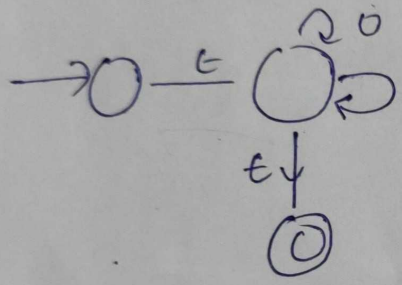
Q.



Q.





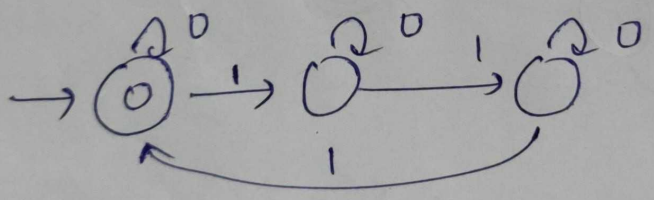


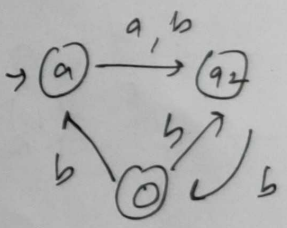
10^*1

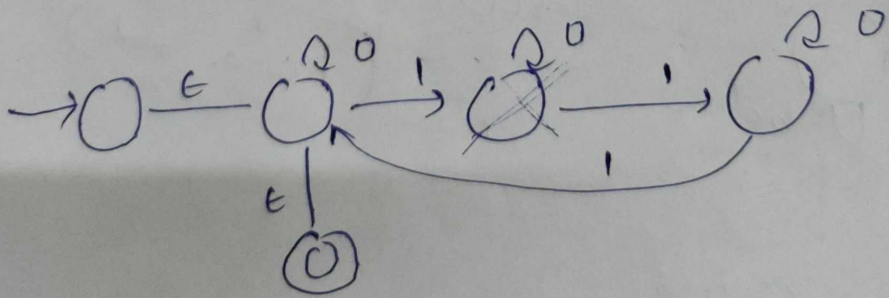
$0^*1(0+10^*1)^*$

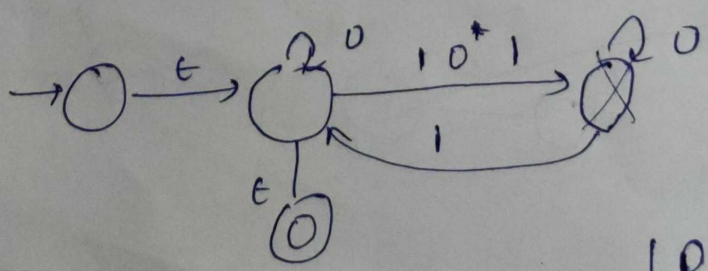
$(0+10^*1)^*$

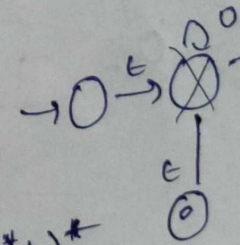
Q.











$(0+10^*10^*1)^*$