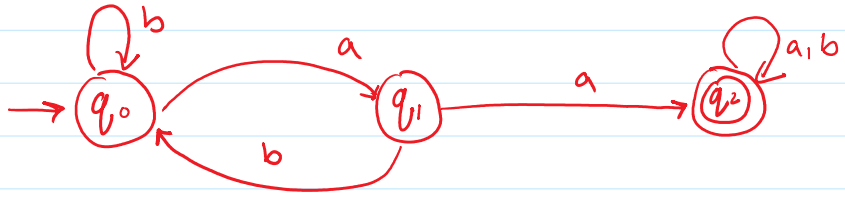
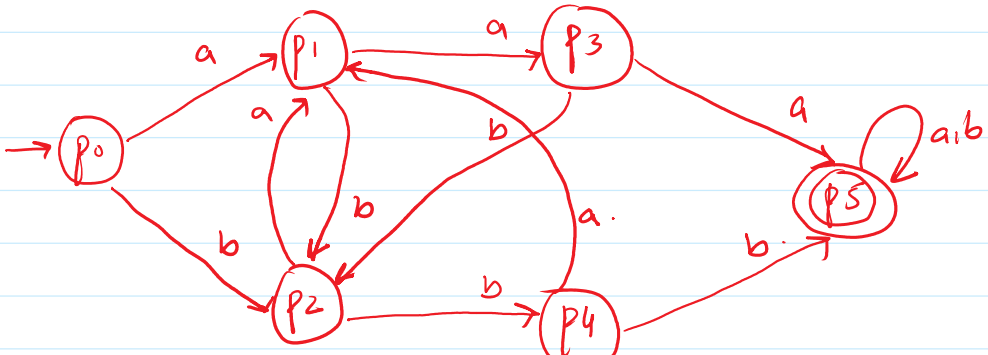
Lecture 14:- DFA to NFA.

- UNION.
- ✓ CONCATENATION
- CLOSURE.

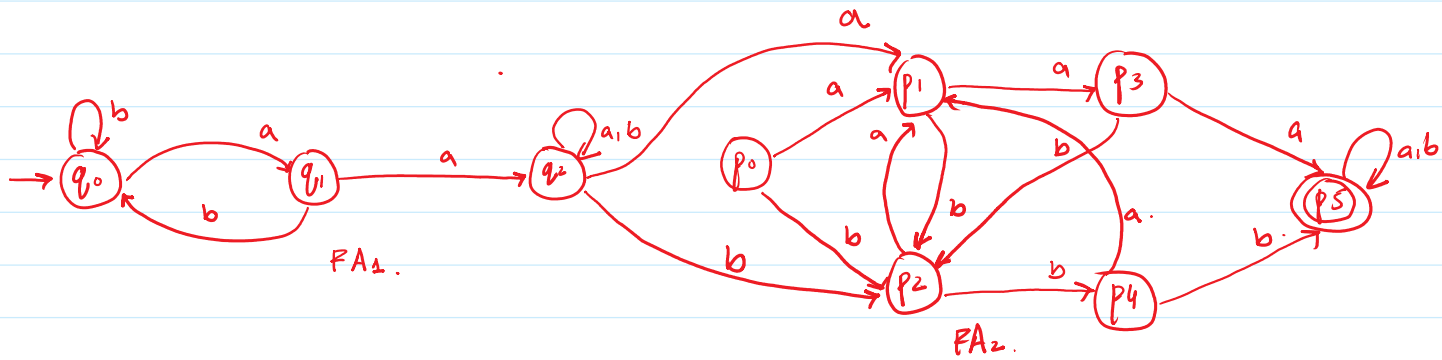


FA1.



FA2.

Ex:-



FA1.

FA2.

Step1:- Delete initial state of second DFA.

Step2:- " final state of first DFA.

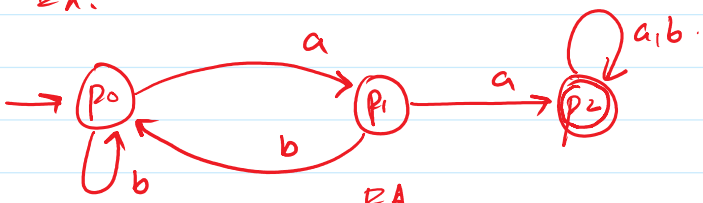
Step3 :- Make New transition from first DFA equal to initial transition of Second DFA.

$FA_1FA_2 \neq FA_2FA_1$.

$Y_1Y_2 \neq Y_2Y_1$

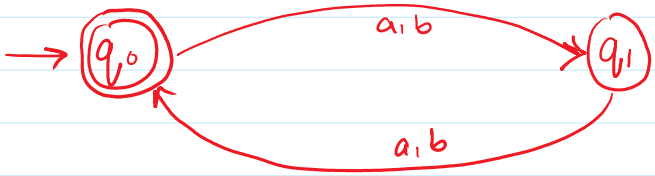
$(Y_1+Y_2)^2 = (Y_2+Y_1)$

Ex :-



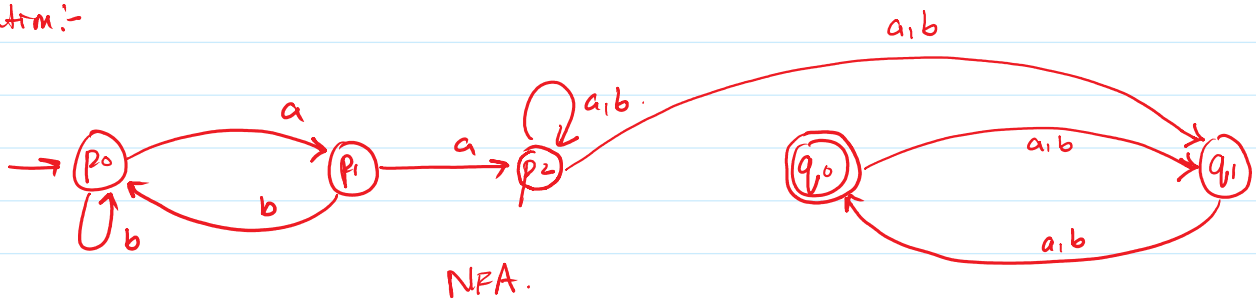
FA_1.

aaaab.



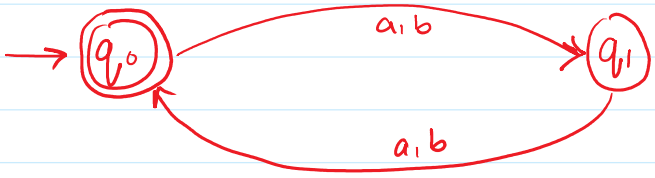
FA_2.

Solution :-



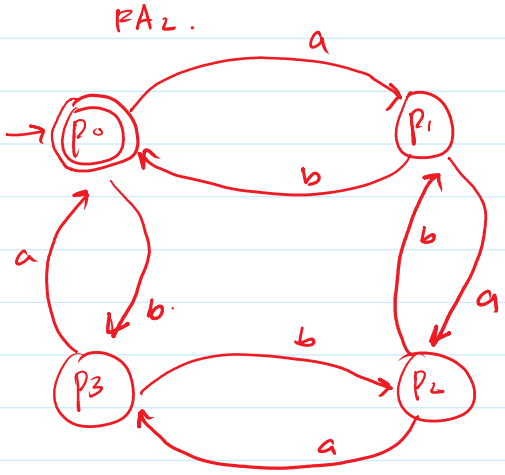
NFA.

Ex :-.



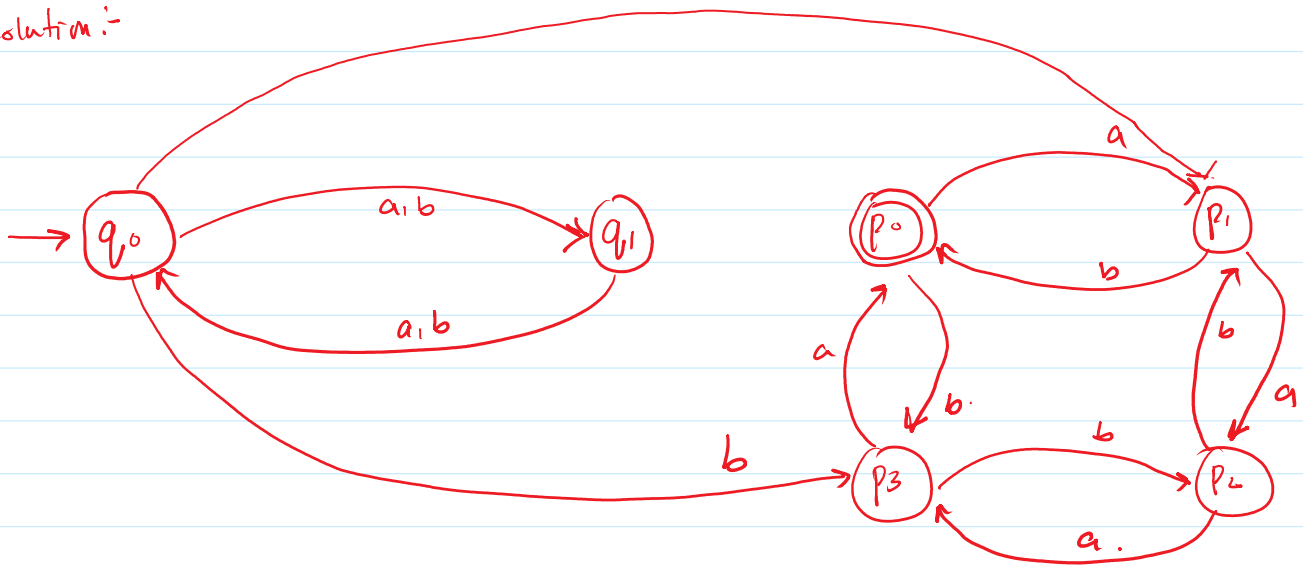
FA_2.

FA_2.



NFA.

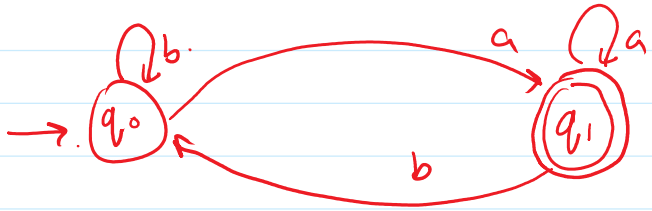
Solution :-



DFA to NFA.

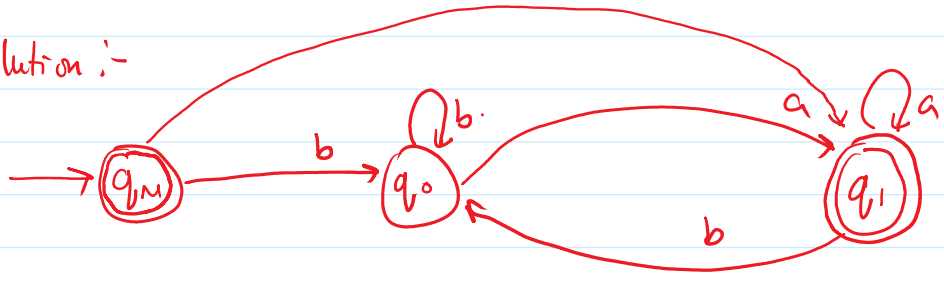
- UNION
- CONCATENATION
- ✓ - CLOSURE.

Ex.

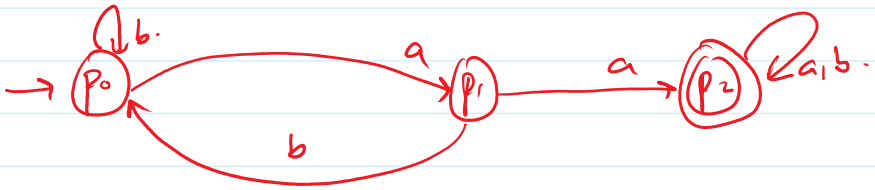


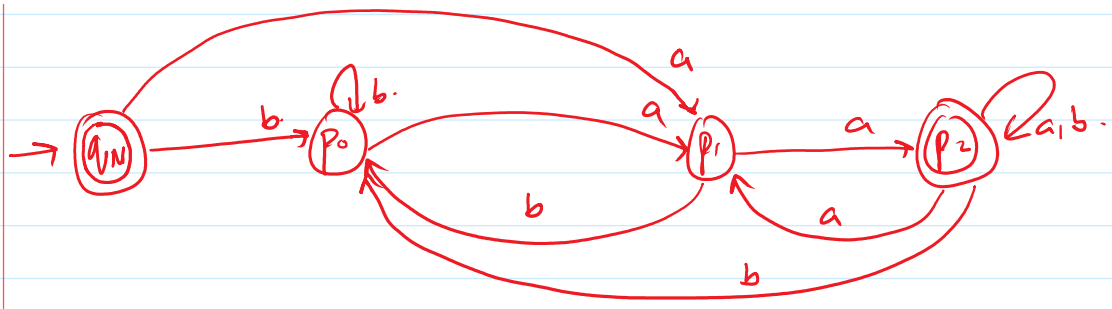
a^*

Solution :-



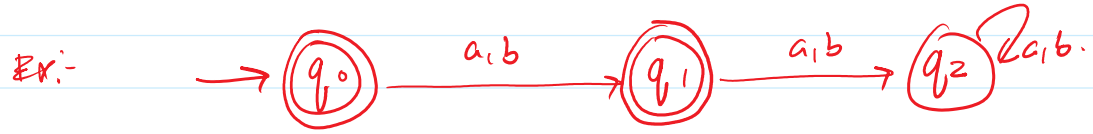
Ex :-

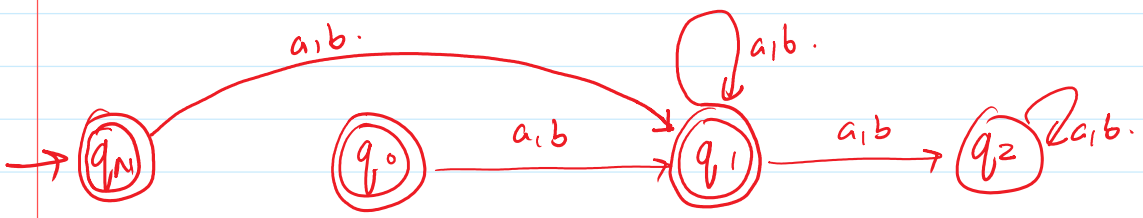




Step 1:- Delete Initial.
Step 2:- Create a New State which is both Initial & final.
Step 3:- Transitions of New State will equal to old Initial.
Step 4:- old final will have same transition as that of old Initial.

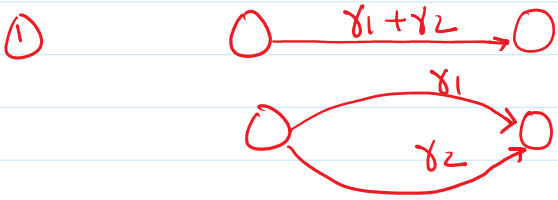
Ex:-

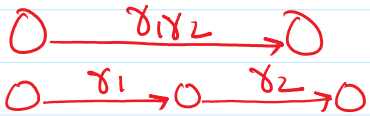


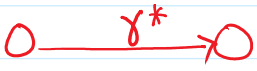


NFA.

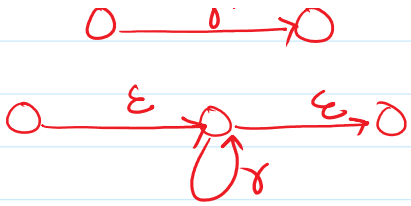
REGEX. to NFA.

1. 

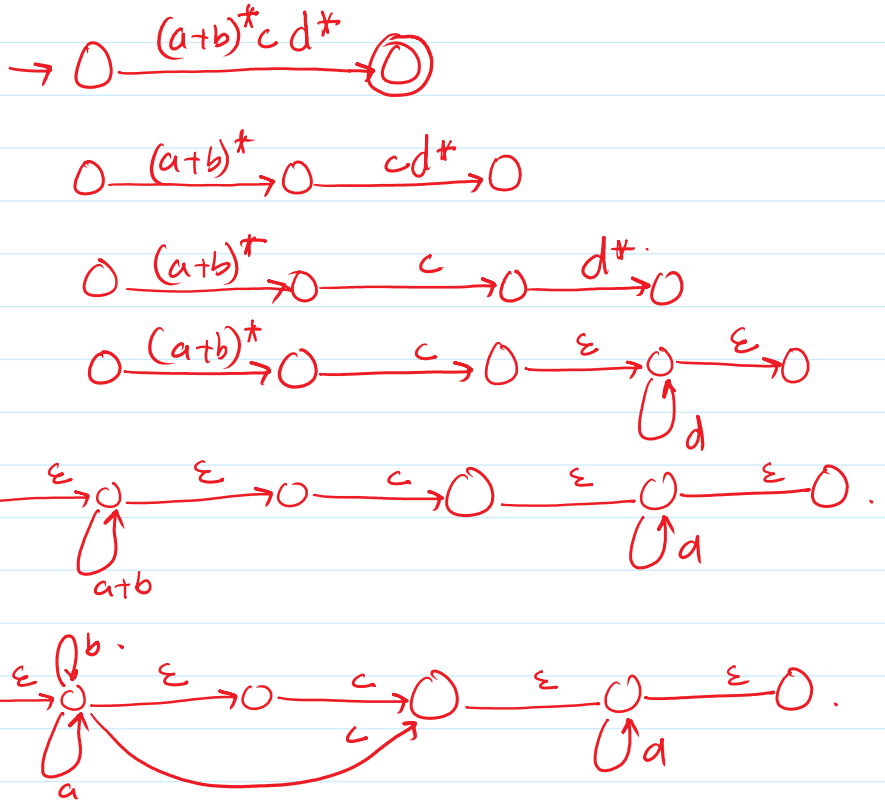
2. 

3. 

(3)

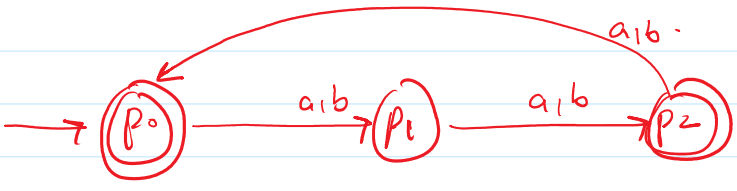


Ex:- $(a+b)^* c d^*$.



NFA.

Quiz # 4 07-10-2022. Marks 10.



Closure of DFA.
Convert to NFA.